

PRODUCT/PROCESS CHANGE NOTIFICATION

TITLE	VIpower M0A5/M0H5: Activation of Singapore 8" Wafer Fab (SG8) as Additional Location
IMPACTED PRODUCTS	See list.
MANUFACTURING STEP	Silicon Diffusion (Front End).
INVOLVED PLANT	AngMoKio 8' wafer fab – SG8 (Singapore)
CHANGE REASON	Expansion of current silicon diffusion capacity (volumes increase).
CHANGE DESCRIPTION	Activation of SG8 on VIpower M0A5, M0H5 Technology
TRACEABILITY	New dedicated Finished Good code (Internal Part Number).
VALIDATION	<p>According to AEC-Q100 qualification plan for Integrated Circuits and ZVEI Guideline</p> <p>ZVEI Change ID:</p> <ul style="list-style-type: none"> - SEM-PW-02 New Wafer Diameter - SEM-PW-12 Change of specified wafer process sequence... - SEM-PW-13 Move of all or part of wafer fab to a different location/site/subcontractor - SEM-EQ--02 Production from a new equipment..... <p>See included ZVEI matrix for details</p>
REPORTS	<p>12391 Validation.zip that contains:</p> <ul style="list-style-type: none"> - Reliability Reports (AEC-100) - Electrical Validation Reports - Transfer Difference FMEA

M0A5-H5

Transfer SG6-SG8 DFMEA



DFMEA RPN>125 Process

IMPLANT PBODY

Item / Function / Requirements	Potential Failure Mode	Potential Effects of Failure	Severity	Classes	Potential Causes of Failure	5M	Current Control Prevention	Occurrence	Current Control Detection	Detection	Initial RPN
Opn5315 - Implant PBody (SG8: 80K, 8.10E+13; SG6: 70K, 9.90E+13)	Dose / energy difference breaching technology / product marginality; 8" die / wafer level uniformity compared to 6"	T84 (in particular Vth, P-Body related) drift, potential EWS yield marginalities compared to 6", potential EWS K-Factor spread deterioration compared to 6"	6		Recipe not optimised for the best centering of related T84 parameters; for the best EWS K-Factor spread in 8" wafers.	METHOD	Review of related T84 parameters (BVEBO, VTH), EWS parameters (K-Factor)	3	T84, EWS	7	126



Current RPN	Target RPN	Action ID	Action Title	Recommended Action	Action Owner Email	Action Target Date	Action Status	Action Severity	Action Occurrence	Action Detection	Results of Action
42	42	AC00843161	PBody Imp Split	To perform Impl P-Body dose corner checks	WL / Michael / Zhi Yuan	30-Sep-2019	Closed	6	1	7	Impl P-Body dose +/-5% corner checks done for VNQ5 & VNQ7. T84 & EWS results are good.

DFMEA RPN>125 Process

RTA S/D

Item / Function / Requirements	Potential Failure Mode	Potential Effects of Failure	Severity	Classes	Potential Causes of Failure	5M	Current Control Prevention	Occurrence	Current Control Detection	Detection	Initial RPN
Opn6618 - RTA S/D (SG8: 1150C in Centura; SG6: 1120C in AG88xx)	RTA / thermal budget effect difference compared to 6"	T84 (in particular Vth, P-Body related) drift, potential EWS yield marginalities compared to 6", potential EWS K-Factor spread deterioration compared to 6"	6		Recipe not optimised for the best centering of related T84 parameters; for the best EWS K-Factor spread in 8" wafers.	MACHINE	Review of related T84 parameters (BVEBO, VTH, VFPBODY), EWS parameters (TSD, K-Factor).	3	T84, EWS	7	126



Current RPN	Target RPN	Action ID	Action Title	Recommended Action	Action Owner Email	Action Target Date	Action Status	Action Severity	Action Occurrence	Action Detection	Results of Action
42	42	AC00843163	RTA Temp Check	To perform RTA Source temperature corner check	WL / Michael / Zhi Yuan	30-Sep-2019	Closed	6	1	7	RTA Source temperature +/- 10C corner checks done for VNF8. T84 & EWS results are good.

DFMEA RPN<125 Process

RTA BPSG

Item / Function / Requirements	Potential Failure Mode	Potential Effects of Failure	Severity	Class	Potential Causes of Failure	5M	Current Control Prevention	Occurrence	Current Control Detection	Detection	Initial RPN
Opn6998 - RTA BPSG (SG8: 1100C in Centura; SG6: 1050C in AG88xx)	RTA / thermal budget effect difference compared to 6"	T84 (in particular VTH, VFPBODY, VTFIEPAL) drift, potential Contact W residue due to poor PMD planarisation, potential EWS K-Factor spread deterioration compared to 6"	6		Recipe not optimised for the best centering of related T84 parameters; for the best EWS K-Factor spread in 8" wafers.	MACHINE	Review of inline JEOLSEM inspection results for W residue, related T84 parameters (BVEBO, VTH, VFPBODY), EWS parameters (TSD, K-Factor, lson).	2	Inline JEOLSEM inspection, T84, EWS	7	84



Current RPN	Target RPN	Action ID	Action Title	Recommended Action	Action Owner Email	Action Target Date	Action Status	Action Severity	Action Occurrence	Action Detection	Results of Action
42	42	AC00843171	BPTEOS Temperature	To perform RTP BPSG Reflow temperature corner check	WL / Michael / Zhi Yuan	30-Sep-2019	Closed	6	1	7	RTP BPSG Reflow temperature +/-10C corner checks done for VNF8. T84 & EWS results are good.

DFMEA RPN<125 Process

TUNGSTEN CONTACT DEPOSITION

Item / Function / Requirements	Potential Failure Mode	Potential Effects of Failure	Severity	Classes	Potential Causes of Failure	5M	Current Control Prevention	Occurrence	Current Control Detection	Detection	Initial RPN
Opn7538 - Tungsten Contact deposition (SG8 W Dep 7.0kA; SG6 W Dep 5.5kA)	Higher W thk may cause W residue, increased risk of fluorine attack compared to 6"	W residue resulting in EWS yield loss	6		Higher W thickness not well integrated / optimised with 8" Contact CD / Profile and also with corresponding W Etch Back process. Fluorine penetration during Tungsten Dep (WF6 gas) through TiN (Note: No change in TiN compared to 6").	METHOD	Review of inline JEOLSEM inspection results for W residue & CA (Contact W recess).	2	Inline JEOLSEM inspection, EWS	7	84



Current RPN	Target RPN	Action ID	Action Title	Recommended Action	Action Owner Email	Action Target Date	Action Status	Action Severity	Action Occurrence	Action Detection	Results of Action
42	42	AC00843173	Tungsten THK	To perform full W Thk + W Etch Back corner check	WL / Michael / Ting Fang	30-Sep-2019	Closed	6	1	7	Full W + W Etch back corner checks done on VNF8. Inline, T84 & EWS results are good.

DFMEA RPN<125 Process

CONTACT TUNGSTEN ETCH BACK

Item / Function / Requirements	Potential Failure Mode	Potential Effects of Failure	Severity	Classes	Potential Causes of Failure	5M	Current Control Prevention	Occurrence	Current Control Detection	Detection	Initial RPN
Opn7540 - Tungsten Etch Back (SG8 Ex-situ Etch Back; SG6 Insitu Etch Back)	Underetch / overetch of W corresponding to different W Dep thk in 8"	W residue resulting in EWS yield loss / Overetch of W - too much recess impacting IMD planarisation	6		W Etch Back process not well integrated / optimised to 8" W Dep Thk.	METHOD	Review of inline JEOLSEM inspection results for W residue & CA (Contact W recess).	2	Inline JEOLSEM inspection, EWS	7	84



Current RPN	Target RPN	Action ID	Action Title	Recommended Action	Action Owner Email	Action Target Date	Action Status	Action Severity	Action Occurrence	Action Detection	Results of Action
42	42	AC00843177	Tungsten Etch Back Check	To perform full W Thk + W Etch Back corner check	WL / Michael / Ting Fang	30-Sep-2019	Closed	6	1	7	Full W + W Etch back corner checks done on VNF8. Inline, T84 & EWS results are good.

DFMEA RPN<125 Process

IMD TEOS-1 DEPOSITION

Item / Function / Requirements	Potential Failure Mode	Potential Effects of Failure	Severity	Classes	Potential Causes of Failure	5M	Current Control Prevention	Occurrence	Current Control Detection	Detection	Initial RPN
Opn7756 - Deposition IMD TEOS1 (SG8 Centura TEOS 8.5KA vs SG6 Centura TEOS 7KA)	Additional IMD charging due to increased Teos1 thk compared to 6". Charging effect difference may also affect K-Factor performance.	EWS Yield Loss related to charging / K-Factor	6	K	Charging effect of increased Teos1 thickness not assessed - process not optimised for the best K-Factor performance in 8"	METHOD	Review of EWS (e.g. Isoff) parameters	2	EWS	7	84



Current RPN	Target RPN	Action ID	Action Title	Recommended Action	Action Owner Email	Action Target Date	Action Status	Action Severity	Action Occurrence	Action Detection	Results of Action
42	42	AC00843142	IMD Full Corner Check	To perform full IMD corner check	WL / Michael / Boon Kiat	31-Dec-2019	Closed	6	1	7	Full IMD corner checks done on VNF8. Inline, T84 & EWS results are good.

DFMEA RPN<125 Process

SOG COATING

Item / Function / Requirements	Potential Failure Mode	Potential Effects of Failure	Severity	Class	Potential Causes of Failure	5M	Current Control Prevention	Occurrence	Current Control Detection	Detection	Initial RPN
Opn7781 - Coat SOG (SG8: Filmtronics 500F + Hotplate Cure, SG6: Filmtronics 600F + Cure in	SOG thickness uniformity, low / high topo coverage difference compared to 6"	IMD planarisation weakness -- Via W residue / risk of Etch Via residue compared to 6"	6		IMD Teos1 / SOG / Teos2 processes not well integrated & optimised on 8". Chamber related difference / mismatch.	METHOD	Review of CA (IMD structures), KT Scan (IMD & Via) results, EWS (Via Rs, K-Factor, Ison).	2	KT Scan, JEOL SEM	7	84



Current RPN	Target RPN	Action ID	Action Title	Recommended Action	Action Owner Email	Action Target Date	Action Status	Action Severity	Action Occurrence	Action Detection	Results of Action
42	42	AC00843185	IMD Full corner check	To perform full IMD corner check	WL / Michael / Kelvin	31-Dec-2019	Closed	6	1	7	Full IMD corner checks done on VNF8. Inline, T84 & EWS results are good.

DFMEA RPN<125 Process

IMD SEB & TEOS-2 DEPOSITION

Item / Function / Requirements	Potential Failure Mode	Potential Effects of Failure	Severity	Class	Potential Causes of Failure	5M	Current Control Prevention	Occurrence	Current Control Detection	Detection	Initial RPN
Opn7852 - SEB_TEOS2 (SG8 Etch 5.5KA vs SG6 4.95KA with Selectivity & Uniformity Differences)	SOG Etch Back uniformity, Teos2 charging difference compared to 6", which may also affect K-Factor performance.	IMD planarisation weakness - Via W residue / risk of Etch Via residue compared to 6"	6	K	IMD Teos1 / SOG / Teos2 processes not well integrated & optimised on 8". Chamber related difference / mismatch.	METHOD	Review of CA (IMD structures), KT Scan (IMD & Via) results, EWS (Via Rs, K-Factor, Ison).	2	KT Scan, EWS	7	84



Current RPN	Target RPN	Action ID	Action Title	Recommended Action	Action Owner Email	Action Target Date	Action Status	Action Severity	Action Occurrence	Action Detection	Results of Action
42	42	AC00843189	IMD Full corner check	To perform full IMD corner check	WL / Michael / Boon Kiat	31-Dec-2019	Closed	6	1	7	Full IMD corner checks done on VNF8. Inline, T84 & EWS results are good.

DFMEA RPN<125 Process

TUNGSTEN VIA DEPOSITION

Item / Function / Requirements	Potential Failure Mode	Potential Effects of Failure	Severity	Classes	Potential Causes of Failure	5M	Current Control Prevention	Occurrence	Current Control Detection	Detection	Initial RPN
Opn8081 - Part1 - Tungsten Via deposition (SG8 W Dep 7.0kA; SG6 W Dep 6.5kA)	Higher W thk may cause W residue, increased risk of fluorine attack compared to 6"	W residue resulting in EWS yield loss	6		Higher W thickness not well integrated / optimised with 8" Via CD / Profile and also with corresponding W Etch Back process. Fluorine penetration during Tungsten Dep (WF6 gas) through TiN (Note: No change in TiN compared to 6").	METHOD	Review of inline JEOLSEM inspection results for W residue & CA (Via W recess).	2	Inline JEOLSEM inspection, EWS	7	84



Current RPN	Target RPN	Action ID	Action Title	Recommended Action	Action Owner Email	Action Target Date	Action Status	Action Severity	Action Occurrence	Action Detection	Results of Action
42	42	AC00843194	Tungsten THK	To perform full W Thk + W Etch Back corner check	WL / Michael / Ting Fang	30-Sep-2019	Closed	6	1	7	Full W + W Etch back corner checks done on VNF8. Inline, T84 & EWS results are good.

DFMEA RPN<125 Process

VIA TUNGSTEN ETCH BACK

Item / Function / Requirements	Potential Failure Mode	Potential Effects of Failure	Severity	Class	Potential Causes of Failure	5M	Current Control Prevention	Occurrence	Current Control Detection	Detection	Initial RPN
Opn8085 - Tungsten Etch Back (SG8 Ex-situ Etch Back; SG6 Insitu Etch Back)	Underetch / overetch of W corresponding to different W Dep thk in 8"	W residue resulting in EWS yield loss / Overetch of W - too much recess	6		W Etch Back process not well integrated / optimised to 8" W Dep Thk.	METHOD	Review of inline JEOLSEM inspection results for W residue & CA (Via W recess).	2	Inline JEOLSEM inspection, EWS	7	84



Current RPN	Target RPN	Action ID	Action Title	Recommended Action	Action Owner Email	Action Target Date	Action Status	Action Severity	Action Occurrence	Action Detection	Results of Action
42	42	AC00843196	Tungsten Etch Back Check	To perform full W Thk + W Etch Back corner check	WL / Michael / Ting Fang	30-Sep-2019	Closed	6	1	7	Full W + W Etch back corner checks done on VNF8. Inline, T84 & EWS results are good.

Reliability Evaluation Report
VIPOWER M05 technology
Ang Mo Kio (SG8) 8” Wafer Fab
Second source qualification

General Information	
Commercial Products :	VND5012AK-E, VND5E160AJ-E, VNL5030S5-E
Product Lines :	VNF8, VNQ7, VNY7
Packages :	PwSSO24, PwSSO12, SO8
Silicon Technology :	VIPOWER M05

***Note:** this report is a summary of the reliability trials performed in good faith by STMicroelectronics in order to evaluate the electronic device conformance to its specific mission profile for Automotive Application. This report and its contents shall not be disclosed to a third party without previous written agreement from STMicroelectronics or under the approval of the author (see below).*

Revision history

Rev.	Changes description	Author	Date
A	Initial Release	A. Vilaro	13/01/2020

Approved by

Function	Location	Name	Date
Division Reliability Manager	ST Catania (Italy)	A. Marmoni	13/01/2020

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1 RELIABILITY EVALUATION OVERVIEW

1.1 Objective

Aim of this report is to present the results of the reliability evaluation performed on selected test vehicles to qualify the VIPower M05 Technology in ST SG8 Ang Mo Kio (Singapore) 8” Wafer Fab as second source for manufacturing. Here below the list of the used test vehicles:

Commercial product	Silicon Line	Package
VND5012AK-E	VNF8	PSSO24
VND5E160AJ-E	VNQ7	PSSO12 Deep Down Set
VNL5030S5-E	VNY7	SO8

These are monolithic devices intend for driving resistive or inductive loads for automotive application: VND5012AK-E and VND5E160AJ-E are double channel high side driver with analog current sense, VNL5030S5-E is a single low-side driver.

1.2 Reliability Strategy and Test Plan

1.2.1 Reliability strategy

Reliability trials performed as part of this reliability evaluation are in agreement with ST 0061692 and **AEC-Q100 rev. H Grade 1** specification and are listed in below Test Plan. For details on test conditions, generic data used and specifications references refer to test results summary in section 3.

An extended reliability (2x AEC-Q100 requirement) trough selected stress test with relevant Construction Analysis is also performed also covering AEC-Q006 requirement.

For details on test conditions, generic data used and specifications references refer to test results summary in section 3.

1.2.2 Test Plan

AEC-Q100 TEST PLAN

TEST GROUP	TEST NAME	DESCRIPTION / COMMENTS	TEST FLAG
A Accelerated Environment Stress Tests	PC (JL3)	Preconditioning (JL3+3 reflows simulation)	Yes
	THB	Temperature Humidity Bias	Yes
	AC	Autoclave at 2atm	Yes
	TC	Temperature Cycling	Yes
	PTC	Power Temperature Cycling	Yes
	HTSL	High Temperature Storage Life	Yes
B Accelerated Lifetime Simulation Tests	HTOL	High Temperature Operating Life	Yes
	ELFR	Early Life Failure Rate	Yes
	EDR	Endurance Data Retention	Not Applicable
C Package Assembly Integrity Tests	WBS	Wire Bond Shear	Yes
	WBP	Wire Bond Pull	Yes
	SD	Solderability	Not Applicable
	PD	Physical Dimension	Not Applicable
	SBS	Solder Ball Shear	Not Applicable
	LI	Lead Integrity	Not Applicable
D Die Fabrication Reliability Tests	Test list is reported in section 5	Performed during process qualification	Yes
E Electrical Verification Tests	ESD (HBM)	Electrostatic Discharge (Human Body Model)	Yes
	ESD (CDM)	Electrostatic Discharge (Charged Device Model)	Yes
	LU	Latch Up	Yes
	ED	Electrical distribution	Yes
	FG	Fault grading	Not Applicable
	CHAR	Characterization	Not Applicable
	EMC	Electromagnetic Compatibility	Not Applicable
	SC	Short Circuit Characterization	Not Applicable
	SER	Soft Error Rate	Not Applicable
LF	Lead(Pb) Free: (see AEC-Q005)	Not Applicable	
F Defect Screening Tests	Test list is reported in section 5	To be implemented starting from first production lot	No
G Cavity Package Integrity Tests	Test list is reported in section 5	N/A: not for plastic packaged devices	Not Applicable

AEC-Q100 TEST PLAN – Robustness

TEST GROUP	TEST	DESCRIPTION / COMMENTS	TEST FLAG
A Accelerated Environment Stress Tests	THB	Temperature Humidity Bias	Yes
	TC	Temperature Cycling	Yes
	PTC	Power Temperature Cycling	No
	HTSL	High Temperature Storage Life	Yes
B Accelerated Lifetime Simulation Tests	HTOL	High Temperature Operating Life	Yes

In the below table a comparison between the AEC-Q100 and ZVEI requirements vs the applied ST qualification plan is reported:

	Test Group A				Test Group B		Test Group C				Test Group D					Test Group E						
	THB	AC	TC	PTC	HTSL	HTOL	ELFR	WBS	WBP	SD	PD	EM	TDDB	HCI	NBTI	SM	HBM	CDM	LU	ED	EMC	SC
AEC-Q100	x	x	x	x		x	x	x	x			x	x	x	x	x	x	x	x	x		
ZVEI	x	x	x	x		x	x	x	x			x	x	x	x	x	x	x	x	x		
ST	x	x	x	x	x	x	x	x	x			x	x	x	x	x	x	x	x	x		

1.3 Conclusion

Reliability tests at the present read out have been completed with positive results. Neither functional nor parametric rejects were detected at final electrical testing.

The extended reliability (2x AEC-Q100 requirement) through selected stress test has been completed with positive results, neither functional nor parametric rejects were detected at final electrical testing.

SAM analysis performed after package oriented stress test, pointed out no delamination at the Die/Molding Compound, Die-Pad/Molding Compound and Die Attach Material interfaces.

Wire Bond Pull/Shear tests (WBP, WBS) as Package Assembly Integrity (test Group C) performed before and after package oriented stress test point out neither abnormal break loads nor forbidden failure modes.

Based on the overall positive results, from a reliability point view, we consider that the SG8 Ang Mo Kio (Singapore) wafer Fab can be promoted as a second source for VIPower M05 Technology diffusion, in agreement to AEC_Q100 Rev.H specification Grade.

2. Product Characteristics

2.1. Generalities



VND5012AK-E

Double channel high side driver with analog current sense
for automotive applications

Features

Max supply voltage	V_{CC}	41 V
Operating voltage range	V_{CC}	4.5 to 38 V
Max on-state resistance (per ch.)	R_{ON}	12 m Ω
Current limitation (typ)	I_{LIMH}	60 A
Off-state supply current (typ.)	I_S	2 μ A ⁽¹⁾

1. Typical value with all loads connected.

■ General features

- Inrush current active management by power limitation
- Very low standby current
- 3.0 V CMOS compatible input
- Optimized electromagnetic emission
- Very low electromagnetic susceptibility
- In compliance with the 2002/95/EC european directive

■ Diagnostic functions

- Proportional load current sense
- High current sense precision for wide range currents
- Current sense disable
- Thermal shutdown indication
- Very low current sense leakage

■ Protections

- Undervoltage shutdown
- Overvoltage clamp
- Output stuck to V_{CC} detection
- Load current limitation
- Self limiting of fast thermal transients
- Protection against loss of ground and loss of V_{CC}
- Thermal shutdown



PowerSSO-24

- Reverse battery protection (see [Application schematic](#))
- Electrostatic discharge protection

Application

- All types of resistive, inductive and capacitive loads

Description

The VND5012AK-E is a monolithic device made using STMicroelectronics VIPower M0-5 technology. It is intended for driving resistive or inductive loads with one side connected to ground. Active V_{CC} pin voltage clamp protects the device against low energy spikes (see ISO7637 transient compatibility table). This device integrates an analog current sense which delivers a current proportional to the load current (according to a known ratio) when CS_DIS is driven low or left open. When CS_DIS is driven high, the CURRENT SENSE pin is in a high impedance condition. Output current limitation protects the device in overload condition. In case of long overload duration, the device limits the dissipated power to safe level up to thermal shutdown intervention. Thermal shutdown with automatic restart allows the device to recover normal operation as soon as fault condition disappears.



VND5E160AJ-E

Double channel high side driver with analog current sense for automotive applications

Features

Max transient supply voltage	V_{CC}	41 V
Operating voltage range	V_{CC}	4.5 to 28V
Max On-state resistance (per ch.)	R_{ON}	160 m Ω
Current limitation (typ.)	I_{LIMH}	10 A
Off state supply current	I_S	2 μ A ⁽¹⁾

1. Typical value with all loads connected.

■ General

- Inrush current active management by power limitation
- Very low stand-by current
- 3.0 V CMOS compatible inputs
- Optimized electromagnetic emissions
- Very low electromagnetic susceptibility
- In compliance with the 2002/95/EC european directive
- Very low current sense leakage

■ Diagnostic functions

- Proportional load current sense
- High current sense precision for wide currents range
- Current sense disable
- Off state openload detection
- Output short to V_{CC} detection
- Overload and short to ground (power limitation) indication
- Thermal shutdown indication

■ Protections

- Undervoltage shutdown
- Overvoltage clamp
- Load current limitation
- Self limiting of fast thermal transients
- Protection against loss of ground and loss of V_{CC}
- Over-temperature shutdown with autorestart (thermal shutdown)



- Reverse battery protected (see [Application schematic](#))
- Electrostatic discharge protection

Application

- All types of resistive, inductive and capacitive loads
- Suitable as LED driver

Description

The VND5E160AJ-E is a single channel high-side driver manufactured in the ST proprietary VIPower M0-5 technology and housed in the tiny PowerSSO-12 package. The VND5E160AJ-E is designed to drive 12V automotive grounded loads delivering protection, diagnostics and easy 3V and 5V CMOS compatible interface with any microcontroller.

The device integrates advanced protective functions such as load current limitation, inrush and overload active management by power limitation, over-temperature shut-off with auto-restart and over-voltage active clamp. A dedicated analog current sense pin is associated with every output channel in order to provide *Enhanced* diagnostic functions including fast detection of overload and short-circuit to ground through power limitation indication, over-temperature indication, short-circuit to V_{CC} diagnosis and ON & OFF state open load detection. The current sensing and diagnostic feedback of the whole device can be disabled by pulling the CS_DIS pin high to allow sharing of the external sense resistor with other similar devices.



VNL5030J-E VNL5030S5-E



OMNIFET III
fully protected low-side driver

Datasheet - production data



Description

The VNL5030J-E and VNL5030S5-E are monolithic devices made using STMicroelectronics® VIPower® technology, intended for driving resistive or inductive loads with one side connected to the battery. Built-in thermal shutdown protects the chip from overtemperature and short-circuit. Output current limitation protects the devices in an overload condition. In case of long duration overload, the device limits the dissipated power to a safe level up to thermal shutdown intervention. Thermal shutdown, with automatic restart, allows the device to recover normal operation as soon as a fault condition disappears. Fast demagnetization of inductive loads is achieved at turn-off.

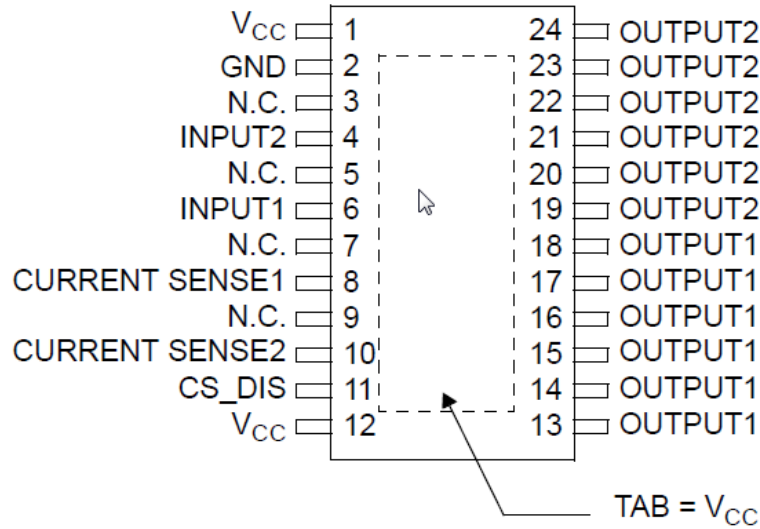
Features

Type	V _{clamp}	R _{DS(on)}	I _D
VNL5030J-E	41 V	30 mΩ	25 A
VNL5030S5-E			

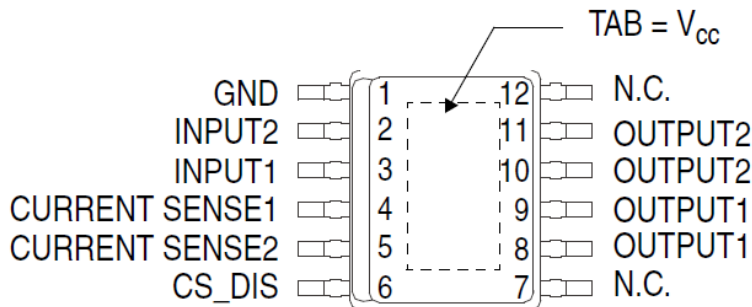
- Automotive qualified
- Drain current: 25 A
- ESD protection
- Overvoltage clamp
- Thermal shutdown
- Current and power limitation
- Very low standby current
- Very low electromagnetic susceptibility
- Compliant with European directive 2002/95/EC
- Open drain status output

2.2. pin connection

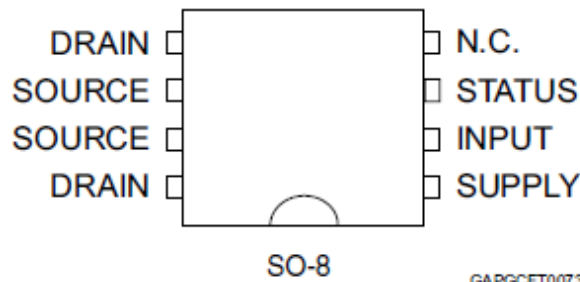
VND5012AK-E



VND5E160AJ-E



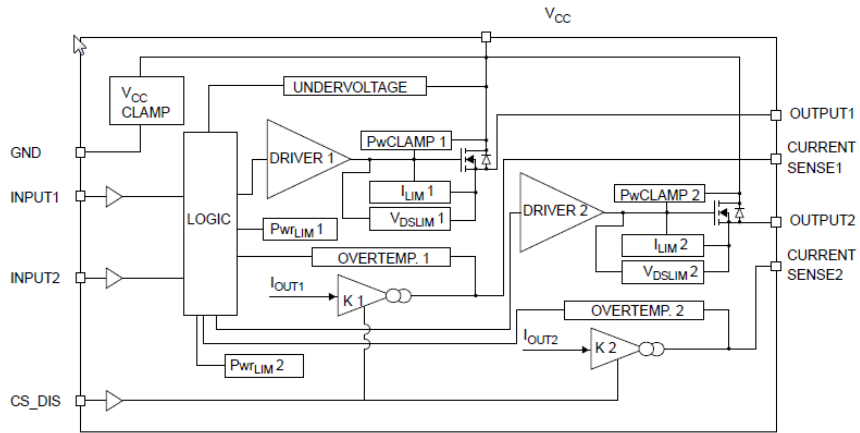
VNL5030S5-E



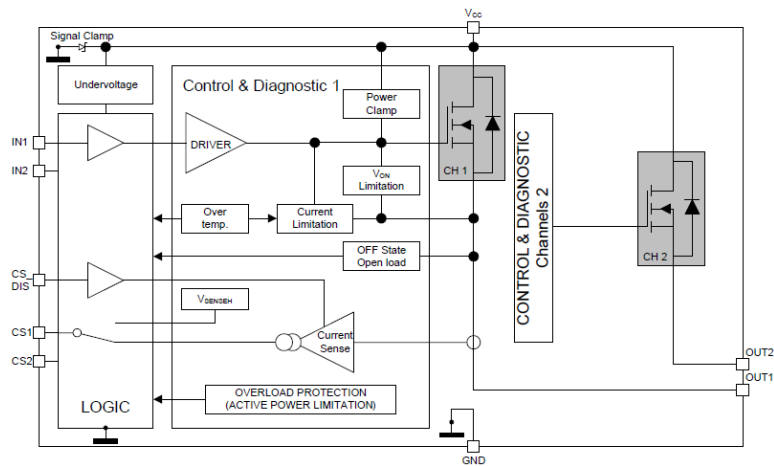
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2.3. Block diagram

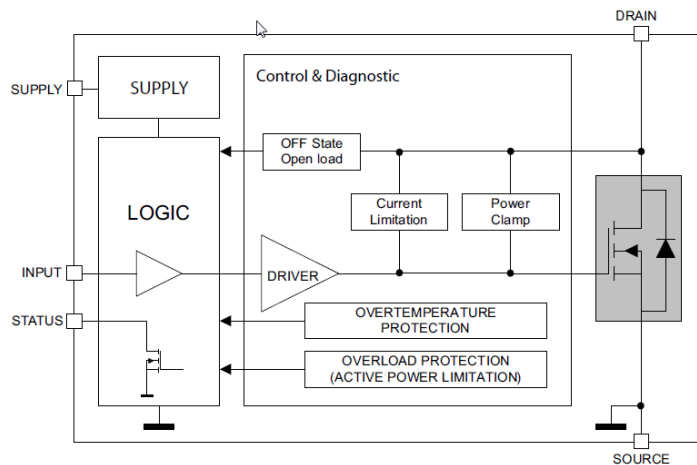
VND5012AK-E



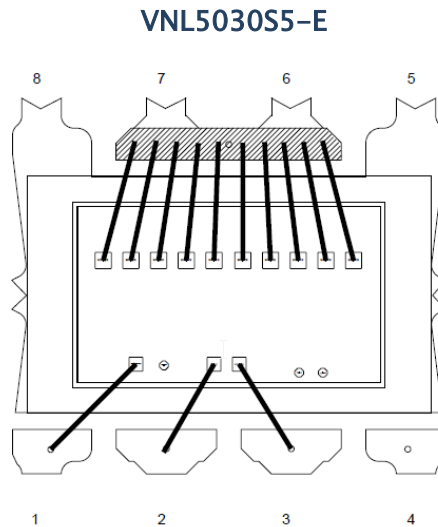
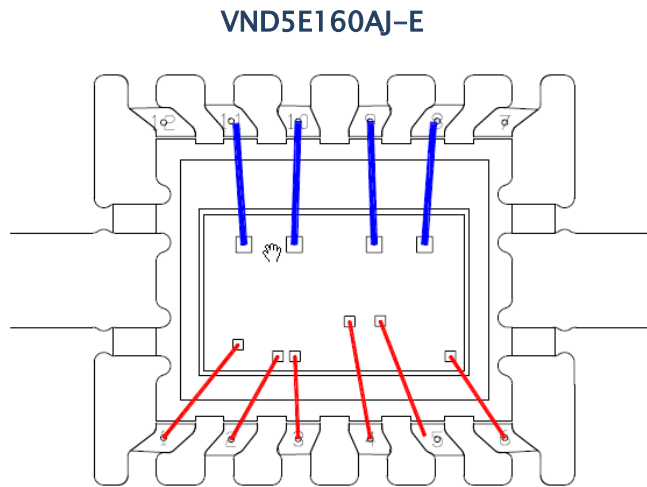
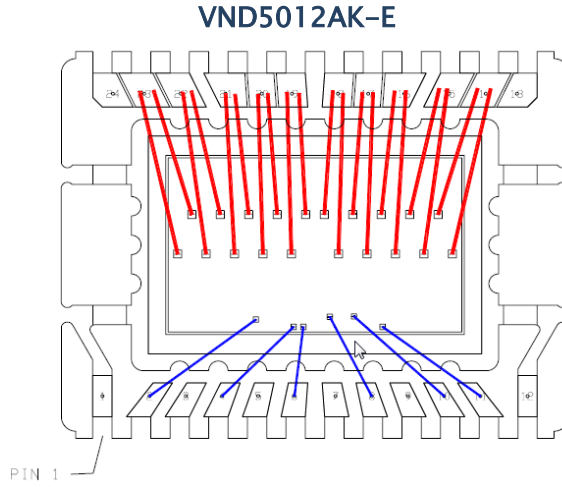
VND5E160AJ-E



VNL5030S5-E



2.4. Bonding diagram



2.5 Traceability

2.5.1 Wafer Fab information

Wafer fab name / location	ST SINGAPORE (SG8)
Wafer diameter (inches)	8"
Silicon process technology	M0_A5
Die finishing front side	SiN/POLYIMIDE
Die finishing back side	Ti-Ni-Au
Metal levels/ materials/ thicknesses	2 / last Ti/AlSiCu 3.1um
Die size (micron)	VND5012AK-E: 6188 x 3700
	VND5E160AJ-E: 2810 x 1730
	VNL5030S5-E: 3180 x 1890

2.5.2 Assembly information

VND5012AK-E

Assembly plant name / location	ST MUAR (MALAYSIA)
Package description	PwSSO24
Lead frame finishing (material/thickness)	PSSO 24L WMt 1/12Gr OpBV1 56u SpAg
Die attach material	PREFORM Pb/Ag/Sn 97.5/1.5/1
Wire bonding material/diameter	CU 2.5 mils / AU 1.3 mils
Molding compound material	HITACHI CEL 9240HF10
Package Moisture Sensitivity Level (JEDEC J-STD020D)	MSL3

VND5E160AJ-E

Assembly plant name / location	ST SHENZHEN (CHINA)
Package description	PwSSO12 DDS
Lead frame finishing (material/thickness)	PSSO 12L 2.49X3.21 Mtx EP OpA SpAg
Die attach material	PREFORM Pb/Ag/Sn 95.5/2.5/2
Wire bonding material/diameter	CU 2.5 mils / CU 1.2 mils
Molding compound material	SUMITOMO EME-G700LS
Package Moisture Sensitivity Level (JEDEC J-STD020D)	MSL3

VNL5030S5-E

Assembly plant name / location	ST BOUSKOURA (MOROCCO)
Package description	SO8 STRIP SINGLE ISLAND
Lead frame finishing (material/thickness)	SO 8L 169x92 Mtx HD OpK NiThPdAgAu
Die attach material	LOCTITE ABLESTIK QM19507
Wire bonding material/diameter	Cu 2 mils
Molding compound material	SUMITOMO EME-G700KC
Package Moisture Sensitivity Level (JEDEC J-STD020D)	MSL3

2.5.3 Reliability Testing information

Reliability laboratory location	ST Catania (Italy)/ ST Muar (Malaysia)
---------------------------------	--

3 TESTS RESULTS SUMMARY

3.1 Lot Information

VND5012AK-E

Lot #	Diffusion Lot	EWS	Assy Lot	Note
1	C8201EX	Std	Lot 1 /A: 998370WC02	Assembly configuration NN
		Worst case	Lot 1 /B: 998370WC01	Assembly configuration NN
		Worst case	Lot 1 /C: 998370WCRR	Assembly configuration LL
		Worst case	Lot 1 /D: 998370WCRC	Assembly configuration HH

VND5E160AJ-E

Lot #	Diffusion Lot	EWS	Assy Lot	Note
2	C82660V	Std	Lot 2 /A: GK84015S02	Assembly configuration NN
		Worst case	Lot 2 /B: GK84015SRQ	Assembly configuration NN
		Worst case	Lot 2 /C: GK84015S01	Assembly configuration LL
		Worst case	Lot 2 /D: GK84015SRP	Assembly configuration HH

VNL5030S5-E

Lot #	Diffusion Lot	EWS	Assy Lot	Note
3	C834JF0	Std	GK8450FNRR	Assembly configuration NN

3.2 Test results summary

Test method revision reference is the one active at the date of reliability trial execution.

TEST GROUP A – ACCELERATED ENVIRONMENT STRESS TESTS

Test	#	Reference	AEC-Q100 STM Test Conditions	Lots	S.S.	Total	Results FAIL/SS/Lots	Comments
PC	A1	JESD22-A113 J-STD-020	24h bake@125°C, including 5 Temperature Cycling Ta=-40°C/+60°C ACC MSL3 (40h@60C/60%RH) 3x Reflow simulation Peak Reflow Temp= 260°C 100 Temperature Cycling Ta=-50°C/+150°C	9	-	1585	Passed	Before THB/AC/TC/PTC/HTOL
THB	A2	JESD22 A101 JESD22 A110	Ta=85°C, 85%RH, Duration= 1000hrs	3	77	231	0/77/3	on lots: 1/A, 2/A, 3
AC	A3	JESD22 A102 or JESD22 A118 or JESD22- A101	ENV. SEQ. Environmental Sequence TC (Ta=-65°C / +150°C for 100 cycles) + AC (Ta=121°C, Pa=2atm for 96 hours)	7	77	539	0/77/7	on lots: 1/B, 1/C, 1/D 2/B, 2/C, 2/D, 3
TC	A4	JESD22 A104	Ta=-55°C /+150 °C Duration= 1000 cyc	7	77	539	0/77/7	on lots: 1/B, 1/C, 1/D 2/B, 2/C, 2/D, 3
PTC	A5	JESD22 A105	Ta=-40°C /+125 °C Duration=1000 cyc	1	45	45	0/45/1	on lot: 2/A
HTSL	A6	JESD22 A103	Ta= 150°C Duration= 1000hrs	7	77	539	0/77/7	on lots: 1/B, 1/C, 1/D 2/B, 2/C, 2/D, 3

TEST GROUP B – ACCELERATED LIFETIME SIMULATION TESTS

Test	#	Reference	AEC-Q100 STM Test Conditions	Lots	S.S.	Total	Results FAIL/SS/Lots	Comments
HTOL	B1	JESD22 A108	TJ=150°C Duration= 1000hrs Bias dynamic stress (OLT)	-	-	-	-	-
HTOL	B1	JESD22 A108	Ta=150°C Duration= 1000hrs Bias static stress (HTB)	3	77	231	0/77/3	on lots: 1/A, 2/A, 3
ELFR	B2	AEC-Q100-008	Ta max=150°C Duration=24hrs	3	800	2400	0/800/3	on lots: 1/A, 2/A, 3
EDR	B3	AEC-Q100-005	Specific tests and conditions to be defined in case of NVM	-	-	-	-	Not Applicable

TEST GROUP C – PACKAGE ASSEMBLY INTEGRITY TESTS

Test	#	Reference	AEC-Q100 STM Test Conditions	Lots	S.S.	Total	Results FAIL/SS/Lots	Comments
WBS	C1	AEC-Q100-001 AEC-Q003	Wire Bond Shear: (Cpk > 1.67)	9	min 5 units	min 45 units	All measurement within spec limits	30 bonds / minimum 5 units / each lot By assembly data
WBP	C2	Mil-STD-883, Method 2011 AEC-Q003	Wire Bond Pull: (Cpk > 1.67)	9	min 5 units	min 45 units	All measurement within spec limits	30 bonds / minimum 5 units / each lot By assembly data
SD	C3	JESD22 B102 JSTD-002D	Solderability: (>95% coverage) 8hr steam aging prior to testing	-	-	-	-	Not Applicable
PD	C4	JESD22 B100, JESD22 B108 AEC-Q003	Physical Dimensions: (Cpk > 1.67)	-	-	-	-	Not Applicable
SBS	C5	AEC-Q100-010 AEC-Q003	Only for BGA package	-	-	-	-	Not Applicable
LI	C6	JESD22 B105	Not required for Surface Mount Devices	-	-	-	-	Not Applicable

TEST GROUP D – DIE FABRICATION RELIABILITY TESTS

Test	#	Reference	AEC-Q100 STM Test Conditions	Lots	S.S.	Total	Results FAIL/SS/Lots	Comments
EM	D1	JESD61	Data, test method and criteria available upon request				Passed	Process qualification data
TDDDB	D2	JESD35	Data, test method and criteria available upon request				Passed	Process qualification data
HCI	D3	JESD60 & 28	Data, test method and criteria available upon request				Passed	Process qualification data
NBTI	D4	JESD90	Data, test method and criteria available upon request				Passed	Process qualification data
SM	D5	JESD61, 87, & 202	Data, test method and criteria available upon request				Passed	Process qualification data

TEST GROUP E – ELECTRICAL VERIFICATION

Test	#	Reference	AEC-Q100 STM Test Conditions	Lots	S.S.	Total	Results FAIL/SS/Lots	Comments
TEST	E1	User/Supplier Specification	Pre and Post Stress Electrical Test	All	All	All	Passed	All parametric and functional tests
HBM	E2	AEC-Q100-002	Target: $\pm 2kV$	3	See test method		Passed	VND5012AK-E: lot 1/A VND5E160AJ-E lot 2/A $\pm 5.5kV$: OUTPUTx, Vcc [TAB] $\pm 4.5kV$: INPUTx, CS_DIS $\pm 2.5kV$: CURRENT SENSEx VNL5030S5-E: lot 3 $\pm 5 kV$: DRAIN $\pm 4 kV$ SUPPLY, INPUT, STATUS
CDM	E3	AEC-Q100-011	Target: $\pm 750V$ on corner pins $\pm 500V$ all others	3	See test method		Passed	VND5012AK-E: lot 1/A VND5E160AJ-E lot 2/A VNL5030S5-E: lot 3 $\pm 750V$: All pins
LU	E4	AEC-Q100-004	Current Injection Class II – Level A ($\pm 100mA$)	3	6	18	Passed	VND5012AK-E: lot 1/A VND5E160AJ-E lot 2/A VNL5030S5-E: lot 3 $\pm 100mA$
ED	E5	AEC-Q100-009 AEC-Q003	Electrical Distributions: (Test @ Rm/Hot/Cold) (where applicable, Cpk > 1.67)	3	30	90	Passed	
EMC	E9	SAE J1752/3	Electromagnetic Compatibility (Radiated Emissions)	-	-	-		Not Applicable
SC	E10	AEC Q100-012	Short Circuit Characterization	-	-	-		Not Applicable
SER	E11	JESD89-1 JESD89-2 JESD89-3	Applicable to devices with memory	-	-	-		Not Applicable
LF	E12	AEC-Q005	Lead(Pb) Free: (see AEC-Q005)	-	-	-		Covered by Test Group A & C

TEST GROUP F – DEFECT SCREENING TESTS

Test	#	Reference	AEC-Q100 STM Test Conditions	Lots	S.S.	Total	Results FAIL/SS/Lots	Comments
PAT	F1	AEC-Q001	Process Average Testing: (see AEC-Q001)					Not performed on qualification lots. It will be implemented starting from first production lot
SBA	F2	AEC-Q002	Statistical Bin/Yield Analysis: (see AEC-Q002)					

TEST GROUP G – CAVITY PACKAGE INTEGRITY TESTS

Test	#	Reference	AEC-Q100 STM Test Conditions	Lots	S.S.	Total	Results FAIL/SS/Lots	Comments
MS	G1	JESD22 B104	Mechanical Shock					Not Applicable: not for plastic packaged devices
VFV	G2	JESD22 B103	Variable Frequency Vibration					
CA	G3	MIL-STD-883 Method 2001	Constant Acceleration					
GFL	G4	MIL-STD-883 Method 1014	Gross and Fine Leak					
DROP	G5		Drop Test, Package Drop					
LT	G6	MIL-STD-883 Method 2004	Lid Torque					
DS	G7	MIL-STD-883 Method 2019	Die Shear					
IWV	G8	MIL-STD-883 Method 1018	Internal Water Vapor					

3.2.1 Additional Tests Results Summary (Robustness) 2xQ100

Test	#	Reference	AEC-Q100 STM Test Conditions	Lots	S.S.	Total	Results FAIL/SS/Lots	Comments
THB	A2	JESD22 A101 JESD22 A110	Ta=85°C, 85%RH, Duration= 2000hrs	3	67	201	0/67/3	on lots: 1/A, 2/A, 3
TC	A4	JESD22 A104	Ta=-55°C /+150 °C Duration= 2000 cycles	7	67	469	0/67/7	on lots: 1/B, 1/C, 1/D 2/B, 2/C, 2/D, 3
HTSL	A6	JESD22 A103	Ta= 150°C Duration= 2000hrs	7	67	469	0/67/7	on lots: 1/B, 1/C, 1/D 2/B, 2/C, 2/D, 3
HTOL	B1	JESD22 A108	TJ=150°C Duration= 2000hrs Bias static stress (HTB)	3	67	201	0/67/3	on lots: 1/A, 2/A, 3

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Reliability Evaluation Report

VIPower M05 devices

Ang Mo Kio SG8” Wafer Fab

second source activation

General Information	
Commercial Products:	VNQ5050AK-E, VNQ5E050AK-E, VNLD5300-E, VNL5300S5-E, VN5E160S-E, VN5E050AJ-E
Product Lines:	VNK7, VNP6, VNZ4, VNQ9, VNQ4
Packages:	PowerSSO24, SO8 SI, SO8 DI, POWERSO-12 (DDS)
Silicon Technology :	VIPOWER M05

***Note:** this report is a summary of the reliability trials performed in good faith by STMicroelectronics in order to evaluate the electronic device conformance to its specific mission profile for Automotive Application. This report and its contents shall not be disclosed to a third party without previous written agreement from STMicroelectronics or under the approval of the author (see below).*

Revision history

Rev.	Changes description	Author	Date
A	Initial Release	A. Vilaro	07/10/2020

Approved by

Function	Location	Name	Date
Division Reliability Manager	ST Catania (Italy)	A. Marmoni	07/10/2020

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1 RELIABILITY EVALUATION OVERVIEW

1.1 Objective

The VIPower M05 Technology was fully AEC-Q100 qualified in ST SG8 Ang Mo Kio (Singapore) 8” Wafer Fab as second source by means selected test vehicles reported here below:

Commercial product	Silicon Line	Package
VND5012AK-E	VNF8	PSSO24
VND5E160AJ-E	VNQ7	PSSO12 Deep Down Set
VNL5030S5-E	VNY7	SO8

Aim of this report is to present the results of the reliability evaluation to activate ST SG8 Ang Mo Kio (Singapore) 8” Wafer Fab as second source for all the others M05 devices available in the present portfolio:

Commercial product	Silicon Line	Package
VNQ5050AK-E	VNK7	PowerSSO24
VNQ5E050AK-E	VNP6	PowerSSO24
VNLD5300-E	VNZ4	SO8 DI
VNL5300S5-E	VNZ4	SO8 SI
VN5E160S-E	VNQ9	SO8 SI
VN5E050AJ-E	VNQ4	POWERSSO-12 (DDS)

All products are designed for Automotive applications, in particular:

VNQ5050AK-E is a monolithic device intended for driving resistive or inductive loads with one side connected to ground.

VNQ5E050AK-E is a quad channel high-side driver designed to drive 12 V automotive grounded loads, and to provide protection and diagnostics.

VNLD5300-E is a dual Channel device intended for driving resistive or inductive loads with one side connected to the battery.

VNL5300S5-E is a monolithic device intended for driving resistive or inductive loads with one side connected to the battery.

VN5E160S-E is a single channel high-side driver designed to drive automotive grounded loads delivering protection.

VN5E050AJ-E is a single channel high-side driver designed to drive 12V automotive grounded loads delivering protection,

1.2 Reliability Strategy and Test Plan

1.2.1 Reliability strategy

Reliability trials performed as part of this reliability evaluation are in agreement with ST 0061692 and AEC-Q100 rev. H Grade 1 specification.

The qualification strategy was to manage the products in portfolio as Derivative products vs the Master ones used as Technology test vehicles addressing the same application.

1.2.2 Test Plan

AEC-Q100 TEST PLAN

TEST GROUP	TEST NAME	DESCRIPTION / COMMENTS	TEST FLAG
A Accelerated Environment Stress Tests	PC (JL3)	Preconditioning (JL3+3 reflows simulation)	Similarity
	THB	Temperature Humidity Bias	Similarity
	AC	Autoclave at 2atm	Similarity
	TC	Temperature Cycling	Similarity
	PTC	Power Temperature Cycling	Similarity
	HTSL	High Temperature Storage Life	Similarity
B Accelerated Lifetime Simulation Tests	HTOL	High Temperature Operating Life	Similarity
	ELFR	Early Life Failure Rate	Similarity (generic data)
	EDR	Endurance Data Retention	Not Applicable
C Package Assembly Integrity Tests	WBS	Wire Bond Shear	Similarity
	WBP	Wire Bond Pull	Similarity
	SD	Solderability	Not Applicable
	PD	Physical Dimension	Not Applicable
	SBS	Solder Ball Shear	Not Applicable
	LI	Lead Integrity	Not Applicable
D Die Fabrication Reliability Tests	Test list is reported in section 5	Performed during process qualification	Similarity (generic data)
E Electrical Verification Tests	ESD (HBM)	Electrostatic Discharge (Human Body Model)	Yes
	ESD (CDM)	Electrostatic Discharge (Charged Device Model)	Yes
	LU	Latch Up	Yes
	ED	Electrical distribution	Yes
	FG	Fault grading	Not Applicable
	CHAR	Characterization	Not Applicable
	EMC	Electromagnetic Compatibility	Not Applicable
	SC	Short Circuit Characterization	Not Applicable
	SER	Soft Error Rate	Not Applicable
LF	Lead(Pb) Free: (see AEC-Q005)	Similarity (generic data)	
F Defect Screening Tests	Test list is reported in section 5	To be implemented starting from first production lot	No
G Cavity Package Integrity Tests	Test list is reported in section 5	N/A: not for plastic packaged devices	Not Applicable

2 TESTS RESULTS SUMMARY

2.1 Test results summary

Test method revision reference is the one active at the date of reliability trial execution.

TEST GROUP A – ACCELERATED ENVIRONMENT STRESS TESTS

Test	#	Reference	AEC-Q100 STM Test Conditions	Lots	S.S.	Total	Results FAIL/SS/Lots	Comments
PC	A1	JESD22-A113 J-STD-020	24h bake@125°C, including 5 Temperature Cycling Ta=-40°C/+60°C ACC MSL3 (52h@60C/60%RH) 3x Reflow simulation Peak Reflow Temp= 260°C 100 Temperature Cycling Ta=-50°C/+150°C	-	-	-	-	Not performed Similarity approach used
THB	A2	JESD22 A101 JESD22 A110	Ta=85°C, 85%RH, Duration= 1000hrs	-	-	-	-	Not performed Similarity approach used
AC	A3	JESD22 A102 or JESD22 A118 or JESD22- A101	ENV. SEQ. Environmental Sequence TC (Ta=-65°C / +150°C for 100 cycles) + AC (Ta=121°C, Pa=2atm for 96 hours)	-	-	-	-	Not performed Similarity approach used
TC	A4	JESD22 A104	Ta=-55°C /+150 °C Duration= 1000 cyc	-	-	-	-	Not performed Similarity approach used
PTC	A5	JESD22 A105	Ta=-40°C /+125 °C Duration=1000 cyc	-	-	-	-	Not performed Similarity approach used
HTSL	A6	JESD22 A103	Ta= 150°C Duration= 1000hrs	-	-	-	-	Not performed Similarity approach used

TEST GROUP B – ACCELERATED LIFETIME SIMULATION TESTS

Test	#	Reference	AEC-Q100 STM Test Conditions	Lots	S.S.	Total	Results FAIL/SS/Lots	Comments
HTOL	B1	JESD22 A108	TJ=150°C Duration= 1000hrs Bias dynamic stress (OLT)	-	-	-	-	Not performed Similarity approach used
HTOL	B1	JESD22 A108	Ta=150°C Duration= 1000hrs Bias static stress (HTB)	-	-	-	-	Not performed Similarity approach used
ELFR	B2	AEC-Q100-008	Ta max=150°C Duration=24hrs	-	-	-	-	Not performed Similarity approach used
EDR	B3	AEC-Q100-005	Specific tests and conditions to be defined in case of NVM	-	-	-	-	Not Applicable

TEST GROUP C – PACKAGE ASSEMBLY INTEGRITY TESTS

Test	#	Reference	AEC-Q100 STM Test Conditions	Lots	S.S.	Total	Results FAIL/SS/Lots	Comments
WBS	C1	AEC-Q100-001 AEC-Q003	Wire Bond Shear: (Cpk > 1.67)		min 5 units	min 15 units	All measurement within spec limits	
WBP	C2	Mil-STD-883, Method 2011 AEC-Q003	Wire Bond Pull: (Cpk > 1.67)		min 5 units	min 15 units	All measurement within spec limits	
SD	C3	JESD22 B102 JSTD-002D	Solderability: (>95% coverage) 8hr steam aging prior to testing		15	30	All measurement within spec limits	
PD	C4	JESD22 B100, JESD22 B108 AEC-Q003	Physical Dimensions: (Cpk > 1.67)		10	20	All measurement within spec limits	
SBS	C5	AEC-Q100-010 AEC-Q003	Only for BGA package	-	-	-	-	Not Applicable
LI	C6	JESD22 B105	Not required for Surface Mount Devices	-	-	-	-	Not Applicable

TEST GROUP D – DIE FABRICATION RELIABILITY TESTS

Test	#	Reference	AEC-Q100 STM Test Conditions	Lots	S.S.	Total	Results FAIL/SS/Lots	Comments
EM	D1	JESD61	Data, test method and criteria available upon request				Passed	Process qualification data
TDDDB	D2	JESD35	Data, test method and criteria available upon request				Passed	Process qualification data
HCI	D3	JESD60 & 28	Data, test method and criteria available upon request				Passed	Process qualification data
NBTI	D4	JESD90	Data, test method and criteria available upon request				Passed	Process qualification data
SM	D5	JESD61, 87, & 202	Data, test method and criteria available upon request				Passed	Process qualification data

TEST GROUP E – ELECTRICAL VERIFICATION

Test	#	Reference	AEC-Q100 STM Test Conditions	Lots	S.S.	Total	Results FAIL/SS/Lots	Comments
TEST	E1	User/Supplier Specification	Pre and Post Stress Electrical Test	All	All	All	Passed	All parametric and functional tests
HBM	E2	AEC-Q100-002	Target: ±2kV	1	See test method		VNQ5050AK-E : All pins: ±2KV; Vcc, OUTx: ±5KV; INx, CS_DIS: ±4KV VNQ5E050AK-E: All pins: ±2KV; Vcc, OUTx: ±5KV; INx, CS_DIS: ±4KV VNLD5300TR-E: All pins: ±4KV; DRAINx: ±5KV VN5E160S-E: All pins: ±2KV; Vcc, OUTPUT: ±5KV; INPUT, STAT_DIS, STATUS: ±4KV VN5E050AJ-E: All pins: ±2KV; Vcc, OUT: ±5KV; INPUT, CS_DIS; ±4KV	
CDM	E3	AEC-Q100-011	Target: ±750V on corner pins ± 500V all others	1	See test method			±750V
LU	E4	AEC-Q100-004	Current Injection Class II – Level A (+/- 100mA)	1	6	6	VNQ5050AK-E : All pins: ±25mA; OUTx: ±100mA VNQ5E050AK-E: All pins: ±25mA; OUTx: ±100mA VNLD5300TR-E: All pins: ±25mA; DRAINx: ±100mA VN5E160S-E: All pins: ±25mA; OUTPUT: ±100mA VN5E050AJ-E: All pins: ±25mA; OUT: ±100mA	
ED	E5	AEC-Q100-009 AEC-Q003	Electrical Distributions: (Test @ Rm/Hot/Cold) (where applicable, Cpk > 1.67)	3	30	60	done	
EMC	E9	SAE J1752/3	Electromagnetic Compatibility (Radiated Emissions)	-	-	-	-	Not Applicable
SC	E10	AEC Q100-012	Short Circuit Characterization	-	-	-	-	Not Applicable
SER	E11	JESD89-1 JESD89-2 JESD89-3	Applicable to devices with memory	-	-	-	-	Not Applicable
LF	E12	AEC-Q005	Lead(Pb) Free: (see AEC-Q005)	-	-	-	-	Covered by Test Group A & C

TEST GROUP F – DEFECT SCREENING TESTS

Test	#	Reference	AEC-Q100 STM Test Conditions	Lots	S.S.	Total	Results FAIL/SS/Lots	Comments
PAT	F1	AEC-Q001	Process Average Testing: (see AEC-Q001)	Not performed on qualification lots. It will be implemented starting from first production lot				
SBA	F2	AEC-Q002	Statistical Bin/Yield Analysis: (see AEC-Q002)					

TEST GROUP G – CAVITY PACKAGE INTEGRITY TESTS

Test	#	Reference	AEC-Q100 STM Test Conditions	Lots	S.S.	Total	Results FAIL/SS/Lots	Comments
MS	G1	JESD22 B104	Mechanical Shock	Not Applicable: not for plastic packaged devices				
VFV	G2	JESD22 B103	Variable Frequency Vibration					
CA	G3	MIL-STD-883 Method 2001	Constant Acceleration					
GFL	G4	MIL-STD-883 Method 1014	Gross and Fine Leak					
DROP	G5		Drop Test, Package Drop					
LT	G6	MIL-STD-883 Method 2004	Lid Torque					
DS	G7	MIL-STD-883 Method 2019	Die Shear					
IWV	G8	MIL-STD-883 Method 1018	Internal Water Vapor					

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DELTA CHAR 2 TEMP. VNQ4_VN5E050AJ-E(STD - SGN6 FAB) Vs. VNQ4_VN5E050AJ-E(NEW - SGN8 FAB)

note 1 : the low CPK is due to the fact that the low limit is in this case 0 and this impacts the CPKL. On the other side the distribution of this current is positive , therefore the CPK L is not important and only CPK H has to be taken into consideration.

note 2 : the low CPK is due to the fact that the upper limit is in this case 0 and this impacts the CPK H. On the other side the distribution of this current is negative , therefore the CPK H is not important and only CPK L has to be taken into consideration.

note 3: the mean drift is not an issue because the difference between the two measurements is lower than the minimum measurement capability of the tool.

(**) internal test

(*) guardbanded Vs spec

Mean values Drift analysis in % referred to STD

Differences between NEW and STD: $[(NEW-STD)/STD]*100$

temp	Test	Test label	Unit	LTL	UTL	VNQ4_VN5E050AJ-E STD					VNQ4_VN5E050AJ-E NEW					Mean values Drift analysis in % referred to STD				REMARKS
						Mean	Sigma	CPK L	CPK H	CPK	Mean	sigma	CPK L	CPK H	CPK	%	5%	10%	20%	
125°C	1001000	VF_100UA	V	0.2	0.8	3.09E-01	1.40E-02	2.6E+00	1.2E+01	2.61	3.08E-01	4.71E-03	7.6E+00	3.5E+01	7.64	-0.45				
125°C	1001002	**	uA			1.17E+00	5.09E-02	7.6E+00	5.8E+01	7.63	1.22E+00	3.64E-02	1.1E+01	8.0E+01	11.20	4.96				
125°C	1001003	**	uA			4.04E+01	3.13E+00	4.3E+00	2.8E+01	4.29	3.93E+01	2.00E+00	6.5E+00	4.3E+01	6.54	-2.53				
125°C	1001004	VCC_CLAMP	V	41	52	4.65E+01	2.98E-01	6.1E+00	6.2E+00	6.10	4.56E+01	1.19E-01	1.3E+01	1.8E+01	12.87	-1.88				
125°C	2001000	**	uA			1.13E+00	4.79E-02	4.4E+00	1.3E+01	4.41	1.18E+00	3.12E-02	7.3E+00	1.9E+01	7.31	4.37				
125°C	2001001	**	uA			2.47E-01	4.22E-02	2.0E+00	9.9E+00	1.95	2.57E-01	2.56E-02	3.4E+00	1.6E+01	3.35	3.97				
125°C	2001002	**	uA			1.41E+00	6.36E-02	4.8E+00	1.4E+01	4.79	1.48E+00	3.35E-02	9.8E+00	2.5E+01	9.79	4.84				
125°C	2001003	ILOFF2_13V	uA	0	5	3.57E-01	6.71E-02	1.8E+00	2.3E+01	1.77	3.65E-01	6.64E-02	1.8E+00	2.3E+01	1.83	2.29				
125°C	2001004	**	uA			4.51E+00	2.56E-01	5.9E+00	5.9E+01	5.86	4.73E+00	1.45E-01	1.1E+01	1.0E+02	10.88	4.86				
125°C	2001005	**	uA			2.69E-01	4.66E-02	1.9E+00	1.1E+02	1.93	2.76E-01	5.24E-02	1.8E+00	9.4E+01	1.76	2.54				
125°C	2001006	**	mA			6.99E-02	3.81E-03	5.2E+00	8.1E+01	5.24	6.76E-02	3.42E-03	5.6E+00	9.1E+01	5.60	-3.32				
125°C	2001007	ISON_13V	mA	n.a.	3	1.46E+00	4.24E-02	n.a.	1.2E+01	12.13	1.48E+00	5.96E-02	n.a.	8.5E+00	8.50	1.50				
125°C	3001000	**	V			6.56E+00	5.69E-02	3.30E+00	2.56E+00	2.56E+00	6.48E+00	1.97E-02	8.0E+00	8.9E+00	8.03	-1.34				
125°C	3001001	**	V			-5.34E-01	6.98E-03	n.a.	4.00E+00	4.00E+00	-5.35E-01	2.31E-03	n.a.	1.2E+01	12.24	-0.21				
125°C	3001002	**	V			6.54E+00	5.81E-02	3.11E+00	n.a.	3.11E+00	6.45E+00	2.01E-02	7.5E+00	n.a.	7.53	-1.36				
125°C	3001003	**	V			-5.34E-01	7.09E-03	7.8E+00	6.3E+00	6.29	-5.35E-01	2.30E-03	2.4E+01	2.0E+01	19.57	-0.20				
125°C	3101000	ILOFF2_RISING_8V	uA	-120	0	-4.79E+01	9.09E-01	2.6E+01	1.8E+01	17.54	-4.95E+01	9.58E-01	2.5E+01	1.7E+01	17.23	-3.51				
125°C	3101001	ILOFF2_RISING_18V	uA	-120	0	-3.79E+01	8.46E-01	3.2E+01	1.5E+01	14.91	-3.93E+01	4.58E-01	5.9E+01	2.9E+01	28.59	-3.77				
125°C	3101002	ILOFF2_FALLING_8V	uA	-50	90	-9.54E+00	2.86E-01	4.7E+01	1.2E+02	47.15	-9.98E+00	1.78E-01	7.5E+01	1.9E+02	75.04	-4.61				
125°C	3101003	ILOFF2_FALLING_18V	uA	-50	90	1.24E+01	7.00E-01	3.0E+01	3.7E+01	29.69	1.19E+01	4.79E-01	4.3E+01	5.4E+01	43.10	-3.41				
125°C	4001000	**	mV			2.68E+01	9.91E-01	4.0E+00	2.8E+00	2.76	2.68E+01	7.27E-01	5.4E+00	3.7E+00	3.74	0.14				
125°C	4001001	*	mOHM			8.02E+01	2.83E+00	n.a.	1.7E+00	1.74	8.03E+01	2.05E+00	n.a.	2.4E+00	2.39	0.11				
125°C	4001002	*	mOHM			8.08E+01	2.80E+00	n.a.	1.7E+00	1.69	8.01E+01	2.02E+00	n.a.	2.5E+00	2.46	-0.87				
125°C	4001003	*	mOHM			8.03E+01	2.80E+00	n.a.	1.8E+00	1.76	8.23E+01	2.01E+00	n.a.	2.1E+00	2.10	2.54				
125°C	5001000	ISENSE0_VCSDS_I0	uA	0	1	3.36E-02	4.78E-03	2.3E+00	6.7E+01	2.34	3.52E-02	5.47E-03	2.1E+00	5.9E+01	2.15	4.87				
125°C	5001001	ISENSE0_VCSDO_I0	uA	0	2	1.18E-01	1.55E-02	2.5E+00	4.0E+01	2.54	1.17E-01	1.38E-02	2.8E+00	4.6E+01	2.84	-0.83				
125°C	5001002	ISENSE0_VCSDS_I2	uA	0	1	2.85E-02	4.00E-03	2.4E+00	8.1E+01	2.38	2.73E-02	2.73E-03	3.3E+00	1.2E+02	3.33	-4.38				
125°C	6001000	K0_8V_50MA		1170	3090	2.16E+03	1.14E+02	2.9E+00	2.7E+00	2.74	2.18E+03	8.69E+01	3.9E+00	3.5E+00	3.49	1.07				
125°C	6001001	K0_18V_50MA		1170	3090	2.15E+03	1.13E+02	2.9E+00	2.8E+00	2.78	2.17E+03	8.71E+01	3.8E+00	3.5E+00	3.53	0.93				
125°C	6001002	**	uA			2.37E+00	4.87E-01	n.a.	1.8E+00	1.76	2.38E+00	4.10E-01	n.a.	2.1E+00	2.09	0.31				
125°C	6001003	**	uA			1.01E+01	8.33E-01	2.0E+00	n.a.	2.00	9.94E+00	5.77E-01	2.8E+00	n.a.	2.83	-1.12				
125°C	6001004	**	uA			2.56E+00	4.53E-01	n.a.	1.8E+00	1.76	2.55E+00	4.09E-01	n.a.	2.0E+00	1.95	-0.13				
125°C	6001005	**	uA			1.02E+01	8.37E-01	2.1E+00	n.a.	2.06	1.01E+01	5.82E-01	2.9E+00	n.a.	2.90	-1.09				
125°C	6001006	K1_8V_1A		1575	2465	1.98E+03	3.93E+01	3.4E+00	4.1E+00	3.43	1.96E+03	3.57E+01	3.6E+00	4.7E+00	3.58	-1.01				
125°C	6001007	K1_16V_1A		1575	2465	1.98E+03	3.95E+01	3.4E+00	2.8E+00	2.83	1.96E+03	3.58E+01	3.6E+00	3.3E+00	3.31	-1.02				
125°C	6001008	K2_8V_2A		1765	2155	1.94E+03	2.11E+01	2.8E+00	5.9E+00	2.79	1.92E+03	1.95E+01	2.7E+00	6.7E+00	2.73	-0.88				
125°C	6001009	K2_16V_2A		1765	2155	1.94E+03	2.12E+01	2.8E+00	3.3E+00	2.79	1.93E+03	1.95E+01	2.7E+00	3.9E+00	2.74	-0.87				
125°C	6001010	K3_8V_4A		1840	2080	1.92E+03	1.35E+01	2.1E+00	5.2E+00	2.08	1.91E+03	1.38E+01	1.7E+00	5.4E+00	1.67	-0.77				
125°C	6001011	K3_16V_4A		1840	2080	1.92E+03	1.31E+01	2.1E+00	5.4E+00	2.13	1.91E+03	1.26E+01	1.8E+00	6.0E+00	1.81	-0.80				

125°C	7001000	**	A			3.46E+00	2.05E-03	9.1E+01	5.5E+01	55.21	3.46E+00	1.73E-03	1.1E+02	6.5E+01	65.32	0.01			
125°C	7001001	VDEM	V	-38	-28	-3.51E+01	2.99E-01	3.3E+00	7.9E+00	3.28	-3.38E+01	1.21E-01	1.1E+01	1.6E+01	11.41	3.46			
125°C	8001000	**	A			2.66E+01	6.94E-01	n.a.	5.5E+00	5.49	2.75E+01	8.92E-01	n.a.	3.9E+00	3.92	3.59			
125°C	8001001	ILIM_H	A	19	38	2.16E+01	4.14E-01	2.1E+00	1.3E+01	2.09	2.24E+01	5.54E-01	2.1E+00	9.4E+00	2.08	3.94			
125°C	8001002	**	A			7.66E+00	3.35E-01	4.6E+00	1.1E+01	4.64	8.01E+00	3.66E-01	4.6E+00	1.0E+01	4.56	4.45			
125°C	8001003	**	A			5.63E-02	7.38E-03	n.a.	4.3E+01	42.61	5.34E-02	6.78E-03	n.a.	4.7E+01	46.52	-5.16	X		mean drift: see note 3
125°C	9001000	**	V			6.32E-01	6.90E-03	n.a.	3.3E+00	3.30	6.32E-01	4.16E-03	n.a.	5.5E+00	5.46	0.02			
125°C	9001001	**	A			2.00E+00	1.75E-03	3.8E+01	3.8E+01	38.19	2.00E+00	1.79E-03	3.7E+01	3.7E+01	37.22	0.03			
125°C	9001002	*	V			6.95E-01	1.14E-02	4.2E+00	4.5E+00	4.23	6.94E-01	1.03E-02	4.7E+00	5.1E+00	4.68	-0.14			
125°C	9001003	*	A			6.00E+00	3.15E-03	2.1E+01	2.1E+01	20.97	6.00E+00	3.12E-03	2.1E+01	2.2E+01	21.24	0.01			
125°C	11001004	ICSD_LOW	uA	1	n.a.	2.44E+00	5.78E-02	8.3E+00	n.a.	8.32	2.53E+00	3.34E-02	1.5E+01	n.a.	15.25	3.45			
125°C	11001005	**	V			1.87E+00	2.60E-02	1.4E+01	n.a.	13.65	1.89E+00	2.35E-02	1.5E+01	n.a.	15.42	1.10			
125°C	11001006	ICSD_HIGH	uA	n.a.	10	2.80E+00	7.59E-02	n.a.	3.2E+01	31.61	2.91E+00	3.87E-02	n.a.	6.1E+01	61.14	3.87			
125°C	11001007	**	V			1.56E-03	2.87E-03	n.a.	3.5E+01	34.64	1.49E-03	1.31E-03	n.a.	7.6E+01	76.11	-4.57			
125°C	11001008	VSENSE	V	5	n.a.	7.76E+00	4.47E-02	2.1E+01	n.a.	20.58	7.61E+00	2.52E-02	3.5E+01	n.a.	34.53	-1.92			
125°C	12001000	**	uS	5	150	3.57E+01	3.98E+00	2.6E+00	9.6E+00	2.57	3.39E+01	1.33E+00	7.2E+00	2.9E+01	7.23	-4.91			
125°C	12001001	**	uS	5	150	4.13E+01	2.05E+00	5.9E+00	1.8E+01	5.89	3.95E+01	1.74E+00	6.6E+00	2.1E+01	6.61	-4.34			
125°C	12001002	**	uS	5	150	3.19E+01	1.91E+00	4.7E+00	2.1E+01	4.69	3.35E+01	9.25E-01	1.0E+01	4.2E+01	10.25	4.95			
125°C	12001003	**	uS	5	150	5.17E+01	1.79E+00	n.a.	1.8E+01	18.31	5.24E+01	6.77E-01	n.a.	4.8E+01	48.09	1.33			
125°C	12001004	**	A			2.15E+00	1.83E-02	n.a.	1.8E+00	1.83	2.16E+00	1.53E-02	n.a.	2.0E+00	1.97	0.46			
125°C	13001000	TDSENSE2H	uS	n.a.	250	1.08E+02	5.54E+00	n.a.	8.5E+00	8.54	1.03E+02	2.80E+00	n.a.	1.7E+01	17.49	-4.61			
125°C	13001001	TDSENSE1L	uS	n.a.	20	7.53E+00	8.00E-01	n.a.	5.2E+00	5.19	7.78E+00	6.91E-01	n.a.	5.9E+00	5.90	3.39			
125°C	13001002	TDSENSE1H	uS	n.a.	100	2.04E+01	8.92E-01	n.a.	3.0E+01	29.72	1.99E+01	6.25E-01	n.a.	4.3E+01	42.75	-2.58			
125°C	13001003	TDSENSE2L	uS	n.a.	250	7.35E+01	2.90E+00	n.a.	2.0E+01	20.31	7.41E+01	1.39E+00	n.a.	4.2E+01	42.27	0.77			
125°C	13501000	TDVOL	uS	n.a.	20	2.72E+00	8.93E-02	n.a.	6.4E+01	64.47	2.59E+00	4.49E-02	n.a.	1.3E+02	129.23	-4.69			
125°C	14001000	**	uA			1.21E+00	4.88E-02	n.a.	1.6E+01	15.61	1.25E+00	3.15E-02	n.a.	2.4E+01	23.79	3.09			
125°C	14001001	**	uA			3.40E-01	7.64E-02	n.a.	1.2E+01	11.60	3.57E-01	2.88E-02	n.a.	3.1E+01	30.57	4.84			
125°C	16500001	**	A			6.00E+00	2.78E-03	2.4E+01	2.4E+01	23.95	6.00E+00	2.34E-03	2.9E+01	2.8E+01	28.37	0.01			
-40°C	1000000	VF_100UA	V	0.2	0.8	6.73E-01	8.20E-03	1.9E+01	5.2E+00	5.15	6.81E-01	3.86E-03	4.2E+01	1.0E+01	10.22	1.23			
-40°C	1000002	**	uA			1.37E+00	5.38E-02	8.5E+00	8.4E+01	8.48	1.42E+00	2.65E-02	1.8E+01	1.7E+02	17.81	3.39			
-40°C	1000003	**	uA			1.84E+01	3.22E+00	1.9E+00	2.9E+01	1.90	1.78E+01	1.93E+00	3.1E+00	4.9E+01	3.06	-3.26			
-40°C	1000004	VCC_CLAMP	V	41	52	4.45E+01	2.74E-01	4.2E+00	9.2E+00	4.22	4.36E+01	1.23E-01	7.2E+00	2.3E+01	7.16	-1.86			
-40°C	2000000	**	uA	0.5	2.5	1.34E+00	3.71E-02	7.5E+00	1.0E+01	7.51	1.39E+00	2.06E-02	1.4E+01	1.8E+01	14.46	4.41			
-40°C	2000001	**	uA	0	1	2.55E-02	4.29E-03	2.0E+00	7.6E+01	1.98	2.55E-02	3.88E-03	2.2E+00	8.4E+01	2.20	-0.03			
-40°C	2000002	**	uA	0.5	3	1.52E+00	5.15E-02	6.6E+00	9.6E+00	6.59	1.57E+00	2.40E-02	1.5E+01	2.0E+01	14.87	3.35			
-40°C	2000003	ILOFF_13V	uA	0	3	1.12E-01	1.76E-02	2.1E+00	5.5E+01	2.12	1.15E-01	1.74E-02	2.2E+00	5.5E+01	2.19	2.61			
-40°C	2000004	**	uA			6.66E+00	2.52E-01	4.9E+00	n.a.	4.85	6.98E+00	1.10E-01	1.2E+01	n.a.	12.12	4.82			
-40°C	2000005	**	uA	0.01	50	6.80E+00	2.48E-01	9.1E+00	5.8E+01	9.14	7.14E+00	1.44E-01	1.6E+01	9.9E+01	16.47	4.90			
-40°C	2000007	**	mA	0.01	1	6.21E-02	5.50E-03	3.2E+00	5.7E+01	3.15	6.39E-02	4.15E-03	4.3E+00	7.5E+01	4.32	2.87			
-40°C	2100006	**	uA	0	25	3.62E-02	7.00E-03	1.7E+00	1.2E+03	1.72	3.59E-02	6.59E-03	1.8E+00	3.1E+03	1.82	-0.83			
-40°C	2100008	ISON_13V	mA	n.a.	3	1.79E+00	5.52E-02	n.a.	7.3E+00	7.29	1.83E+00	2.64E-02	n.a.	1.5E+01	14.75	2.04			
-40°C	3000000	VINPUT_CLAMP_P1MA	V	5.7	6.6	6.14E+00	4.74E-02	3.1E+00	3.2E+00	3.13	6.07E+00	1.74E-02	7.1E+00	1.0E+01	7.08	-1.22			
-40°C	3000001	VINPUT_CLAMP_N1MA	V	-1.1	-0.7	-8.76E-01	7.53E-03	9.9E+00	7.8E+00	7.79	-8.80E-01	5.17E-03	1.4E+01	1.2E+01	11.60	-0.47			
-40°C	4000000	**	mV			2.33E+01	8.98E-01	3.1E+00	4.3E+00	3.09	2.41E+01	8.58E-01	3.5E+00	4.2E+00	3.52	3.12			
-40°C	4000001	*	mOHM			3.13E+01	1.71E+00	n.a.	1.7E+00	1.69	2.98E+01	1.61E+00	n.a.	2.1E+00	2.12	-4.92			
-40°C	4000002	*	mOHM			3.15E+01	1.67E+00	n.a.	1.7E+00	1.70	3.00E+01	1.47E+00	n.a.	2.3E+00	2.27	-4.80			
-40°C	4000003	*	mOHM			3.28E+01	1.63E+00	n.a.	3.5E+00	3.52	3.16E+01	1.47E+00	n.a.	4.2E+00	4.19	-3.86			
-40°C	5000000	ISENSE0_VCSDS_10	uA	0	1	2.07E-02	8.05E-03	8.6E-01	4.1E+01	0.86	1.98E-02	7.20E-03	9.2E-01	4.5E+01	0.92	-4.48			cpk low: see note 1;
-40°C	5000001	ISENSE0_VCSDO_10	uA	0	2	1.23E-01	1.93E-02	2.1E+00	3.2E+01	2.14	1.20E-01	1.67E-02	2.4E+00	3.7E+01	2.39	-2.99			
-40°C	5000002	ISENSE0_VCSDS_12	uA	0	1	1.46E-02	1.08E-02	4.5E-01	3.1E+01	0.45	1.41E-02	8.49E-03	5.6E-01	3.9E+01	0.56	-3.07			cpk low: see note 1;
-40°C	6000000	K0_8V_50MA		1170	3090	2.20E+03	1.69E+02	2.0E+00	1.8E+00	1.75	2.17E+03	1.26E+02	2.7E+00	2.4E+00	2.44	-1.39			
-40°C	6000001	K0_18V_50MA		1170	3090	2.22E+03	1.69E+02	2.1E+00	1.7E+00	1.72	2.16E+03	1.23E+02	2.7E+00	2.5E+00	2.52	-2.86			
-40°C	6000002	**	uA			1.43E+00	1.45E-01	n.a.	8.1E+00	8.11	1.43E+00	1.21E-01	n.a.	9.7E+00	9.70	-0.19			
-40°C	6000003	**	uA			8.50E+00	6.83E-01	1.7E+00	n.a.	1.68	8.74E+00	5.68E-01	2.2E+00	n.a.	2.17	2.90			
-40°C	6000004	**	uA			1.48E+00	6.67E-01	n.a.	1.7E+00	1.68	1.41E+00	4.36E-01	n.a.	2.7E+00	2.70	-4.78			
-40°C	6000005	**	uA			1.05E+01	9.41E-01	1.9E+00	n.a.	1.94	1.09E+01	7.88E-01	2.5E+00	n.a.	2.46	3.44			
-40°C	6000006	K1_8V_1A		1575	2750	2.20E+03	1.02E+02	2.0E+00	1.8E+00	1.81	2.16E+03	1.16E+02	1.7E+00	1.7E+00	1.68	-1.77			
-40°C	6000007	K1_16V_1A		1575	2750	2.19E+03	1.00E+02	2.0E+00	1.9E+00	1.86	2.17E+03	1.07E+02	1.9E+00	1.8E+00	1.81	-0.93			
-40°C	6000008	K2_8V_2A		1765	2315	2.00E+03	4.07E+01	2.0E+00	2.5E+00	1.96	2.08E+03	4.50E+01	2.4E+00	1.7E+00	1.70	3.99			
-40°C	6000009	K2_16V_2A		1765	2315	2.01E+03	4.11E+01	2.0E+00	2.5E+00	1.98	2.02E+03	4.52E+01	1.9E+00	2.2E+00	1.87	0.50			
-40°C	6000010	K3_8V_4A		1840	2135	2.01E+03	2.18E+01	2.6E+00	2.0E+00	1.95	1.99E+03	2.04E+01	2.5E+00	2.3E+00	2.30	-0.64			
-40°C	6000011	K3_16V_4A		1840	2135	2.02E+03	2.18E+01	2.7E+00	1.8E+00	1.80	2.00E+03	2.05E+01	2.7E+00	2.1E+00	2.11	-0.60			
-40°C	7000000	IOUT_VDEM	A	1.6	2.3	1.87E+00	1.67E-03	5.4E+01	8.5E+01	84.01	1.87E+00	1.53E-03	5.9E+01	9.3E+01	58.87	0.00			
-40°C	7000001	VDEM	V	-39	-28	-3.31E+01	2.72E-01	7.3E+00	6.2E+00	6.20	-3.19E+01	1.17E-01	2.0E+01	1.1E+01	11.21	3.44			
-40°C	8000000	**	A			2.52E+01	8.76E-01	n.a.	4.9E+00	4.88	2.59E+01	8.75E-01	n.a.	4.6E+00	4.59	3.03			

-40°C	8000001	ILIM_H	A	19	38	2.51E+01	8.74E-01	2.3E+00	4.9E+00	2.34	2.57E+01	8.76E-01	2.5E+00	4.7E+00	2.53	2.07			
-40°C	8000002	ILIM_L	A	19	38	2.50E+01	8.56E-01	2.3E+00	5.1E+00	2.34	2.61E+01	7.65E-01	3.1E+00	5.2E+00	3.09	4.32			
-40°C	8000003	**	A			4.81E-02	9.26E-03	1.7E+00	3.4E+01	1.73	4.90E-02	8.00E-03	2.0E+00	4.0E+01	2.04	1.87			
-40°C	8000004	**	A			2.80E-01	4.90E-02	1.9E+00	5.3E+01	1.91	2.86E-01	4.86E-02	2.0E+00	5.3E+01	1.97	2.38			
-40°C	8000005	**	uA			1.35E+00	5.57E-02	8.1E+00	1.1E+02	8.07	1.40E+00	4.95E-02	9.4E+00	1.3E+02	9.44	3.95			
-40°C	8000007	**	uS			5.06E+01	3.46E+00	2.0E+00	2.2E+00	1.99	5.27E+01	2.88E+00	2.6E+00	2.3E+00	2.34	4.16			
-40°C	10000000	VUSD	V	n.a.	4.5	3.60E+00	4.33E-02	n.a.	7.0E+00	6.96	3.51E+00	3.40E-02	n.a.	9.7E+00	9.67	-2.25			
-40°C	10000001	**	V			4.11E+00	4.75E-02	1.5E+01	2.6E+00	2.59	3.93E+00	3.47E-02	1.9E+01	5.3E+00	5.32	-4.46			
-40°C	10000002	**	V			2.80E+01	2.79E-03	3.6E+02	8.4E+02	355.22	2.80E+01	2.31E-03	4.3E+02	1.0E+03	430.01	0.00			
-40°C	11000000	IIN_HI	uA	n.a.	10	3.83E+00	9.62E-02	9.8E+00	2.1E+01	9.80	3.97E+00	3.90E-02	2.5E+01	5.2E+01	25.38	3.78			
-40°C	11000001	**	V			1.29E+01	3.18E-02	9.9E+00	2.2E+01	9.94	1.30E+01	2.24E-02	1.4E+01	3.0E+01	14.23	0.06			
-40°C	11000002	IIN_LOW	uA	1	n.a.	3.50E+00	7.10E-02	1.2E+01	3.1E+01	11.72	3.62E+00	3.26E-02	2.7E+01	6.5E+01	26.75	3.42			
-40°C	11000003	**	V			1.30E-02	1.04E-03	4.2E+00	3.2E+02	4.18	1.28E-02	2.72E-04	1.6E+01	1.2E+03	15.68	-1.87			
-40°C	11000004	ICSD_LOW	uA	1	n.a.	3.44E+00	6.58E-02	1.2E+01	n.a.	12.34	3.54E+00	3.25E-02	2.6E+01	n.a.	26.06	3.16			
-40°C	11000005	**	V			1.64E+00	6.95E-02	4.0E+00	n.a.	4.03	1.65E+00	6.16E-02	4.6E+00	n.a.	4.62	0.76			
-40°C	11000006	ICSD_HIGH	uA	n.a.	10	3.87E+00	9.34E-02	n.a.	2.2E+01	21.89	4.00E+00	3.97E-02	n.a.	5.0E+01	50.31	3.51			
-40°C	11000007	**	V			7.70E-03	5.29E-03	n.a.	1.8E+01	18.42	7.48E-03	4.48E-03	n.a.	2.2E+01	21.75	-2.94			
-40°C	11000008	VSENSE	V	5	n.a.	7.62E+00	4.19E-02	2.1E+01	n.a.	20.87	7.47E+00	2.61E-02	3.2E+01	n.a.	31.55	-2.04			
-40°C	12000000	**	uS			1.92E+01	2.54E+00	1.9E+00	1.7E+01	1.86	1.88E+01	1.02E+00	4.5E+00	4.3E+01	4.51	-1.67			
-40°C	12000001	**	uS			3.39E+01	2.55E+00	3.8E+00	1.5E+01	3.78	3.25E+01	7.80E-01	1.2E+01	5.0E+01	11.74	-4.31			
-40°C	12000002	**	uS			1.88E+01	1.19E+00	3.9E+00	3.7E+01	3.85	1.90E+01	5.81E-01	8.0E+00	7.5E+01	8.00	0.92			
-40°C	12000003	**	uS			2.96E+01	1.18E+00	6.9E+00	3.4E+01	6.93	3.04E+01	5.10E-01	1.7E+01	7.8E+01	16.63	2.76			
-40°C	12000004	**	A			2.18E+00	1.28E-02	1.1E+01	1.8E+00	1.76	2.19E+00	1.12E-02	1.3E+01	1.7E+00	1.68	0.52			
-40°C	13500000	TDSTKON	mS	0.18	1.1	3.94E-01	1.53E-02	4.7E+00	1.5E+01	4.67	4.00E-01	1.39E-02	5.3E+00	1.7E+01	5.30	1.62			
-40°C	14000000	**	uA			1.49E+00	5.21E-02	9.5E+00	6.4E+00	6.45	1.55E+00	2.59E-02	2.0E+01	1.2E+01	12.21	3.97			
-40°C	14000001	**	uA			5.79E-02	7.32E-03	2.6E+00	6.6E+01	2.64	5.67E-02	6.30E-03	3.0E+00	7.6E+01	3.00	-2.18			
-40°C	14100000	**				1.94E+03	1.83E+02	1.9E+00	3.7E+00	1.90	1.85E+03	1.44E+02	2.2E+00	4.9E+00	2.19	-4.90			
-40°C	14100001	**				1.87E+03	1.56E+02	2.1E+00	4.4E+00	2.08	1.79E+03	1.40E+02	2.1E+00	5.2E+00	2.11	-4.51			
-40°C	14100002	**				2.13E+03	1.82E+02	1.8E+00	2.8E+00	1.79	2.03E+03	1.31E+02	2.2E+00	4.1E+00	2.24	-4.79			
-40°C	14100003	**				2.15E+03	1.80E+02	1.9E+00	2.8E+00	1.85	2.09E+03	1.30E+02	2.4E+00	4.0E+00	2.42	-2.66			
-40°C	14100004	**				2.23E+03	1.69E+02	2.1E+00	1.7E+00	1.70	2.18E+03	1.25E+02	2.7E+00	2.4E+00	2.42	-2.07			
-40°C	14100005	**				2.30E+03	1.47E+02	2.5E+00	1.8E+00	1.80	2.19E+03	1.23E+02	2.8E+00	2.4E+00	2.44	-4.63			
-40°C	14100006	**				2.37E+03	1.50E+02	2.0E+00	1.9E+00	1.86	2.29E+03	1.11E+02	2.5E+00	2.7E+00	2.53	-3.11			
-40°C	14100007	**				2.36E+03	1.50E+02	2.0E+00	1.9E+00	1.87	2.27E+03	1.11E+02	2.5E+00	2.8E+00	2.45	-3.95			
-40°C	15100000	VOL_MIN_8V	V	0	1	5.33E-03	3.76E-03	4.7E-01	8.8E+01	0.47	5.17E-03	3.39E-03	5.1E-01	9.8E+01	0.51	-2.92			cpk low: see note 1;
-40°C	15100001	VOL_MAX_8V	V	4.5	n.a.	7.86E+00	5.35E-02	2.1E+01	n.a.	20.91	7.60E+00	2.93E-02	3.5E+01	n.a.	35.22	-3.29			
-40°C	15100002	VOL_MIN_18V	V	0	1	5.32E-03	3.65E-03	4.9E-01	9.1E+01	0.49	5.17E-03	3.39E-03	5.1E-01	9.8E+01	0.51	-2.99			cpk low: see note 1;
-40°C	15100003	VOL_MAX_18V	V	4.5	n.a.	8.07E+00	5.32E-02	2.2E+01	n.a.	22.39	7.93E+00	2.77E-02	4.1E+01	n.a.	41.31	-1.75			
-40°C	16000000	**	uA			1.52E+00	6.79E-02	7.5E+00	4.8E+00	4.79	1.60E+00	4.84E-02	1.1E+01	6.2E+00	6.21	4.86			
-40°C	16000001	**	uA			5.61E-02	7.46E-03	2.5E+00	6.4E+01	2.50	5.59E-02	7.02E-03	2.7E+00	6.9E+01	2.65	-0.36			
-40°C	17000000	VF_100UA	V	0.2	0.8	6.70E-01	8.55E-03	1.8E+01	5.1E+00	5.08	6.74E-01	2.25E-03	7.0E+01	1.9E+01	18.60	0.73			
-40°C	17000002	**	uA			1.38E+00	4.04E-02	1.1E+01	1.1E+02	11.34	1.41E+00	2.70E-02	1.7E+01	1.7E+02	17.40	2.58			
-40°C	17000003	**	uA			1.85E+01	1.22E+00	5.0E+00	7.7E+01	5.04	1.78E+01	8.90E-01	6.7E+00	1.1E+02	6.68	-3.50			

DELTA CHAR 2 TEMP. VNQ9_VN5E160S-E(STD - SGN6 FAB) Vs. VNQ9_VN5E160S-E(NEW - SGN8 FAB)

note 1 : the low CPK is due to the fact that the low limit is in this case 0 and this impacts the CPK L. On the other side the distribution of this current is positive, therefore the CPK L is not important and only CPK H has to be taken into consideration.

note 3: the mean drift is not an issue because the difference between the two measurements is lower than the minimum measurement capability of the tool.

(**) internal test

(*) guardbanded Vs spec

Mean values Drift analysis in % referred to STD
Differences between NEW and STD:
[(NEW-STD)/STD]*100

temp	Test	Test label	Unit	LTL	UTL	VNQ9_VN5E160S-E STD					VNQ9_VN5E160S-E NEW					Mean values Drift analysis in % referred to STD Differences between NEW and STD: [(NEW-STD)/STD]*100				REMARKS	
						Mean	Sigma	CPK L	CPK H	CPK	Mean	sigma	CPK L	CPK H	CPK	%	5%	10%	20%		
125°C	1	**	uA			-1.26E+00	1.8E-01	2.6E+01	2.4E+00	2.39	-1.31E+00	1.2E-01	3.9E+01	3.7E+00	3.75	-4.10					
125°C	2	**	uA			-5.00E+02	1.3E+00	2.6E+01	1.3E+02	26.08	-5.01E+02	8.4E-01	3.9E+01	2.0E+02	39.08	-0.17					
125°C	3	*	V			-6.29E-01	3.1E-03	1.8E+01	3.1E+00	3.07	-6.27E-01	3.1E-03	1.9E+01	3.0E+00	2.95	0.25					
125°C	4	ILOFF_13V	uA	0	5	1.00E-01	1.8E-02	1.8E+00	9.0E+01	1.85	1.00E-01	1.5E-02	2.2E+00	1.1E+02	2.23	-0.39					
125°C	5	**	uA			1.34E+00	5.7E-02	7.8E+00	1.8E+01	7.84	1.40E+00	2.5E-02	1.9E+01	4.1E+01	18.67	4.08					
125°C	6	**	uA			5.44E+00	3.8E-01	4.8E+00	8.5E+00	4.83	5.56E+00	9.8E-02	1.9E+01	3.2E+01	18.87	2.17					
125°C	7	ILOFF2_13V	uA	0	75	3.47E+01	8.5E-01	1.4E+01	1.6E+01	13.67	3.54E+01	5.0E-01	2.3E+01	2.6E+01	23.41	1.96					
125°C	8	**	uA			3.15E+01	8.9E-01	6.2E+00	1.1E+01	6.19	3.26E+01	4.8E-01	1.2E+01	1.9E+01	12.33	3.30					
125°C	9	**	uA			1.16E-01	2.2E-02	1.7E+00	7.3E+01	1.74	1.13E-01	1.5E-02	2.5E+00	1.1E+02	2.54	-3.04					
125°C	10	ISON_13V	mA	N.A.	3.5	1.85E+00	5.5E-02	N.A.	1.0E+01	10.10	1.92E+00	2.3E-02	N.A.	2.3E+01	23.08	3.90					
125°C	11	VCCLAMP@20MA	V	41	52	4.63E+01	2.9E-01	6.3E+00	6.6E+00	6.11	4.56E+01	1.2E-01	1.3E+01	1.8E+01	12.81	-1.43					
125°C	12	IN_CLAMP@1MA	V	5.5	7	6.50E+00	5.9E-02	5.7E+00	2.8E+00	2.82	6.42E+00	2.1E-02	1.4E+01	9.0E+00	9.03	-1.26					
125°C	13	STDS_CLAMP@1MA	V	5.5	7	6.48E+00	5.8E-02	5.6E+00	3.0E+00	3.01	6.39E+00	2.2E-02	1.4E+01	9.5E+00	9.46	-1.32					
125°C	14	STAT_CLAMP@1MA	V	5.5	7	6.48E+00	5.8E-02	5.6E+00	3.0E+00	2.99	6.39E+00	2.1E-02	1.4E+01	9.6E+00	9.60	-1.32					
125°C	15	**	V			-5.10E-01	4.8E-03	4.1E+01	1.5E+01	14.57	-5.09E-01	3.7E-03	5.3E+01	1.9E+01	18.89	0.23					
125°C	16	**	V			-5.10E-01	5.0E-03	4.0E+01	1.4E+01	14.12	-5.09E-01	3.6E-03	5.5E+01	1.9E+01	19.35	0.25					
125°C	17	**	V			-4.98E-01	4.7E-03	4.2E+01	1.4E+01	13.89	-4.97E-01	3.6E-03	5.5E+01	1.8E+01	17.99	0.26					
125°C	18	**	V			4.61E+01	2.8E-01	3.7E+00	3.4E+00	3.38	4.55E+01	1.2E-01	6.8E+00	9.8E+00	6.83	-1.42					
125°C	19	**	uA			8.89E-02	1.5E-02	2.0E+00	4.3E+01	1.99	9.26E-02	1.4E-02	2.2E+00	4.6E+01	2.22	4.24					
125°C	20	**	uA			1.35E+00	5.8E-02	7.7E+00	1.8E+01	7.74	1.41E+00	2.6E-02	1.8E+01	3.9E+01	17.74	3.99					
125°C	21	**	mA			1.85E+00	6.5E-02	2.3E+00	2.3E+00	2.31	1.92E+00	2.3E-02	7.6E+00	5.6E+00	5.57	3.88					
125°C	22	**	V			2.80E+01	6.4E-02	1.0E+01	N.A.	10.28	2.80E+01	5.3E-02	1.2E+01	N.A.	12.38	-0.02					
125°C	23	VBAT_MIN	V	N.A.	4.5	3.94E+00	6.2E-02	N.A.	3.0E+00	3.04	4.01E+00	5.1E-02	N.A.	3.2E+00	3.25	1.83					
125°C	24	VUSD	V	N.A.	4.5	3.25E+00	4.3E-02	N.A.	9.7E+00	9.67	3.29E+00	2.5E-02	N.A.	1.6E+01	16.17	1.26					
125°C	25	**	V			6.83E-01	2.9E-02	7.3E+00	3.6E+00	3.63	7.15E-01	3.0E-02	7.3E+00	3.1E+00	3.14	4.56					
125°C	26	TPOL	uSEC	200	1200	7.22E+02	4.2E+01	4.1E+00	3.8E+00	3.79	7.20E+02	2.0E+01	8.8E+00	8.1E+00	8.09	-0.18					
125°C	27	TDOL	uSEC	N.A.	200	3.02E+01	2.3E+00	N.A.	2.4E+01	24.32	3.12E+01	9.8E-01	N.A.	5.7E+01	57.39	3.34					
125°C	28	TDVOL	uSEC	N.A.	20	8.01E-01	3.5E-01	N.A.	1.8E+01	18.22	8.03E-01	2.9E-01	N.A.	2.2E+01	21.84	0.24					
125°C	29	TDISKON	uSEC	180	1200	7.03E+02	4.0E+01	4.4E+00	4.1E+00	4.15	6.77E+02	1.9E+01	8.8E+00	9.2E+00	8.75	-3.58					
125°C	30	*	mOHM			2.69E+02	6.5E+00	N.A.	2.1E+00	2.10	2.65E+02	3.8E+00	N.A.	4.0E+00	4.00	-1.50					
125°C	31	**	mA			9.75E+02	8.5E+00	3.0E+00	4.9E+00	2.97	9.72E+02	7.9E+00	3.0E+00	5.4E+00	3.04	-0.30					
125°C	32	**	mV			2.75E+01	1.1E+00	4.5E+00	3.8E+00	3.81	2.77E+01	6.1E-01	8.1E+00	6.7E+00	6.69	0.73					
125°C	33	**	mA			3.12E+01	1.1E+00	3.3E+00	2.6E+00	2.58	3.12E+01	1.2E+00	3.2E+00	2.5E+00	2.48	0.03					
125°C	34	**	mV			2.62E+02	9.1E+00	6.0E+00	1.7E+00	1.75	2.58E+02	3.8E+00	1.4E+01	4.6E+00	4.56	-1.80					
125°C	35	**	A			1.05E+01	2.4E-01	4.1E+00	4.7E+00	4.13	1.09E+01	1.6E-01	7.0E+00	6.5E+00	6.53	3.27					
125°C	36	ILIM_H	A	7	14	9.29E+00	3.3E-01	2.3E+00	4.7E+00	2.30	9.13E+00	2.6E-01	2.7E+00	6.2E+00	2.70	-1.80					
125°C	37	**	A			3.91E+00	3.3E-01	3.3E+00	2.1E+00	2.09	3.81E+00	2.5E-01	4.3E+00	3.0E+00	2.98	-2.59					
125°C	38	VDEM	V	-39	-28	-3.75E+01	2.2E-01	2.2E+00	1.5E+01	2.23	-3.69E+01	1.3E-01	5.4E+00	2.3E+01	5.42	1.81					
125°C	39	**	A			2.50E+00	1.0E-02	6.7E+00	6.6E+00	6.56	2.50E+00	8.4E-03	8.0E+00	7.8E+00	7.79	0.04					
125°C	40	**	V			5.00E+00	1.6E-02	1.0E+01	6.3E+01	10.44	4.99E+00	1.3E-02	1.3E+01	7.6E+01	12.53	-0.04					
125°C	41	**	V			2.69E-01	4.1E-03	2.2E+01	1.9E+01	18.86	2.71E-01	3.1E-03	2.9E+01	2.4E+01	24.41	0.52					
125°C	42	**	V			4.99E+00	1.7E-02	1.0E+01	6.1E+01	9.98	4.99E+00	1.4E-02	1.2E+01	7.2E+01	11.78	-0.04					
125°C	43	**	V			2.78E-01	4.0E-03	2.3E+01	1.8E+01	18.44	2.80E-01	3.3E-03	2.8E+01	2.2E+01	22.35	0.62					
125°C	44	**	V			2.38E-01	4.2E-03	1.9E+01	2.1E+01	18.87	2.36E-01	2.8E-03	2.8E+01	3.1E+01	27.62	-1.16					
125°C	45	**	V			5.00E+00	1.5E-02	1.1E+01	6.9E+01	11.44	5.00E+00	1.1E-02	1.5E+01	9.1E+01	15.01	-0.03					
125°C	46	**	V			2.38E-01	4.4E-03	1.8E+01	2.0E+01	18.11	2.35E-01	2.9E-03	2.7E+01	3.1E+01	27.42	-1.23					

125°C	47	**	V			5.00E+00	1.5E-02	1.1E+01	6.9E+01	11.39	5.00E+00	1.1E-02	1.5E+01	9.0E+01	14.88	-0.03			
125°C	48	IL_STAT_STDISSV	uA	N.A.	10	1.82E-01	3.4E-01	N.A.	9.5E+00	9.50	1.90E-01	2.6E-01	N.A.	1.3E+01	12.52	4.41			
125°C	49	**	uA			1.79E-01	3.4E-02	1.8E+00	1.8E+01	1.75	1.88E-01	2.6E-02	2.4E+00	2.3E+01	2.41	4.69			
125°C	50	V_ST_LOW_1.6MA	V	N.A.	0.5	3.59E-01	5.6E-03	N.A.	8.4E+00	8.37	3.59E-01	4.3E-03	N.A.	1.1E+01	10.88	0.20			
125°C	51	**	A			9.83E-01	6.6E-03	9.2E+00	1.1E+01	9.23	9.82E-01	6.1E-03	1.0E+01	1.2E+01	9.97	-0.17			
125°C	52	**	uSEC			1.43E+01	9.1E-01	3.8E+00	2.8E+01	3.76	1.49E+01	8.7E-01	4.2E+00	2.9E+01	4.21	4.33			
125°C	53	**	uSEC			1.53E+01	6.8E-01	5.5E+00	3.7E+01	5.54	1.47E+01	4.7E-01	7.6E+00	5.4E+01	7.64	-3.88			
125°C	54	**	uSEC			2.10E+01	9.8E-01	5.8E+00	3.4E+01	5.80	2.07E+01	5.6E-01	9.9E+00	5.9E+01	9.87	-1.53			
125°C	55	**	uSEC			1.60E+01	8.0E-01	5.0E+00	4.3E+01	4.98	1.64E+01	3.3E-01	1.2E+01	1.0E+02	12.42	2.79			
125°C	56	VIH_13V	V	N.A.	2.1	1.56E+00	1.2E-02	N.A.	1.5E+01	15.17	1.61E+00	1.3E-02	N.A.	1.3E+01	12.86	3.21			
125°C	57	VIL_13V	V	0.9	N.A.	1.14E+00	1.4E-02	5.9E+00	N.A.	5.87	1.18E+00	9.9E-03	9.4E+00	N.A.	9.41	3.01			
125°C	58	VIHYST_13V	V	0.25	N.A.	4.19E-01	9.1E-03	6.2E+00	N.A.	6.19	4.34E-01	7.3E-03	8.4E+00	N.A.	8.41	3.76			
125°C	59	IIL_13V	uA	1	N.A.	2.50E+00	6.5E-02	7.6E+00	N.A.	7.64	2.58E+00	3.6E-02	1.5E+01	N.A.	14.80	3.20			
125°C	60	IIH_13V	uA	N.A.	10	2.91E+00	9.2E-02	N.A.	2.6E+01	25.75	3.04E+00	7.1E-02	N.A.	3.3E+01	32.54	4.45			
125°C	61	VSDH_13V	V	N.A.	2.1	1.60E+00	1.4E-02	N.A.	1.2E+01	12.14	1.65E+00	1.2E-02	N.A.	1.3E+01	12.77	2.88			
125°C	62	VSDL_13V	V	0.9	N.A.	1.14E+00	1.5E-02	5.2E+00	N.A.	5.23	1.18E+00	1.0E-02	9.2E+00	N.A.	9.20	3.46			
125°C	63	VSDHYST_13V	V	0.25	N.A.	4.65E-01	1.1E-02	6.8E+00	N.A.	6.76	4.72E-01	9.0E-03	8.2E+00	N.A.	8.18	1.46			
125°C	64	ISDL_13V	uA	1	N.A.	2.50E+00	6.5E-02	7.7E+00	N.A.	7.65	2.58E+00	2.6E-02	2.0E+01	N.A.	20.34	3.27			
125°C	65	ISDH_13V	uA	N.A.	10	2.94E+00	9.4E-02	N.A.	2.5E+01	24.97	3.08E+00	8.3E-02	N.A.	2.8E+01	27.92	4.66			
125°C	66	**	uA			9.18E-02	1.7E-02	1.8E+00	3.7E+01	1.80	9.57E-02	1.6E-02	1.9E+00	3.9E+01	1.94	4.25			
-40°C	1	**	uA			-1.59E+00	2.3E-01	1.9E+01	2.3E+00	2.29	-1.52E+00	1.4E-01	3.3E+01	3.7E+00	3.68	4.64			
-40°C	2	**	uA			-8.27E+00	9.9E-01	2.0E+02	2.8E+00	2.77	-8.63E+00	9.0E-01	2.2E+02	3.2E+00	3.20	-4.35			
-40°C	3	**	V			8.40E-01	7.1E-03	7.4E+00	1.1E+01	7.44	-8.45E-01	3.8E-03	1.4E+01	2.2E+01	13.63	-0.54			
-40°C	4	*	uA			8.18E-03	1.7E-02	1.6E-01	3.7E+01	0.16	9.79E-03	2.0E-02	1.7E-01	3.2E+01	0.17	19.80	X		cpk low: see note 1; mean drift: see note 3
-40°C	5	*	uA			1.56E+00	7.0E-02	N.A.	1.1E+01	11.12	1.61E+00	5.6E-02	N.A.	1.4E+01	13.68	3.31			
-40°C	6	**	uA			7.35E+00	2.1E-01	6.9E+00	N.A.	6.90	7.44E+00	1.1E-01	1.3E+01	N.A.	13.17	1.14			
-40°C	7	**	uA			7.32E+00	2.1E-01	1.1E+01	1.2E+01	11.35	7.43E+00	1.1E-01	2.2E+01	2.7E+01	21.98	1.49			
-40°C	8	ILOFF2_13V	uA	0	75	4.24E+01	1.5E+00	9.7E+00	7.4E+00	7.45	4.32E+01	8.4E-01	1.7E+01	1.3E+01	12.70	1.82			
-40°C	9	**	uA			3.20E+01	1.4E+00	4.9E+00	1.9E+00	1.91	3.35E+01	5.9E-01	1.0E+01	3.7E+00	3.67	4.87			
-40°C	10	**	uA			1.08E-02	2.1E-02	1.7E-01	4.7E+01	0.17	9.78E-03	1.4E-02	2.4E-01	7.2E+01	0.24	-9.50	X		cpk low: see note 1; mean drift: see note 3
-40°C	11	ISON_13V	mA	N.A.	3.5	2.28E+00	5.7E-02	N.A.	7.1E+00	7.14	2.31E+00	3.1E-02	N.A.	1.3E+01	12.95	1.07			
-40°C	12	VCCLAMP@20MA	V	41	52	4.43E+01	2.7E-01	4.0E+00	9.5E+00	4.01	4.37E+01	1.1E-01	8.2E+00	2.6E+01	8.24	-1.39			
-40°C	13	IN_CLAMP@1MA	V	5.5	7	6.10E+00	5.7E-02	3.5E+00	5.2E+00	3.48	6.02E+00	1.7E-02	1.0E+01	1.9E+01	10.17	-1.32			
-40°C	14	STDS_CLAMP@1MA	V	5.5	7	6.07E+00	5.7E-02	3.4E+00	5.4E+00	3.36	5.99E+00	1.7E-02	9.5E+00	2.0E+01	9.52	-1.37			
-40°C	15	STAT_CLAMP@1MA	V	5.5	7	6.07E+00	5.7E-02	3.4E+00	5.4E+00	3.36	5.99E+00	1.7E-02	9.7E+00	2.0E+01	9.70	-1.37			
-40°C	16	**	V			-8.01E-01	7.8E-03	6.4E+00	2.2E+00	2.21	-8.08E-01	2.5E-03	1.9E+01	7.8E+00	7.85	-0.88			
-40°C	17	**	V			-8.01E-01	7.8E-03	6.4E+00	2.2E+00	2.18	-8.08E-01	2.5E-03	1.9E+01	7.6E+00	7.64	-0.87			
-40°C	18	**	V			-7.82E-01	5.7E-03	9.9E+00	1.9E+00	1.89	-7.88E-01	2.5E-03	2.2E+01	5.1E+00	5.12	-0.77			
-40°C	19	**	mA			3.50E+02	1.5E+01	4.5E+00	2.2E+00	2.24	3.60E+02	1.5E+01	4.6E+00	2.4E+00	2.44	2.88			
-40°C	20	**	V			8.38E-01	7.6E-03	6.1E+00	7.1E+00	6.05	8.45E-01	2.5E-03	2.0E+01	2.1E+01	19.52	0.75			
-40°C	21	**	mA			4.01E+03	1.4E+01	1.2E+01	1.2E+01	11.96	4.01E+03	1.4E+01	1.2E+01	1.2E+01	11.85	-0.01			
-40°C	22	**	V			9.47E-01	7.8E-03	6.3E+00	6.6E+00	6.31	9.47E-01	1.9E-03	2.5E+01	2.6E+01	25.42	0.01			
-40°C	23	**	V			2.80E+01	6.7E-02	9.8E+00	N.A.	9.84	2.80E+01	3.3E-02	2.0E+01	N.A.	20.14	-0.01			
-40°C	24	VBAT_MIN	V	N.A.	4.5	4.23E+00	5.0E-02	N.A.	1.8E+00	1.79	4.24E+00	4.8E-02	N.A.	1.8E+00	1.78	0.32			
-40°C	25	VUSD	V	N.A.	4.5	3.58E+00	5.9E-02	N.A.	5.2E+00	5.18	3.61E+00	2.3E-02	N.A.	1.3E+01	12.89	0.63			
-40°C	26	**	V			6.17E-01	3.2E-02	6.0E+00	4.1E+00	4.05	6.38E-01	3.1E-02	6.4E+00	3.9E+00	3.93	3.42			
-40°C	27	TPOL	uSEC	200	1200	4.41E+02	3.8E+01	2.1E+00	6.7E+00	2.12	4.22E+02	1.6E+01	4.7E+00	1.6E+01	4.69	-4.36			
-40°C	28	TDOL	uSEC	N.A.	200	2.49E+01	3.2E+00	N.A.	1.8E+01	18.43	2.37E+01	2.0E+00	N.A.	2.9E+01	29.45	-4.75			
-40°C	29	TDVOL	uSEC	N.A.	20	7.20E-01	4.4E-01	N.A.	1.5E+01	14.77	7.17E-01	4.0E-01	N.A.	1.6E+01	16.19	-0.47			
-40°C	30	TDSKON	uSEC	180	1200	4.15E+02	3.6E+01	2.2E+00	7.2E+00	2.17	4.00E+02	1.5E+01	4.8E+00	1.8E+01	4.84	-3.66			
-40°C	31	*	mOHM			9.54E+01	2.7E+00	N.A.	3.0E+00	3.01	9.93E+01	1.3E+00	N.A.	5.2E+00	5.21	4.17			
-40°C	32	*	mA			1.00E+03	4.4E+00	7.6E+00	7.4E+00	7.39	9.99E+02	4.2E+00	7.9E+00	8.0E+00	7.87	-0.22			
-40°C	33	**	mV			2.38E+01	9.6E-01	3.4E+00	4.2E+00	3.43	2.49E+01	6.5E-01	5.6E+00	5.7E+00	5.58	4.49			
-40°C	34	**	mA			3.16E+01	1.3E+00	3.9E+00	2.2E+00	2.17	3.01E+01	1.5E+00	2.3E+00	2.3E+00	2.26	-4.52			
-40°C	35	**	mA			1.00E+03	4.5E+00	7.5E+00	7.3E+00	7.31	9.99E+02	4.2E+00	7.8E+00	8.0E+00	7.76	-0.23			
-40°C	36	**	mOHM			1.08E+02	2.7E+00	N.A.	5.1E+00	5.08	1.03E+02	1.3E+00	N.A.	1.2E+01	11.63	-4.75			
-40°C	37	**	mA			3.42E+02	1.5E+01	4.3E+00	2.1E+00	2.06	3.51E+02	1.5E+01	4.4E+00	2.2E+00	2.23	2.64			
-40°C	38	**	V			8.41E-01	7.5E-03	6.3E+00	7.1E+00	6.27	8.46E-01	2.4E-03	2.1E+01	2.2E+01	20.63	0.66			
-40°C	39	**	mA			4.01E+03	1.4E+01	1.2E+01	1.2E+01	11.98	4.01E+03	1.4E+01	1.2E+01	1.2E+01	11.85	-0.01			
-40°C	40	**	V			9.49E-01	7.7E-03	6.5E+00	6.5E+00	6.45	9.49E-01	1.8E-03	2.7E+01	2.7E+01	26.78	-0.04			
-40°C	41	**	uA			9.87E+00	3.2E-01	2.5E+00	4.3E+00	2.47	9.80E+00	2.8E-01	2.8E+00	5.1E+00	2.78	-0.74			
-40°C	42	**	A	7	14	1.22E+01	3.2E-01	5.5E+00	1.9E+00	1.87	1.17E+01	2.7E-01	5.8E+00	2.9E+00	2.86	-4.23			
-40°C	43	**	A			7.32E-03	8.3E-03	2.0E+01	2.0E+01	19.75	7.19E-03	8.1E-03	2.1E+01	2.0E+01	20.26	-1.77			
-40°C	45	**	V			1.84E-01	5.5E-03	1.1E+01	5.0E+01	11.20	1.83E-01	5.5E-03	1.1E+01	4.9E+01	10.98	-1.01			
-40°C	46	VDEM	V	-39	-28	-3.61E+01	2.7E-01	3.6E+00	1.0E+01	3.62	-3.53E+01	1.1E-01	1.1E+01	2.2E+01	10.74	2.03			
-40°C	47	**	A			2.00E+00	8.6E-03	7.8E+00	1.5E+01	7.81	2.00E+00	8.6E-03	7.7E+00	1.5E+01	7.72	-0.09			
-40°C	48	**	uA			6.48E-01	2.3E-02	9.4E+00	2.0E+01	9.45	6.75E-01	1.3E-02	1.7E+01	3.3E+01	17.04	4.24			
-40°C	49	**	uA			1.70E+00	3.9E-02	1.5E+01	2.4E+01	14.56	1.62E+00	2.7E-02	2.0E+01	3.6E+01	20.09	4.30			
-40°C	50	**	mA			2.21E+00	5.6E-02	4.8E+00	2.9E+00	2.89	2.31E+00	3.1E-02	9.9E+00	4.3E+00	4.30	4.29			
-40°C	51	**	V			5.00E+00	1.2E-02	1											

-40°C	54	**	V			1.95E-01	3.1E-03	2.1E+01	3.3E+01	21.28	1.95E-01	2.2E-03	3.0E+01	4.7E+01	29.95	-0.27				
-40°C	55	**	V			1.65E-01	3.0E-03	1.8E+01	3.7E+01	18.24	1.61E-01	1.7E-03	3.1E+01	6.6E+01	31.32	-2.05				
-40°C	56	**	V			5.00E+00	1.1E-02	1.5E+01	9.9E+01	15.45	5.00E+00	1.0E-02	1.6E+01	9.8E+01	16.36	-0.01				
-40°C	57	**	V			1.65E-01	3.0E-03	1.8E+01	3.7E+01	18.19	1.61E-01	1.7E-03	3.1E+01	6.6E+01	31.20	-2.05				
-40°C	58	**	V			5.00E+00	1.1E-02	1.5E+01	9.9E+01	15.49	5.00E+00	1.0E-02	1.6E+01	9.8E+01	16.35	-0.01				
-40°C	59	IL_STAT_STDISSV	uA	N.A.	10	7.24E-02	1.5E-01	N.A.	2.2E+01	22.48	7.55E-02	1.1E-01	N.A.	2.9E+01	28.90	4.27				
-40°C	60	**	uA			7.08E-02	1.3E-02	1.9E+00	2.5E+01	1.88	7.33E-02	1.2E-02	2.1E+00	2.6E+01	2.07	3.50				
-40°C	61	V_ST_LOW_1.6MA	V	N.A.	0.5	2.46E-01	4.0E-03	N.A.	2.1E+01	21.26	2.45E-01	2.6E-03	N.A.	3.2E+01	32.44	-0.62				
-40°C	62	I_STDIS_LOW	uA	1	N.A.	3.03E+00	4.7E-02	1.4E+01	N.A.	14.24	3.15E+00	3.9E-02	1.8E+01	N.A.	18.15	3.96				
-40°C	63	I_STDIS_HI	uA	N.A.	10	4.60E+00	1.7E-01	N.A.	1.1E+01	10.58	4.77E+00	1.0E-01	N.A.	1.7E+01	17.37	3.57				
-40°C	64	**	A			1.00E+00	5.2E-03	1.3E+01	1.3E+01	12.77	1.00E+00	5.0E-03	1.3E+01	1.3E+01	13.39	0.09				
-40°C	65	**	uSEC			1.29E+01	1.5E+00	1.9E+00	1.5E+01	1.91	1.23E+01	1.0E+00	2.7E+00	2.2E+01	2.68	-4.02				
-40°C	66	**	uSEC			1.17E+01	5.7E-01	4.5E+00	4.0E+01	4.52	1.12E+01	4.0E-01	6.0E+00	5.7E+01	6.02	-4.24				
-40°C	67	**	uSEC			1.18E+01	1.0E+00	2.6E+00	2.8E+01	2.60	1.21E+01	3.1E-01	8.8E+00	9.0E+01	8.78	3.01				
-40°C	68	**	uSEC			8.89E+00	7.1E-01	2.3E+00	4.0E+01	2.29	9.12E+00	2.2E-01	7.8E+00	1.2E+02	7.76	2.69				
-40°C	69	VIH_13V	V	N.A.	2.1	1.77E+00	1.9E-02	N.A.	6.0E+00	5.98	1.82E+00	1.2E-02	N.A.	7.9E+00	7.90	3.01				
-40°C	70	VIL_13V	V	0.9	N.A.	1.36E+00	1.9E-02	7.9E+00	N.A.	7.91	1.39E+00	8.8E-03	1.9E+01	N.A.	18.53	2.43				
-40°C	71	VIHYST_13V	V	0.25	N.A.	4.10E-01	8.8E-03	6.0E+00	N.A.	6.03	4.30E-01	7.4E-03	8.1E+00	N.A.	8.08	4.93				
-40°C	72	IIL_13V	uA	1	N.A.	3.43E+00	5.7E-02	1.4E+01	N.A.	14.24	3.59E+00	3.4E-02	2.6E+01	N.A.	25.67	4.80				
-40°C	73	IIH_13V	uA	N.A.	10	4.22E+00	5.3E-01	N.A.	3.7E+00	3.65	4.16E+00	4.4E-01	N.A.	4.4E+00	4.44	-1.61				
-40°C	74	VSDH_13V	V	N.A.	2.1	1.79E+00	1.8E-02	N.A.	5.7E+00	5.68	1.84E+00	1.1E-02	N.A.	7.6E+00	7.56	2.78				
-40°C	75	VSDL_13V	V	0.9	N.A.	1.35E+00	2.1E-02	7.1E+00	N.A.	7.06	1.38E+00	1.0E-02	1.6E+01	N.A.	16.07	2.53				
-40°C	76	VSDHYST_13V	V	0.25	N.A.	4.49E-01	1.1E-02	6.9E+00	N.A.	5.99	4.64E-01	9.5E-03	7.5E+00	N.A.	7.54	3.52				
-40°C	77	ISDL_13V	uA	1	N.A.	3.42E+00	3.3E-01	2.5E+00	N.A.	2.47	3.59E+00	3.4E-01	2.5E+00	N.A.	2.53	4.92				
-40°C	78	ISDH_13V	uA	N.A.	10	4.04E+00	5.3E-01	N.A.	3.8E+00	3.75	4.18E+00	4.6E-01	N.A.	4.2E+00	4.25	3.50				
-40°C	79	**	mV			5.71E+02	1.2E+01	1.1E+01	3.4E+00	3.45	5.77E+02	5.1E+00	2.8E+01	8.0E+00	8.04	1.05				

DELTA CHAR 2 TEMP. VNQ7_VND5E160AJ-E(STD - SGN6 FAB) Vs. VNQ7_VND5E160AJ-E(NEW - SGN8 FAB)

note 1 : the low CPK is due to the fact that the low limit is in this case 0 and this impacts the CPKL. On the other side the distribution of this current is positive , therefore the CPK L is not important and only CPK H has to be taken into consideration.

note 3: the mean drift is not an issue because the difference between the two measurements is lower than the minimum measurement capability of the tool.

(**) internal test

(*) guardbanded Vs spec

Mean values Drift analysis in % referred to STD

Differences between NEW and STD: [(NEW-STD)/STD]*100

temp	Test	Test label	Unit	LTL	UTL	VNQ7_VND5E160AJ-E STD					VNQ7_VND5E160AJ-E NEW					Mean values Drift analysis in % referred to STD				REMARKS	
						Mean	Sigma	CPK L	CPK H	CPK	Mean	sigma	CPK L	CPK H	CPK	%	5%	10%	20%		
125°C	1	**	uA			1.09E+00	5.4E-02	6.6E+00	3.0E+02	6.65	1.06E+00	4.5E-02	7.9E+00	3.7E+02	7.88	-2.88					
125°C	2	**	uA			7.29E+01	6.8E+00	3.6E+00	1.1E+01	3.59	7.05E+01	3.8E+00	6.3E+00	2.0E+01	6.26	-3.32					
125°C	3	VCC_CLAMP	V	41	52	4.70E+01	3.4E-01	6.0E+00	5.0E+00	4.96	4.61E+01	1.5E-01	1.1E+01	1.3E+01	11.42	-1.94					
125°C	4	**	uA			1.03E-01	1.8E-02	1.9E+00	2.6E+01	1.89	1.02E-01	1.2E-02	2.9E+00	4.0E+01	2.91	-1.07					
125°C	5	ILOFF_CH1@13V	uA	0	5	1.02E-01	1.8E-02	1.9E+00	9.3E+01	1.94	1.02E-01	7.5E-03	4.6E+00	2.2E+02	4.57	0.07					
125°C	6	**	uA			1.32E-01	2.2E-02	2.0E+00	1.5E+02	2.05	1.32E-01	1.2E-02	3.8E+00	2.8E+02	3.77	-0.27					
125°C	7	**	uA			1.00E-01	1.9E-02	1.7E+00	2.4E+01	1.74	1.03E-01	1.1E-02	3.1E+00	4.2E+01	3.13	2.53					
125°C	8	ILOFF_CH2@13V	uA	0	5	1.00E-01	1.9E-02	1.8E+00	8.7E+01	1.77	1.01E-01	7.1E-03	4.7E+00	2.3E+02	4.73	1.18					
125°C	9	**	uA			1.72E-01	2.8E-02	2.0E+00	1.2E+02	2.01	1.80E-01	2.2E-02	2.7E+00	1.5E+02	2.71	-4.83					
125°C	10	*	uA			1.33E+00	6.1E-02	4.6E+00	1.5E+01	4.57	1.37E+00	2.5E-02	1.1E+01	3.5E+01	11.50	3.26					
125°C	11	**	uA			7.25E+01	6.8E+00	3.5E+00	3.3E+00	3.30	7.02E+01	3.7E+00	6.3E+00	6.3E+00	6.25	-3.15					
125°C	12	**	mA			1.08E-01	7.9E-03	4.6E+00	8.1E+00	4.57	1.11E-01	5.6E-03	6.6E+00	1.1E+01	6.57	2.66					
125°C	13	**	mA			1.63E+00	4.6E-02	4.5E+00	6.3E+00	4.54	1.71E+00	2.9E-02	8.0E+00	9.0E+00	8.00	-4.81					
125°C	14	**	mA			1.62E+00	4.5E-02	4.5E+00	6.5E+00	4.55	1.63E+00	3.0E-02	7.0E+00	9.6E+00	7.05	0.94					
125°C	15	ISON_TOT@13V	mA	N.A.	6	2.72E+00	7.9E-02	N.A.	1.4E+01	13.78	2.69E+00	7.3E-02	N.A.	1.5E+01	15.09	-1.16					
125°C	16	**	mA			1.20E+00	2.8E-02	8.3E+00	9.4E+00	8.26	1.26E+00	1.4E-02	1.8E+01	1.7E+01	17.33	-4.77					
125°C	17	VINP1_CLAMP@1MA	V	5.5	7	6.59E+00	6.9E-02	5.3E+00	2.0E+00	1.98	6.47E+00	2.5E-02	1.3E+01	7.2E+00	7.21	-1.87					
125°C	18	VINP2_CLAMP@1MA	V	5.5	7	6.59E+00	6.9E-02	5.2E+00	2.0E+00	1.96	6.47E+00	2.5E-02	1.3E+01	7.1E+00	7.08	-1.88					
125°C	19	VCSDB_CLAMP@1MA	V	5.5	7	6.59E+00	7.1E-02	5.2E+00	1.9E+00	1.92	6.47E+00	3.1E-02	1.1E+01	5.8E+00	5.76	-1.86					
125°C	20	**	V			-5.85E-01	7.4E-03	1.4E+01	3.8E+00	3.85	-5.88E-01	3.5E-03	3.0E+01	8.3E+00	8.31	-0.47					
125°C	21	**	V			-5.85E-01	8.2E-03	1.3E+01	3.5E+00	3.47	-5.88E-01	4.9E-03	2.1E+01	6.0E+00	6.00	-0.45					
125°C	22	**	V			-5.86E-01	1.4E-02	7.6E+00	2.1E+00	2.07	-5.90E-01	1.5E-02	6.7E+00	1.9E+00	1.94	-0.67					
125°C	23	**	mV			2.63E+01	1.0E+00	5.3E+00	4.4E+00	4.44	2.70E+01	7.7E-01	7.3E+00	5.6E+00	5.62	2.65					
125°C	24	**	mV			2.64E+01	1.1E+00	5.1E+00	4.2E+00	4.25	2.72E+01	7.5E-01	7.6E+00	5.7E+00	5.67	3.12					
125°C	25	*	mOHM			2.68E+02	6.1E+00	N.A.	1.8E+00	1.77	2.60E+02	3.9E+00	N.A.	3.5E+00	3.48	-3.01					
125°C	26	*	mOHM			2.68E+02	6.1E+00	N.A.	1.8E+00	1.76	2.60E+02	3.7E+00	N.A.	3.6E+00	3.61	-2.82					
125°C	27	**	mOHM			2.72E+02	6.0E+00	N.A.	2.7E+00	2.66	2.65E+02	3.8E+00	N.A.	4.8E+00	4.82	-2.55					
125°C	28	**	mOHM			2.72E+02	6.0E+00	N.A.	2.7E+00	2.66	2.66E+02	3.6E+00	N.A.	5.0E+00	5.05	-2.32					
125°C	29	**	mOHM			2.85E+02	6.0E+00	N.A.	2.5E+00	2.46	2.79E+02	3.7E+00	N.A.	4.6E+00	4.57	-2.37					
125°C	30	**	mOHM			2.85E+02	6.2E+00	N.A.	2.4E+00	2.42	2.79E+02	3.6E+00	N.A.	4.7E+00	4.70	-2.18					
125°C	31	*	mOHM			2.68E+02	6.1E+00	N.A.	1.7E+00	1.75	2.61E+02	4.1E+00	N.A.	3.2E+00	3.20	-2.74					
125°C	32	*	mOHM			2.67E+02	6.2E+00	N.A.	1.8E+00	1.76	2.60E+02	3.8E+00	N.A.	3.5E+00	3.47	-2.57					
125°C	33	*	V			6.25E-01	5.5E-03	4.5E+00	4.5E+00	4.51	6.30E-01	2.1E-03	1.2E+01	1.1E+01	10.79	0.87					
125°C	34	*	V			6.25E-01	5.6E-03	4.5E+00	4.5E+00	4.49	6.30E-01	2.2E-03	1.2E+01	1.1E+01	10.75	0.88					
125°C	35	**	V			6.58E-01	5.2E-03	1.0E+01	1.0E+01	10.06	6.62E-01	2.0E-03	2.7E+01	2.6E+01	25.92	0.71					
125°C	36	**	V			6.57E-01	5.2E-03	1.0E+01	1.0E+01	10.02	6.62E-01	2.0E-03	2.6E+01	2.6E+01	25.79	0.71					
125°C	37	VDEM_CH1	V	-39	-28	-3.51E+01	3.2E-01	4.2E+00	7.4E+00	4.15	-3.40E+01	1.5E-01	1.1E+01	1.4E+01	11.21	2.96					
125°C	38	VDEM_CH2	V	-39	-28	-3.50E+01	3.3E-01	4.0E+00	7.1E+00	3.99	-3.40E+01	1.5E-01	1.1E+01	1.4E+01	11.23	2.94					
125°C	39	ILOFF_RISING_CH1_8V	uA	-120	0	-4.91E+01	1.4E+00	1.7E+01	1.2E+01	11.93	-5.07E+01	6.8E-01	3.4E+01	2.5E+01	24.98	-3.25					lot by lot variability. New better than std
125°C	40	ILOFF_FALLING_CH2_8V	uA	-120	0	-4.92E+01	1.3E+00	1.8E+01	1.3E+01	12.61	-5.14E+01	7.1E-01	3.2E+01	2.4E+01	24.04	-4.54					lot by lot variability. New better than std
125°C	41	ILOFF_RISING_CH1_18V	uA	-120	0	-3.89E+01	1.0E+00	2.6E+01	1.3E+01	12.50	-4.05E+01	6.0E-01	4.4E+01	2.3E+01	22.61	-4.03					lot by lot variability. New better than std
125°C	42	ILOFF_FALLING_CH2_18V	uA	-120	0	-3.88E+01	1.0E+00	2.7E+01	1.3E+01	12.99	-4.02E+01	6.0E-01	4.4E+01	2.2E+01	22.19	-3.42					lot by lot variability. New better than std
125°C	43	ILOFF_RISING_CH1_8V	uA	-50	90	-1.52E+01	4.4E-01	2.6E+01	8.0E+01	26.41	-1.70E+01	2.8E-01	3.9E+01	1.3E+02	38.83	-12.01				X	
125°C	44	ILOFF_FALLING_CH2_8V	uA	-50	90	-1.91E+01	4.3E-01	2.4E+01	8.4E+01	23.76	-1.79E+01	2.8E-01	3.8E+01	1.3E+02	38.27	6.50	X			X	
125°C	45	ILOFF_FALLING_CH1_18V	uA	-50	90	-8.38E+00	4.8E+00	2.9E+00	6.8E+00	2.89	-1.05E+01	2.0E+00	6.6E+00	1.7E+01	6.61	-24.85				X	
125°C	46	ILOFF_FALLING_CH2_18V	uA	-50	90	-9.32E+00	2.5E+00	5.4E+00	1.3E+01	5.36	-1.04E+01	9.1E+00	2.3E+01	9.08	-11.97				X		lot by lot variability. New better than std
125°C	47	*	uA			2.77E+00	6.6E-02	8.9E+00	3.1E+01	8.90	2.88E+00	4.2E-02	1.5E+01	4.9E+01	14.96	3.81					
125°C	48	*	uA			2.77E+00	6.5E-02	9.1E+00	3.2E+01	9.13	2.87E+00	4.0E-02	1.5E+01	5.1E+01	15.47	3.67					

-40°C	104	TDS1H_CH1	uS	N.A.	100	3.11E+01	1.2E+00	N.A.	2.0E+01	19.59	3.03E+01	9.5E-01	N.A.	2.4E+01	24.44	-2.50			
-40°C	105	TDS1H_CH2	uS	N.A.	100	3.28E+01	1.2E+00	N.A.	1.9E+01	19.37	3.14E+01	8.8E-01	N.A.	2.6E+01	25.88	-4.15			
-40°C	106	TDS2L_CH1	uS	N.A.	250	1.47E+02	9.5E-01	N.A.	3.6E+01	35.91	1.50E+02	8.8E-01	N.A.	3.8E+01	38.12	1.57			
-40°C	107	TDS2L_CH2	uS	N.A.	250	1.51E+02	9.8E-01	N.A.	3.4E+01	33.79	1.52E+02	8.3E-01	N.A.	4.0E+01	39.60	0.90			

DELTA CHAR 2 TEMP. VNF8_VND5012AK-E(STD - SGN6 FAB) Vs. VNF8_VND5012AK-E(NEW - SGN8 FAB)

note 1 : the low CPK is due to the fact that the low limit is in this case 0 and this impacts the CPKL. On the other side the distribution of this current is positive, therefore the CPK L is not important and only CPK H has to be taken into consideration.

note 3: the mean drift is not an issue because the difference between the two measurements is lower than the minimum measurement capability of the tool

(**) internal test

(*) guardbanded Vs spec

temp	Test	Test label	Unit	LTL	UTL	VNF8_VND5012AK-E STD					VNF8_VND5012AK-E NEW					Mean values Drift analysis in % referred to STD Differences between NEW and STD: [(NEW-STD)/STD]*100				REMARKS			
						Mean	Sigma	CPKL	CPKH	CPK	Mean	sigma	CPKL	CPKH	CPK	%	5%	10%	20%				
125°C	1	**	uAMPS			1.21E+00	1.9E-01	2.2E+00	3.2E+00	2.16	1.16E+00	2.2E-01	1.7E+00	2.7E+00	1.73	-4.06							
125°C	2	**	uAMPS			1.13E+00	1.9E-01	2.0E+00	3.3E+00	2.02	1.17E+00	1.9E-01	2.0E+00	3.2E+00	2.03	-3.50							
125°C	3	**	uAMPS			3.92E+00	3.8E-01	2.7E+00	3.1E+00	2.72	3.76E+00	2.5E-01	3.9E+00	5.0E+00	3.94	-4.03							
125°C	4	ILOFF_CH1@13V	uAMPS	0	5	1.30E+00	1.5E-01	2.9E+00	8.2E+00	2.87	1.26E+00	1.3E-01	3.4E+00	1.0E+01	3.36	-3.02							
125°C	5	ILOFF_CH2@13V	uAMPS	0	5	1.05E+00	2.0E-01	1.7E+00	6.5E+00	1.72	1.07E+00	1.2E-01	2.9E+00	1.1E+01	2.90	-2.39							
125°C	6	**	uAMPS	10	150	9.12E+01	3.7E+00	1.7E+00	5.2E+00	5.24	8.84E+01	3.6E+00	7.2E+00	5.6E+00	5.63	-3.05							
125°C	7	**	uAMPS	5	30	1.20E+01	3.6E-01	6.4E+00	1.7E+01	6.42	1.24E+01	1.6E-01	1.5E+01	3.6E+01	15.29	-3.84							
125°C	8	**	uAMPS	5	30	1.21E+01	4.7E-01	5.1E+00	1.3E+01	5.06	1.25E+01	2.6E-01	9.6E+00	2.2E+01	9.57	-3.04							
125°C	9	**	uAMPS	0	300	1.74E+02	5.8E+00	9.9E+00	7.2E+00	7.23	1.71E+02	5.6E+00	1.0E+01	7.7E+00	7.72	-1.50							
125°C	10	**	mAmps	1	2.2	1.41E+00	4.2E-02	3.3E+00	6.4E+00	3.26	1.43E+00	2.3E-02	6.2E+00	1.1E+01	6.24	-1.74							
125°C	11	**	mAmps	1	2.2	1.40E+00	4.1E-02	3.3E+00	6.5E+00	3.28	1.47E+00	2.3E-02	6.9E+00	1.1E+01	6.94	-4.98							
125°C	12	ISON_TOT@13V	mAmps	N.A.	6	2.31E+00	9.8E-02	N.A.	1.3E+01	12.53	2.25E+00	7.9E-02	N.A.	1.6E+01	15.88	-2.52							
125°C	13	VCC_CLAMP@20MA	VOLTS	41	52	4.65E+01	2.6E-01	7.2E+00	7.2E+00	7.17	4.56E+01	6.8E-02	2.3E+01	3.2E+01	22.74	-1.91							
125°C	14	VINPUT1_CLAMP@1MA	VOLTS	5.5	7	6.59E+00	4.3E-02	8.5E+00	3.2E+00	3.17	6.54E+00	1.3E-02	2.7E+01	1.2E+01	11.83	-0.74							
125°C	15	VINPUT2_CLAMP@1MA	VOLTS	5.5	7	6.59E+00	4.3E-02	8.4E+00	3.1E+00	3.12	6.54E+00	1.3E-02	2.7E+01	1.2E+01	11.90	-0.76							
125°C	16	VCSDS_CLAMP@1MA	VOLTS	5.5	7	6.60E+00	4.2E-02	8.7E+00	3.2E+00	3.21	6.55E+00	1.3E-02	2.7E+01	1.1E+01	11.48	-0.66							
125°C	17	**	VOLTS			-6.67E-01	6.1E-03	2.4E+01	1.5E+01	14.57	-5.65E-01	3.6E-03	4.1E+01	2.5E+01	24.63	-0.39							
125°C	18	**	VOLTS			-5.67E-01	8.5E-03	1.7E+01	1.1E+01	10.52	-5.65E-01	3.6E-03	4.0E+01	2.4E+01	24.35	-0.47							
125°C	19	**	VOLTS			-5.71E-01	4.0E-03	3.6E+01	2.2E+01	22.40	-5.75E-01	3.5E-03	4.0E+01	2.6E+01	25.86	-0.68							
125°C	20	**	mVOLTS			2.83E+01	1.3E+00	4.4E+00	3.2E+00	3.16	2.69E+01	5.8E-01	8.6E+00	7.6E+00	7.58	-4.96							
125°C	21	**	mVOLTS			2.86E+01	1.0E+00	5.3E+00	3.6E+00	3.64	2.80E+01	6.4E-01	6.4E+00	4.8E+00	4.76	-2.01							
125°C	22	*	MOHM			2.05E+01	5.0E-01	N.A.	1.7E+00	1.69	2.04E+01	3.5E-01	N.A.	2.4E+00	2.44	-0.20							
125°C	23	*	MOHM			2.04E+01	5.0E-01	N.A.	1.7E+00	1.71	2.05E+01	3.6E-01	N.A.	2.3E+00	2.26	-0.62							
125°C	24	*	MOHM			2.16E+01	4.8E-01	1.0E+01	1.7E+00	1.70	2.06E+01	3.1E-01	1.5E+01	3.7E+00	3.67	-4.53							
125°C	25	*	MOHM			2.17E+01	4.4E-01	1.1E+01	1.8E+00	1.75	2.07E+01	2.7E-01	1.7E+01	4.1E+00	4.09	-4.65							
125°C	26	**	mVOLTS			2.59E+01	9.1E-01	1.1E+00	5.2E+00	5.07	2.48E+01	5.2E-01	8.2E+00	9.7E+00	8.20	-3.95							
125°C	27	**	mVOLTS			2.63E+01	7.7E-01	6.2E+00	5.9E+00	5.93	2.55E+01	5.9E-01	7.6E+00	8.2E+00	7.60	-3.34							
125°C	28	**	VOLTS			-6.54E-01	2.8E-02	2.3E+00	1.8E+00	1.81	-6.69E-01	2.9E-02	2.1E+00	1.9E+00	1.94	-2.25							
125°C	29	**	VOLTS			-6.56E-01	1.3E-02	2.1E+00	4.1E+00	4.06	-6.58E-01	1.0E-02	6.3E+00	5.2E+00	5.16	-0.38							
125°C	30	**	VOLTS	-0.85	-0.5	-7.16E-01	1.0E-02	4.3E+00	6.9E+00	4.29	-7.19E-01	5.5E-03	7.9E+00	1.3E+01	7.95	-0.40							
125°C	31	**	VOLTS	-0.85	-0.5	-7.18E-01	9.5E-03	4.6E+00	7.6E+00	4.63	-7.20E-01	4.1E-03	1.0E+01	1.8E+01	10.42	-0.32							
125°C	32	VDEM_CH1	VOLTS	-39	-28	-3.55E+01	2.8E-01	4.1E+00	8.9E+00	4.07	-3.48E+01	1.5E-01	9.2E+00	1.5E+01	9.20	-2.14							
125°C	33	VDEM_CH2	VOLTS	-39	-28	-3.55E+01	2.7E-01	4.2E+00	9.2E+00	4.22	-3.47E+01	2.0E-01	7.2E+00	1.1E+01	7.24	-2.39							
125°C	34	**	VOLTS	0.5	7.5	4.72E+00	4.8E-01	2.9E+00	1.9E+00	1.92	4.54E+00	2.4E-01	5.6E+00	4.1E+00	4.06	-3.77							
125°C	35	ISENSE0_CH1@CSDSV/INOV	uAMPS	0	1	6.08E-03	2.1E-03	9.8E-01	1.6E+02	0.98	7.76E-03	2.2E-03	1.2E+00	1.5E+02	1.16	-17.49				X	cpk low: see note 1; mean drift: see note 3		
125°C	36	ISENSE0_CH2@CSDSV/INOV	uAMPS	0	1	1.35E-02	5.8E-03	7.8E-01	5.7E+01	0.78	1.02E-02	2.3E-03	1.5E+00	1.5E+02	1.52	-24.42				X	cpk low: see note 1; mean drift: see note 3		
125°C	37	ISENSE0_CH1@CSDOV/INOV	uAMPS	0	2	3.55E-02	1.2E-02	1.0E+00	5.6E+01	1.01	3.34E-02	8.4E-03	1.3E+00	7.8E+01	1.33	-6.04	X				X	cpk low: see note 1; mean drift: see note 3	
125°C	38	ISENSE0_CH2@CSDOV/INOV	uAMPS	0	2	3.63E-02	9.6E-03	1.3E+00	6.9E+01	1.27	3.16E-02	8.6E-03	1.2E+00	7.6E+01	1.22	-12.83	X		X		X	cpk low: see note 1; mean drift: see note 3	
125°C	39	ISENSE0_CH1@2A	uAMPS	0	1	1.14E-02	3.8E-03	9.9E-01	8.6E+01	0.99	1.03E-02	3.3E-03	1.0E+00	9.9E+01	1.04	-9.36	X					X	cpk low: see note 1; mean drift: see note 3
125°C	40	ISENSE0_CH2@2A	uAMPS	0	1	1.87E-02	5.2E-03	1.2E+00	6.3E+01	1.20	1.35E-02	3.4E-03	1.3E+00	9.7E+01	1.33	-27.91	X					X	cpk low: see note 1; mean drift: see note 3
125°C	41	K0_CH1@5V	#	2780	8390	5.15E+03	2.6E+02	3.0E+00	4.2E+00	3.05	5.18E+03	2.2E+02	3.6E+00	4.8E+00	3.58	-0.50							
125°C	42	K0_CH2@5V	#	2780	8390	5.22E+03	2.6E+02	3.2E+00	4.1E+00	3.18	5.31E+03	2.4E+02	3.5E+00	4.2E+00	3.48	-1.77							
125°C	43	K0_CH1@16V	#	2780	8390	5.14E+03	2.6E+02	3.0E+00	4.2E+00	3.04	5.17E+03	2.2E+02	3.6E+00	4.8E+00	3.57	-0.53							
125°C	44	K0_CH2@16V	#	2780	8390	5.21E+03	2.6E+02	3.2E+00	4.1E+00	3.17	5.30E+03	2.4E+02	3.5E+00	4.2E+00	3.47	-1.78							
125°C	45	K1_CH1@5V	#	4110	6090	4.97E+03	7.9E+01	3.7E+00	4.8E+00	3.68	4.91E+03	7.6E+01	3.5E+00	5.2E+00	3.51	-1.21							
125°C	46	K1_CH1@16V	#	4110	6090	4.97E+03	7.9E+01	3.6E+00	4.8E+00	3.64	4.90E+03	7.7E+01	3.4E+00	5.1E+00	3.44	-1.29							
125°C	47	K2_CH1@5V	#	4600	5590	4.97E+03	4.3E+01	2.9E+00	4.8E+00	2.93	4.92E+03	4.0E+01	2.6E+00	5.5E+00	2.65	-1.07							
125°C	48	K2_CH1@16V	#	4600	5590	4.97E+03	4.2E+01	2.9E+00	4.9E+00	2.94	4.92E+03	4.0E+01	2.7E+00	5.6E+00	2.68	-1.04							
125°C	49	K3_CH1@5V	#	4860	5250	4.98E+03	2.2E+01	1.8E+00	4.2E+00	1.80	4.99E+03	1.7E+01	2.5E+00	5.1E+00	2.52	-0.25							
125°C	50	K3_CH1@16V	#	4860	5250	4.98E+03	2.2E+01	1.8E+00	4.2E+00	1.80	4.98E+03	1.7E+01	2.3E+00	5.4E+00	2.34	-0.02							
125°C	51	K1_CH2@5V	#	4110	6090	4.99E+03	7.9E+01	3.7E+00	4.7E+00	3.73	4.95E+03	8.9E+01	3.2E+00	4.3E+00	3.16	-0.80							
125°C	52	K1_CH2@16V	#	4110	6090	4.99E+03	7.7E+01	3.8E+00	4.7E+00	3.77	4.95E+03	9.1E+01	3.1E+00	4.2E+00	3.08	-0.78							
125°C	53	K2_CH2@5V	#	4600	5590	4.98E+03	4.1E+01	3.1E+00	4.9E+00	3.07	4.94E+03	4.9E+01	2.3E+00	4.4E+00	2.35	-0.73							
125°C	54	K2_CH2@16V	#	4600	5590	4.98E+03	4.1E+01	3.1E+00	5.0E+00	3.08	4.94E+03	4.7E+01	2.4E+00	4.6E+00	2.42	-0.73							
125°C	55	K3_CH2@5V	#	4860	5250	4.98E+03	2.0E+01	2.0E+00	4.6E+00	1.97	4.99E+03	2.1E+01	2.1E+00	4.2E+00	2.07	-0.21							
125°C	56	K3_CH2@16V	#	4860	5250	4.98E+03	2.0E+01	2.0E+00	4.6E+00	1.98	4.99E+03	2.1E+01	2.1E+00	4.2E+00	2.08	-0.22							
125°C	57	**	A			6.76E+01	4.5E+00	1.9E+00	N.A.	1.90	6.63E+01	2.1E+00	3.8E+00	N.A.	3.79	-1.90							
125°C	58	**	A			6.25E+01	3.6E+00	1.9E+00	N.A.	1.88	6.35E+01	1.4E+00	5.2E+00	N.A.	5.21	-1.72							
125°C	59	ILIM1_CH1	AMPS	42	84	6.44E+01	3.3E+00	2.3E+00	2.0E+00	1.99	6.37E+01	1.4E+00	5.1E+00	4.8E+00	4.79	-1.11							

-40°C	54	**	A			6.06E+01	3.9E+00	1.8E+00	N.A.	1.75	5.76E+01	2.3E+00	2.6E+00	N.A.	2.56	-4.88				
-40°C	55	ILIM1_CH1	AMPS	42	84	5.83E+01	2.9E+00	1.9E+00	2.9E+00	1.86	5.77E+01	1.6E+00	3.2E+00	5.4E+00	3.25	-1.07				
-40°C	56	ILIM1_CH2	AMPS	42	84	5.67E+01	2.3E+00	2.1E+00	4.0E+00	2.14	5.51E+01	2.0E+00	2.2E+00	4.9E+00	2.24	-2.82				
-40°C	59	**	AMPS			5.77E+01	3.2E+00	1.9E+00	2.3E+00	1.87	5.58E+01	2.8E+00	1.9E+00	2.9E+00	1.87	-3.39				
-40°C	60	**	AMPS			5.45E+01	2.8E+00	1.7E+00	3.0E+00	1.72	5.40E+01	2.7E+00	1.7E+00	3.2E+00	1.71	-1.03				
-40°C	61	**	uAMPS			5.44E+00	1.8E+00	N.A.	2.0E+00	1.98	9.22E+00	1.1E-01	N.A.	3.1E+01	31.41	-2.29				
-40°C	62	**	uAMPS			2.26E+00	1.4E+00	N.A.	1.8E+00	1.81	2.24E+00	1.4E+00	N.A.	1.9E+00	1.87	-0.94				
-40°C	63	**	uAMPS			6.23E-01	5.4E-01	N.A.	5.8E+00	5.76	6.50E-01	4.1E-01	N.A.	7.6E+00	7.60	4.34				
-40°C	64	VUSD	VOLTS	N.A.	4.5	3.09E+00	8.1E-02	3.7E+00	N.A.	3.69	2.98E+00	7.0E-02	3.7E+00	N.A.	3.74	-3.56				
-40°C	65	VBATMIN	VOLTS	N.A.	4.5	4.21E+00	5.1E-02	N.A.	1.9E+00	1.94	4.04E+00	5.3E-02	N.A.	2.9E+00	2.86	-3.83				
-40°C	66	**	VOLTS			3.60E+01	1.1E-02	1.3E+02	N.A.	125.32	3.60E+01	7.8E-03	1.7E+02	N.A.	170.38	-0.02				
-40°C	67	VSENSE_CH1	VOLTS	5	N.A.	7.78E+00	6.6E-02	1.4E+01	1.1E+01	11.24	7.52E+00	7.7E-02	1.1E+01	1.1E+01	10.70	-3.33				
-40°C	68	VSENSE_CH2	VOLTS	5	N.A.	7.75E+00	7.8E-02	1.2E+01	9.7E+00	9.66	7.45E+00	8.5E-02	9.7E+00	1.0E+01	9.65	-3.79				
-40°C	69	**	USECONDS			4.34E+01	2.5E+00	5.1E+00	3.5E+00	3.54	4.51E+01	1.8E+00	7.4E+00	4.6E+00	4.57	3.77				
-40°C	70	**	USECONDS			4.49E+01	2.6E+00	5.2E+00	3.3E+00	3.26	4.43E+01	2.2E+00	6.0E+00	3.9E+00	3.90	-1.14				
-40°C	71	**	USECONDS			6.22E+01	5.3E+00	3.7E+00	5.7E+00	3.74	6.47E+01	2.2E+00	9.1E+00	1.3E+01	9.13	4.11				
-40°C	72	**	USECONDS			6.19E+01	5.2E+00	3.7E+00	5.7E+00	3.68	6.47E+01	2.2E+00	9.0E+00	1.3E+01	8.96	4.42				
-40°C	73	**	USECONDS			4.48E+01	3.0E+00	4.5E+00	2.8E+00	2.83	4.59E+01	2.2E+00	6.3E+00	3.7E+00	3.73	2.40				
-40°C	74	**	USECONDS			4.49E+01	2.9E+00	4.7E+00	2.9E+00	2.93	4.65E+01	2.3E+00	6.0E+00	3.4E+00	3.40	3.55				
-40°C	75	**	USECONDS			5.94E+01	3.3E+00	5.5E+00	3.1E+00	3.13	6.12E+01	2.9E+00	6.5E+00	3.3E+00	3.32	3.04				
-40°C	76	**	USECONDS			5.82E+01	3.2E+00	5.5E+00	3.3E+00	3.30	5.92E+01	3.2E+00	5.6E+00	3.2E+00	3.16	1.74				
-40°C	77	*	USECONDS	N.A.	400	2.15E+02	2.6E+01	N.A.	2.1E+00	2.08	2.35E+02	1.9E+01	N.A.	2.5E+00	2.48	9.66	X			lot by lot variability. New better than std
-40°C	78	*	USECONDS	N.A.	400	2.05E+02	2.7E+01	N.A.	2.2E+00	2.16	2.16E+02	2.2E+01	N.A.	2.4E+00	2.44	5.34	X			lot by lot variability. New better than std
-40°C	79	*	USECONDS	N.A.	20	8.33E+00	2.4E-01	N.A.	1.3E+01	13.19	8.20E+00	1.8E-01	N.A.	1.8E+01	18.03	-1.58				
-40°C	80	*	USECONDS	N.A.	20	7.92E+00	4.4E-01	N.A.	7.6E+00	7.63	7.82E+00	4.5E-01	N.A.	7.6E+00	7.63	-1.35				
-40°C	81	*	USECONDS	N.A.	100	4.69E+01	2.1E+00	N.A.	5.2E+00	5.22	4.59E+01	2.2E+00	N.A.	5.2E+00	5.17	-2.29				
-40°C	82	*	USECONDS	N.A.	100	4.81E+01	2.3E+00	N.A.	4.6E+00	4.64	5.03E+01	2.5E+00	N.A.	3.9E+00	3.91	4.68				
-40°C	83	*	USECONDS	N.A.	250	1.01E+02	5.5E+00	N.A.	7.8E+00	7.83	1.03E+02	5.3E+00	N.A.	8.0E+00	7.98	1.68				
-40°C	84	*	USECONDS	N.A.	250	1.00E+02	5.4E+00	N.A.	7.9E+00	7.93	1.02E+02	5.7E+00	N.A.	7.5E+00	7.46	1.66				

DELTA CHAR 2 TEMP. VNY7_VNL503055-E(STD - SGN6 FAB) Vs. VNY7_VNL503055-E(NEW - SGN8 FAB)

note 1 : the low CPK is due to the fact that the low limit is in this case 0 and this impacts the CPKL. On the other side the distribution of this current is positive , therefore the CPK L is not important and only CPK H has to be taken into consideration.

note 3: the mean drift is not an issue because the difference between the two measurements is lower than the minimum measurement capability of the tool.

(**) internal test

(*) guardbanded Vs spec

Mean values Drift analysis in % referred to STD

Differences between NEW and STD: [(NEW-STD)/STD]*100

temp	Test	Test label	Unit	LTL	UTL	VNY7_VNL503055-E STD					VNY7_VNL503055-E NEW					%	5%	10%	20%	REMARKS
						Mean	Sigma	CPK L	CPK H	CPK	Mean	sigma	CPK L	CPK H	CPK					
125°C	1	A IDSS@13V	A	0.00E+00	5.00E-06	1.65E-06	1.88E-07	2.9E+00	5.9E+00	2.92	1.59E-06	6.59E-08	8.0E+00	1.7E+01	8.03	-3.65				
125°C	2	**	A			1.90E-06	2.29E-07	2.3E+00	8.9E+00	2.32	1.81E-06	1.13E-07	4.4E+00	1.8E+01	4.44	-4.77				
125°C	3	**	A			2.30E-07	1.33E-07	5.8E-01	9.5E+00	0.58	2.19E-07	8.48E-08	8.6E-01	1.5E+01	0.86	-4.71				cpk low: see note 1
125°C	4	**	A			6.99E-06	4.81E-07	4.8E+00	1.2E+01	4.84	6.85E-06	1.39E-07	1.6E+01	4.4E+01	16.43	-2.04				
125°C	5	A ISON	A	N.A.	6.50E-05	2.19E-05	8.85E-07	N.A.	1.6E+01	16.26	2.15E-05	5.37E-07	N.A.	2.7E+01	27.00	-1.66				
125°C	6	**	OHM			2.30E-02	6.02E-04	4.4E+00	5.3E+00	4.41	2.38E-02	5.50E-04	5.4E+00	5.3E+00	5.25	3.75				
125°C	7	**	V			6.13E-01	4.16E-03	N.A.	1.5E+01	15.04	6.28E-01	2.32E-03	N.A.	2.5E+01	24.79	2.44				
125°C	8	**	A			3.88E+00	1.58E-02	3.9E+00	6.7E+00	3.90	3.94E+00	1.04E-02	7.8E+00	8.2E+00	7.84	1.53				
125°C	9	V VCLAMP DYN	V	41	52	4.81E+01	4.17E-01	5.7E+00	3.1E+00	3.13	4.69E+01	2.78E-01	7.1E+00	6.1E+00	6.06	-2.39				
125°C	10	**	A			3.76E+01	1.56E+00	3.8E+00	4.8E+00	3.76	3.79E+01	1.14E+00	5.2E+00	6.4E+00	5.23	0.92				
125°C	11	A ILIM H	A	25	49	3.58E+01	1.32E+00	2.7E+00	3.3E+00	2.72	3.75E+01	1.19E+00	3.5E+00	3.2E+00	3.22	-4.74				
125°C	12	**	A			1.33E+01	1.78E+00	1.7E+00	2.2E+00	1.75	1.25E+01	1.54E+00	2.7E+00	1.85	-6.16	X				lot by lot variability. New better than std
125°C	13	**	V			4.58E+01	3.17E-01	9.3E+00	5.4E+00	5.44	4.53E+01	1.43E-01	1.9E+01	1.3E+01	13.30	-1.15				
125°C	14	**	V			4.82E-01	1.67E-02	5.6E+00	4.3E+00	4.34	4.98E-01	1.13E-02	8.8E+00	6.0E+00	5.97	3.36				
125°C	15	V VSCL@1MA	V	5.5	7	6.48E+00	6.39E-02	5.1E+00	2.7E+00	2.69	6.54E+00	2.69E-02	1.3E+01	5.7E+00	5.66	0.92				
125°C	16	**	V			4.91E-01	4.33E-03	2.2E+01	1.6E+01	16.07	5.02E-01	2.16E-03	4.7E+01	3.1E+01	30.54	2.29				
125°C	17	V VSCL@1MA	V	5.5	7	6.49E+00	6.32E-02	5.2E+00	2.7E+00	2.67	6.45E+00	2.75E-02	1.1E+01	6.7E+00	6.71	-0.73				
125°C	18	A ILSTAT	A	N.A.	1.00E-05	8.45E-06	5.12E-08	N.A.	1.0E+01	10.11	8.39E-06	2.51E-08	N.A.	2.1E+01	21.37	-0.65				
125°C	19	V VSTAT	V	N.A.	0.5	3.33E-01	1.05E-02	N.A.	5.3E+00	5.29	3.19E-01	3.21E-03	N.A.	1.9E+01	18.81	-4.33				
125°C	20	**	V			3.94E-01	8.10E-03	N.A.	8.5E+00	8.49	3.79E-01	3.51E-03	N.A.	2.1E+01	21.03	-3.77				
125°C	21	**	V			4.97E+00	1.83E-02	8.6E+00	N.A.	8.63	5.00E+00	1.44E-02	1.2E+01	N.A.	11.53	0.49				
125°C	22	S TDLOFF	S	4.50E-05	1.10E-03	4.27E-04	1.83E-05	7.0E+00	1.2E+01	6.95	4.48E-04	1.24E-05	1.1E+01	1.7E+01	10.80	4.79				
125°C	23	**	A			2.15E-06	3.73E-05	N.A.	8.9E+00	8.92	2.06E-06	2.66E-05	N.A.	1.2E+01	12.50	-3.91				
125°C	24	**	A			1.34E-02	7.14E-05	6.4E+00	2.9E+00	2.93	1.34E-02	2.02E-05	2.2E+01	1.1E+01	10.73	-0.15				
125°C	25	A IIL	A	1.00E-06	N.A.	3.91E-06	3.25E-07	3.0E+00	N.A.	2.98	3.84E-06	7.32E-08	1.3E+01	N.A.	12.92	-1.76				
125°C	26	A IIH	A	N.A.	1.00E-05	2.84E-06	3.23E-07	N.A.	7.4E+00	7.40	2.72E-06	2.24E-07	N.A.	1.1E+01	10.82	-4.06				
125°C	27	**	V			5.10E-01	4.09E-03	2.5E+01	1.5E+01	15.44	5.23E-01	2.21E-03	4.9E+01	2.7E+01	26.64	2.55				
125°C	28	V VINCL@1MA	V	5.5	7	6.48E+00	6.30E-02	5.2E+00	2.7E+00	2.74	6.43E+00	2.74E-02	1.1E+01	6.9E+00	6.88	-0.73				
125°C	29	**	S			9.14E-06	2.95E-07	8.1E+00	6.6E+00	6.61	8.86E-06	1.67E-07	1.4E+01	1.2E+01	12.22	-3.12				
125°C	30	**	S			1.01E-05	7.50E-07	3.6E+00	2.2E+00	2.18	1.05E-05	3.57E-07	8.0E+00	4.2E+00	4.17	4.39				
125°C	31	**	S			2.19E-05	5.15E-07	4.5E+00	3.3E+00	3.27	2.25E-05	2.60E-07	9.6E+00	5.8E+00	5.75	2.59				
125°C	32	**	S			1.12E-05	2.23E-07	1.5E+01	1.3E+01	13.12	1.16E-05	1.66E-07	2.1E+01	1.7E+01	16.85	3.55				
125°C	33	**	A			1.34E-02	7.00E-05	6.5E+00	3.0E+00	2.98	1.34E-02	5.09E-05	8.9E+00	4.2E+00	4.24	-0.16				
125°C	34	**	A			4.06E-08	5.96E-08	N.A.	2.2E+01	22.13	4.13E-08	4.91E-08	N.A.	2.7E+01	26.86	1.55				
-40°C	1	A IDSS@13V	A	3.00E-07	3.00E-06	1.34E-06	5.04E-08	6.9E+00	1.1E+01	6.87	1.37E-06	2.65E-08	1.3E+01	2.0E+01	13.50	2.50				
-40°C	2	**	A			1.74E-06	8.12E-08	5.9E+00	9.3E+00	5.90	1.68E-06	3.18E-08	1.4E+01	2.4E+01	14.45	-3.42				
-40°C	3	**	A			2.97E-07	4.61E-08	2.1E+00	2.7E+01	2.15	3.04E-07	2.38E-08	4.3E+00	5.2E+01	4.26	2.27				
-40°C	4	*	A			8.66E-06	4.08E-07	7.1E+00	1.3E+01	7.07	8.52E-06	3.62E-07	7.8E+00	1.5E+01	7.85	-1.67				
-40°C	5	A ISON	A	N.A.	6.50E-05	2.76E-05	9.93E-07	N.A.	1.3E+01	12.55	2.68E-05	5.78E-07	N.A.	2.2E+01	22.04	-3.07				
-40°C	6	*	OHM			9.58E-03	1.27E-03	2.0E+00	2.5E+00	1.99	9.91E-03	3.50E-04	7.5E+00	8.7E+00	7.54	3.46				
-40°C	7	**	V			8.82E-01	9.82E-03	N.A.	7.4E+00	7.39	8.80E-01	2.58E-03	N.A.	2.8E+01	28.46	-0.30				
-40°C	8	**	A			2.58E+00	7.65E-02	7.8E+00	1.8E+01	7.82	2.60E+00	7.21E-03	9.4E+00	1.8E+01	9.41	0.93				
-40°C	9	V VCLAMP DYN	V	41	52	4.62E+01	6.94E-01	2.5E+00	2.8E+00	2.51	4.47E+01	1.77E-01	6.9E+00	1.4E+01	6.92	-3.39				
-40°C	10	V VCL@2MA	V	36	N.A.	4.49E+01	2.24E-01	1.3E+01	N.A.	13.23	4.43E+01	1.25E-01	2.2E+01	N.A.	22.23	-1.26				
-40°C	11	**	V			8.16E-01	3.09E-02	4.5E+00	2.0E+00	1.98	8.11E-01	4.74E-03	2.9E+01	1.3E+01	13.33	-0.68				
-40°C	12	V VSCL@1MA	V	5.5	7	6.05E+00	6.46E-02	2.9E+00	4.9E+00	2.85	6.03E+00	2.49E-02	7.1E+00	1.3E+01	7.09	-0.36				
-40°C	13	**	V			8.05E-01	6.94E-03	1.9E+01	9.4E+00	9.38	7.93E-01	4.82E-03	2.7E+01	1.4E+01	14.36	-1.51				
-40°C	14	V VSCL@1MA	V	5.5	7	6.05E+00	3.94E-02	4.7E+00	8.0E+00	4.68	6.03E+00	2.29E-02	7.7E+00	1.4E+01	7.73	-0.35				
-40°C	15	A ILSTAT	A	N.A.	1.00E-05	4.30E-08	3.04E-07	N.A.	1.1E+01	10.32	4.56E-08	2.97E-07	N.A.	1.1E+01	11.17	6.10	X			mean drift: see note 3

-40°C	16	V VSTAT	V	N.A.	5.00E-01	2.97E-01	1.22E-02	N.A.	5.6E+00	5.55	2.93E-01	9.64E-03	N.A.	7.2E+00	7.15	-1.40				
-40°C	17	**	V			3.55E-01	1.10E-02	N.A.	7.4E+00	7.41	3.50E-01	6.94E-03	N.A.	1.2E+01	12.02	-1.52				
-40°C	18	**	V			5.00E+00	7.34E-03	2.3E+01	N.A.	22.75	5.18E+00	7.67E-03	3.0E+01	N.A.	29.70	3.63				
-40°C	19	S TDOLOFF	S	4.50E-05	1.10E-03	2.73E-04	1.20E-05	6.3E+00	2.3E+01	6.31	2.81E-04	1.12E-05	7.0E+00	2.4E+01	7.00	2.67				
-40°C	20	**	A			-3.86E-07	3.21E-05	N.A.	1.0E+01	10.38	-3.96E-07	3.17E-05	N.A.	1.1E+01	10.51	-2.69				
-40°C	21	**	A			1.33E-02	2.49E-05	1.8E+01	9.2E+00	9.19	1.34E-02	1.95E-05	2.4E+01	1.0E+01	10.17	0.70				
-40°C	22	A IIL	A	1.00E-06	N.A.	4.49E-06	2.52E-07	4.6E+00	N.A.	4.61	4.57E-06	2.58E-07	4.6E+00	N.A.	4.63	1.98				
-40°C	23	A IIH	A	N.A.	1.00E-05	4.00E-06	2.63E-07	N.A.	7.6E+00	7.61	3.83E-06	2.53E-07	N.A.	8.1E+00	8.11	-4.23				
-40°C	24	**	V			8.21E-01	7.60E-03	1.8E+01	7.8E+00	7.84	8.16E-01	4.20E-03	3.3E+01	1.5E+01	14.58	-0.64				
-40°C	25	V VINCL@1MA	V	5.5	7	6.05E+00	3.97E-02	4.6E+00	7.9E+00	4.65	6.03E+00	2.30E-02	7.7E+00	1.4E+01	7.73	-0.32				
-40°C	26	**	S			9.08E-06	3.64E-07	6.5E+00	5.4E+00	5.42	8.86E-06	1.79E-07	1.3E+01	1.1E+01	11.41	-2.44				
-40°C	27	**	S			1.02E-05	9.32E-07	2.9E+00	1.7E+00	1.71	1.05E-05	4.68E-07	6.0E+00	3.2E+00	3.21	2.61				
-40°C	28	**	S			1.78E-05	4.19E-07	2.2E+00	7.3E+00	2.25	1.82E-05	3.80E-07	2.8E+00	7.7E+00	2.83	2.24				
-40°C	29	**	S			1.07E-05	3.00E-07	1.1E+01	1.0E+01	10.33	1.04E-05	2.33E-07	1.3E+01	1.4E+01	13.44	-2.91				
-40°C	30	**	A			1.33E-02	1.01E-04	4.4E+00	2.3E+00	2.27	1.34E-02	6.83E-05	6.9E+00	2.9E+00	2.88	0.72				
-40°C	31	**	A			2.30E-07	6.66E-08	N.A.	1.9E+01	18.87	2.41E-07	6.58E-08	N.A.	1.9E+01	19.03	4.74				

DELTA CHAR 2 TEMP. VN24_VNLD5300TR-E(STD - SGN6 FAB) Vs. VN24_VNLD5300TR-E(NEW - SGN8 FAB)

note 1 : the low CPK is due to the fact that the low limit is in this case 0 and this impacts the CPK L. On the other side the distribution of this current is positive , therefore the CPK L is not important and only CPK H has to be taken into consideration.

note 3: the mean drift is not an issue because the difference between the two measurements is lower than the minimum measurement capability of the tool.

(**) internal test

(*) guardbanded Vs spec

temp	Test	Test label	Unit	LTL	UTL	VN24_VNLD5300TR-E STD					VN24_VNLD5300TR-E NEW					Mean values Drift analysis in % referred to STD				REMARKS	
						Mean	Sigma	CPK L	CPK H	CPK	Mean	sigma	CPK L	CPK H	CPK	%	5%	10%	20%		
125°C	1	A IDSS1@13V	A	0	0.000005	1.19E-06	1.3E-07	3.1E+00	1.0E+01	3.13	1.14E-06	1.2E-07	3.2E+00	1.1E+01	3.23	-4.34					
125°C	2	**	A			1.43E-06	2.1E-07	1.8E+00	5.6E+00	1.77	1.48E-06	2.0E-07	2.0E+00	5.8E+00	1.95	3.54					
125°C	3	**	A			5.71E-07	1.0E-07	1.9E+00	3.0E+00	1.87	5.79E-07	9.5E-08	2.0E+00	3.2E+00	2.04	1.41					
125°C	4	A IDSS2@13V	A	0	0.000005	1.49E-06	1.3E-07	3.7E+00	8.8E+00	3.73	1.47E-06	1.1E-07	4.4E+00	1.1E+01	4.44	-1.68					
125°C	5	**	A			2.15E-06	2.8E-07	2.2E+00	3.4E+00	2.22	2.22E-06	2.5E-07	2.6E+00	3.8E+00	2.58	2.98					
125°C	6	**	A			7.73E-07	1.4E-07	1.9E+00	1.7E+00	1.75	7.49E-07	1.4E-07	1.8E+00	1.9E+00	1.85	-3.21					
125°C	7	A IIS1_ON	A	N.A.	0.000065	2.54E-05	1.1E-06	N.A.	1.2E+01	12.19	2.47E-05	5.3E-07	N.A.	2.5E+01	25.48	-2.50					
125°C	8	A IIS2_ON	A	N.A.	0.000065	2.54E-05	1.1E-06	N.A.	1.3E+01	12.56	2.46E-05	4.6E-07	N.A.	2.9E+01	29.08	-3.06					
125°C	9	**	OHM			5.06E-01	1.4E-02	N.A.	2.1E+00	2.07	5.02E-01	9.2E-03	N.A.	3.2E+00	3.18	-0.75					
125°C	10	**	V			6.70E-01	6.7E-03	3.5E+00	4.0E+00	3.51	6.71E-01	2.4E-03	1.0E+01	1.1E+01	10.01	0.03					
125°C	11	**	OHM			5.07E-01	1.6E-02	N.A.	1.8E+00	1.76	5.00E-01	7.1E-03	N.A.	4.3E+00	4.26	-1.30					
125°C	12	**	V			6.72E-01	5.8E-03	4.1E+00	4.5E+00	4.12	6.72E-01	2.2E-03	1.1E+01	1.2E+01	10.71	-0.01					
125°C	13	V VCLAMP DYN 1	V	41	52	4.82E+01	5.6E-01	4.3E+00	2.3E+00	2.28	4.68E+01	3.3E-01	5.8E+00	5.2E+00	5.18	-2.87					
125°C	14	**	A			8.24E-01	1.5E-02	2.8E+00	6.2E+00	2.77	8.19E-01	1.7E-02	2.3E+00	5.5E+00	2.31	-0.60					
125°C	15	V VCLAMP DYN 2	V	41	52	4.81E+01	5.9E-01	4.0E+00	2.2E+00	2.20	4.70E+01	2.7E-01	7.4E+00	6.2E+00	6.24	-2.34					
125°C	16	**	A			8.30E-01	1.8E-02	2.4E+00	5.1E+00	2.42	8.54E-01	1.7E-02	3.0E+00	4.8E+00	2.97	2.89					
125°C	17	**	A			3.85E+00	1.8E-01	3.4E+00	2.1E+00	2.11	4.02E+00	1.2E-01	5.8E+00	2.8E+00	2.85	4.34					
125°C	18	A IILM1 H	A	2	3.8	3.20E+00	1.2E-01	3.5E+00	1.7E+00	1.73	3.13E+00	1.2E-01	3.1E+00	1.8E+00	1.81	-2.23					
125°C	19	**	A			9.82E-01	5.9E-02	2.7E+00	1.1E+01	2.70	1.00E+00	3.9E-02	4.3E+00	1.7E+01	4.35	2.34					
125°C	20	**	A			8.94E-01	8.4E-02	2.4E+00	4.0E+00	2.36	9.34E-01	9.1E-02	2.3E+00	3.5E+00	2.32	4.56					
125°C	21	**	A			4.09E+00	1.5E-01	4.7E+00	2.1E+00	2.08	4.20E+00	1.2E-01	5.9E+00	2.1E+00	2.13	2.89					
125°C	22	**	A	2	3.8	3.18E+00	1.2E-01	3.3E+00	1.7E+00	1.72	3.09E+00	1.0E-01	3.5E+00	2.3E+00	2.27	-2.92					
125°C	23	**	A			8.91E-01	8.4E-02	2.4E+00	N.A.	2.35	9.34E-01	9.3E-02	2.3E+00	N.A.	2.27	4.82					
125°C	24	V VCLTH1@2MA	V	36	N.A.	4.65E+01	3.8E-01	9.1E+00	N.A.	9.07	4.54E+01	1.5E-01	2.1E+01	N.A.	21.00	-2.22					
125°C	25	V VCLTH2@2MA	V	36	N.A.	4.65E+01	3.8E-01	9.2E+00	N.A.	9.22	4.54E+01	1.5E-01	2.1E+01	N.A.	20.94	-2.20					
125°C	26	**	V			4.92E-01	7.2E-03	4.3E+00	N.A.	4.26	4.91E-01	2.1E-03	1.5E+01	N.A.	14.55	-0.20					
125°C	27	**	V			4.91E-01	7.8E-03	3.9E+00	6.8E+00	3.86	4.88E-01	2.0E-03	1.5E+01	2.7E+01	14.62	-0.54					
125°C	28	V VICL1@1MA	V	5.5	7	6.49E+00	7.5E-02	4.4E+00	2.3E+00	2.28	6.36E+00	2.2E-02	1.3E+01	9.6E+00	9.57	-1.89					
125°C	29	V VICL2@1MA	V	5.5	7	6.49E+00	7.6E-02	4.3E+00	2.2E+00	2.25	6.37E+00	2.2E-02	1.3E+01	9.4E+00	9.40	-1.71					
125°C	30	**	V			5.11E-01	7.7E-03	4.8E+00	6.1E+00	4.82	5.11E-01	2.1E-03	1.7E+01	2.2E+01	17.27	-0.05					
125°C	31	**	V			5.10E-01	8.2E-03	4.5E+00	5.7E+00	4.50	5.08E-01	2.1E-03	1.8E+01	2.3E+01	17.58	-0.41					
125°C	32	V VSTCL1@1MA	V	5.5	7	6.49E+00	7.9E-02	4.2E+00	2.1E+00	2.13	6.38E+00	2.2E-02	1.3E+01	9.4E+00	9.41	-1.74					
125°C	33	V VSTCL2@1MA	V	5.5	7	6.50E+00	7.5E-02	4.4E+00	2.2E+00	2.22	6.39E+00	2.2E-02	1.4E+01	9.4E+00	9.39	-1.69					
125°C	34	A ILSTAT1@5V	A	N.A.	0.00001	3.14E-07	5.2E-07	N.A.	6.2E+00	6.21	3.26E-07	3.8E-07	N.A.	8.6E+00	8.56	3.79					
125°C	35	A ILSTAT2@5V	A	N.A.	0.00001	3.15E-07	3.3E-07	N.A.	9.8E+00	9.77	3.26E-07	2.6E-07	N.A.	1.3E+01	12.58	3.55					
125°C	36	**	A			2.10E-05	2.4E-06	N.A.	1.8E+01	18.28	2.17E-05	1.5E-06	N.A.	2.8E+01	28.45	3.19					
125°C	37	**	A			1.34E-02	3.1E-05	1.5E+01	6.5E+00	6.50	1.39E-02	2.2E-06	2.9E+02	1.7E+01	16.72	3.77					
125°C	38	A IIL1	A	0.000001	N.A.	9.12E-06	4.3E-07	6.3E+00	N.A.	6.31	8.79E-06	2.9E-07	8.9E+00	N.A.	8.89	-3.63					
125°C	39	A IH1	A	N.A.	0.00001	2.37E-05	8.6E-07	N.A.	5.3E+00	5.30	2.30E-05	3.8E-07	N.A.	1.1E+01	11.41	-3.01					
125°C	40	**	A			2.08E-05	1.8E-05	N.A.	2.4E+00	2.43	2.10E-05	1.5E-05	N.A.	2.9E+00	2.89	0.83					
125°C	41	**	A			1.32E-02	1.6E-04	2.4E+00	1.7E+00	1.74	1.31E-02	1.5E-04	2.5E+00	2.0E+00	1.97	-0.34					
125°C	42	A IIL2	A	0.000001	N.A.	9.12E-06	4.3E-07	6.3E+00	N.A.	6.29	8.82E-06	2.9E-07	9.0E+00	N.A.	8.98	-3.28					
125°C	43	A IH2	A	N.A.	0.00001	2.37E-05	8.6E-07	N.A.	5.3E+00	5.29	2.30E-05	3.7E-07	N.A.	1.2E+01	11.56	-2.98					
125°C	44	**	S			9.11E-06	5.1E-07	3.4E+00	3.2E+00	3.21	9.27E-06	1.8E-07	9.9E+00	8.9E+00	8.91	1.68					

125°C	45	**	S			1.75E-05	1.4E-06	3.7E+00	1.8E+00	1.76	1.69E-05	7.8E-07	6.3E+00	3.5E+00	3.46	-3.72				
125°C	46	**	S			6.72E-06	7.0E-07	3.2E+00	3.5E+00	3.16	6.98E-06	4.4E-07	5.2E+00	5.3E+00	5.16	3.86				
125°C	47	**	S			9.55E-06	6.5E-07	3.9E+00	3.8E+00	3.82	9.90E-06	1.5E-07	1.8E+01	1.6E+01	16.24	3.64				
125°C	48	**	S			8.60E-06	4.1E-07	3.7E+00	4.4E+00	3.72	8.73E-06	1.8E-07	9.0E+00	1.0E+01	8.96	1.53				
125°C	49	**	S			1.87E-05	5.5E-07	1.0E+01	N.A.	10.10	1.78E-05	4.8E-07	1.1E+01	N.A.	10.91	-4.66				
125°C	50	**	S			5.93E-06	7.4E-07	N.A.	3.6E+00	3.62	6.08E-06	3.5E-07	N.A.	7.6E+00	7.64	2.53				
125°C	51	**	S			1.05E-05	4.1E-07	6.9E+00	N.A.	6.89	1.00E-05	3.0E-07	8.9E+00	N.A.	8.90	-4.32				
-40°C	1	*	uAMPS			1.23E+00	6.7E-02	3.7E+00	6.3E+00	3.65	1.19E+00	4.3E-02	5.4E+00	1.0E+01	5.38	-2.98				
-40°C	2	**	uAMPS			8.68E+00	3.4E-01	4.7E+00	3.3E+00	3.30	8.49E+00	2.1E-01	7.0E+00	5.5E+00	5.47	-2.21				
-40°C	3	**	uAMPS			8.68E+00	3.4E-01	4.7E+00	3.3E+00	3.30	8.49E+00	2.1E-01	7.0E+00	5.5E+00	5.47	-2.21				
-40°C	4	**	uAMPS			1.28E+00	1.1E-01	2.5E+00	3.4E+00	2.47	1.26E+00	8.9E-02	2.9E+00	6.5E+00	2.85	-1.60				
-40°C	5	**	uAMPS			1.24E+00	1.3E-01	1.9E+00	7.0E+00	1.86	1.27E+00	7.4E-02	3.5E+00	1.2E+01	3.47	3.01				
-40°C	6	**	VCLAMP	41	52	4.52E+01	2.5E-01	5.6E+00	9.1E+00	5.65	4.43E+01	1.7E-01	6.7E+00	1.5E+01	6.68	-1.95				
-40°C	7	**	VOLTS			4.54E+01	2.5E-01	4.6E+00	2.2E+00	2.16	4.45E+01	1.7E-01	5.1E+00	5.0E+00	5.03	-1.96				
-40°C	8	**	VOLTS			2.54E+00	9.5E-02	5.7E+00	6.8E+00	5.74	2.49E+00	5.6E-02	9.4E+00	1.2E+01	9.40	-2.13				
-40°C	9	**	uAMPS			3.28E-03	5.2E-03	2.1E-01	9.6E+01	0.21	3.86E-03	4.2E-03	3.1E-01	1.2E+02	0.31	17.96	X		cpk low: see note 1; mean drift: see note 3	
-40°C	10	**	mAmps			6.58E-02	3.0E-03	4.8E+01	7.2E+00	7.22	-6.42E-02	2.1E-03	6.8E+01	1.0E+01	10.06	2.45				
-40°C	11	**	nAMPS			2.17E+02	9.2E-01	1.9E+02	3.0E+01	30.10	2.11E+02	9.1E-01	1.9E+02	3.3E+01	32.72	-2.69				
-40°C	12	**	nAMPS			1.82E-01	2.3E-01	2.6E-01	5.8E+01	0.26	1.56E-01	8.8E-02	5.9E-01	1.5E+02	0.59	-14.02	X		cpk low: see note 1; mean drift: see note 3	
-40°C	13	**	VOLTS			8.27E-01	1.7E-03	5.3E+00	4.5E+00	4.54	8.26E-01	1.1E-03	8.1E+00	7.3E+00	7.28	-0.06				
-40°C	14	**	VINCLAMP@+1MA	5.5	7	6.07E+00	3.5E-02	5.4E+00	8.7E+00	5.40	6.00E+00	2.4E-02	7.0E+00	1.4E+01	6.96	-1.24				
-40°C	15	**	VOLTS			8.21E-01	2.9E-03	3.6E+00	4.8E+00	3.56	8.21E-01	1.2E-03	6.0E+00	8.5E+00	6.00	-0.07				
-40°C	16	**	VOLTS			6.08E+00	3.5E-02	3.5E+00	4.0E+00	3.53	6.00E+00	2.4E-02	4.2E+00	7.0E+00	4.17	-1.25				
-40°C	17	**	VOLTS			8.21E-01	1.8E-03	3.9E+00	5.5E+00	1.93	8.21E-01	1.3E-03	5.5E+00	7.7E+00	5.50	0.00				
-40°C	18	**	VSTCLAMP@+1MA	5.5	7	6.07E+00	3.5E-02	5.4E+00	8.7E+00	5.42	6.00E+00	2.4E-02	7.0E+00	1.4E+01	6.98	-1.24				
-40°C	19	**	uAMPS			4.40E+00	1.6E-01	3.8E+00	4.3E+00	3.85	4.23E+00	9.9E-02	5.8E+00	7.6E+00	5.82	-3.84				
-40°C	20	**	ISON VSupPLY=5V	N.A.	65	2.82E+01	1.1E+00	N.A.	1.1E+01	10.94	2.73E+01	6.8E-01	N.A.	1.8E+01	18.50	-3.20				
-40°C	21	**	VOLTS			2.95E-01	2.3E-02	5.8E+00	1.1E+01	5.77	1.95E-01	1.6E-02	8.4E+00	1.7E+01	8.45	-4.61				
-40°C	22	**	VOLTS			2.33E+00	1.1E-01	7.2E+00	5.2E+00	5.20	2.29E+00	4.6E-02	1.7E+01	1.2E+01	12.36	-1.40				
-40°C	23	**	MOHM			2.69E+02	2.1E+01	2.6E+00	2.8E+00	2.65	2.80E+02	1.9E+01	3.2E+00	3.1E+00	3.06	4.10				
-40°C	24	**	VOLTS			5.00E+00	7.4E-03	4.5E+00	4.5E+00	4.49	5.00E+00	5.4E-03	6.2E+00	6.1E+00	6.10	0.01				
-40°C	25	**	VOLTS			4.50E+00	3.7E-02	9.1E+00	9.1E+00	9.10	4.50E+00	3.7E-02	9.0E+00	9.1E+00	9.05	0.00				
-40°C	26	**	VOLTS			5.00E+00	4.1E-02	1.2E+01	4.0E+00	4.05	5.00E+00	3.8E-02	1.3E+01	4.4E+00	4.43	0.00				
-40°C	27	**	VOLTS			5.50E+00	4.7E-05	1.4E+04	6.7E+00	6.71	5.50E+00	2.6E-05	2.5E+04	8.6E+00	8.56	0.00				
-40°C	28	**	VOLTS			7.56E-01	4.7E-03	4.0E+00	6.6E+00	3.97	7.61E-01	4.7E-03	4.3E+00	6.3E+00	4.30	0.56				
-40°C	29	**	VOLTS			5.00E+00	3.6E-02	4.6E+00	4.6E+00	4.58	5.00E+00	1.5E-02	1.1E+01	1.1E+01	11.18	0.00				
-40°C	30	**	TSD TEMP	°C	150	200	1.81E+02	2.3E+00	4.4E+00	2.8E+00	2.81	1.84E+02	1.8E+00	6.3E+00	2.8E+00	2.83	2.15			
-40°C	31	**	IL_STAT	uAMPS	N.A.	10	1.53E-02	6.2E-01	N.A.	5.4E+00	5.37	1.47E-02	5.5E-01	N.A.	6.0E+00	6.02	-3.88			
-40°C	32	**	V_STAT	VOLTS	N.A.	0.5	2.83E-01	4.7E-03	N.A.	1.5E+01	15.32	2.87E-01	3.3E-03	N.A.	2.2E+01	21.61	1.27			
-40°C	33	**	VOLTS			3.41E-01	5.4E-03	8.8E+00	3.7E+00	3.68	3.45E-01	3.7E-03	1.3E+01	4.9E+00	4.92	1.23				
-40°C	34	**	VOLTS			5.00E+00	2.4E-02	6.8E+00	6.8E+00	6.82	5.00E+00	1.8E-02	9.1E+00	9.1E+00	9.12	0.00				
-40°C	35	**	TDOL_OFF	uSECONDS	45	1100	2.88E+02	1.5E+01	5.5E+00	1.9E+01	5.55	3.08E+02	1.3E+01	6.5E+00	2.0E+01	6.54	6.99	X		lot by lot variability. New better than std

DELTA CHAR 2 TEMP. VNQ7_VND5E160AJ-E(STD - SGN6 FAB) Vs. VNQ7_VND5E160AJ-E(NEW - SGN8 FAB)

note 1 : the low CPK is due to the fact that the low limit is in this case 0 and this impacts the CPKL. On the other side the distribution of this current is positive , therefore the CPK L is not important and only CPK H has to be taken into consideration.

note 3: the mean drift is not an issue because the difference between the two measurements is lower than the minimum measurement capability of the tool.

(**) internal test

(*) guardbanded Vs spec

Mean values Drift analysis in % referred to STD

Differences between NEW and STD: [(NEW-STD)/STD]*100

temp	Test	Test label	Unit	LTL	UTL	VNQ7_VND5E160AJ-E STD					VNQ7_VND5E160AJ-E NEW					Mean values Drift analysis in % referred to STD				REMARKS	
						Mean	Sigma	CPK L	CPK H	CPK	Mean	sigma	CPK L	CPK H	CPK	%	5%	10%	20%		
125°C	1	**	uA			1.09E+00	5.4E-02	6.6E+00	3.0E+02	6.65	1.06E+00	4.5E-02	7.9E+00	3.7E+02	7.88	-2.88					
125°C	2	**	uA			7.29E+01	6.8E+00	3.6E+00	1.1E+01	3.59	7.05E+01	3.8E+00	6.3E+00	2.0E+01	6.26	-3.32					
125°C	3	VCC_CLAMP	V	41	52	4.70E+01	3.4E-01	6.0E+00	5.0E+00	4.96	4.61E+01	1.5E-01	1.1E+01	1.3E+01	11.42	-1.94					
125°C	4	**	uA			1.03E-01	1.8E-02	1.9E+00	2.6E+01	1.89	1.02E-01	1.2E-02	2.9E+00	4.0E+01	2.91	-1.07					
125°C	5	ILOFF_CH1@13V	uA	0	5	1.02E-01	1.8E-02	1.9E+00	9.3E+01	1.94	1.02E-01	7.5E-03	4.6E+00	2.2E+02	4.57	0.07					
125°C	6	**	uA			1.32E-01	2.2E-02	2.0E+00	1.5E+02	2.05	1.32E-01	1.2E-02	3.8E+00	2.8E+02	3.77	-0.27					
125°C	7	**	uA			1.00E-01	1.9E-02	1.7E+00	2.4E+01	1.74	1.03E-01	1.1E-02	3.1E+00	4.2E+01	3.13	2.53					
125°C	8	ILOFF_CH2@13V	uA	0	5	1.00E-01	1.9E-02	1.8E+00	8.7E+01	1.77	1.01E-01	7.1E-03	4.7E+00	2.3E+02	4.73	1.18					
125°C	9	**	uA			1.72E-01	2.8E-02	2.0E+00	1.2E+02	2.01	1.80E-01	2.2E-02	2.7E+00	1.5E+02	2.71	-4.83					
125°C	10	*	uA			1.33E+00	6.1E-02	4.6E+00	1.5E+01	4.57	1.37E+00	2.5E-02	1.1E+01	3.5E+01	11.50	3.26					
125°C	11	**	uA			7.25E+01	6.8E+00	3.5E+00	3.3E+00	3.30	7.02E+01	3.7E+00	6.3E+00	6.3E+00	6.25	-3.15					
125°C	12	**	mA			1.08E-01	7.9E-03	4.6E+00	8.1E+00	4.57	1.11E-01	5.6E-03	6.6E+00	1.1E+01	6.57	2.66					
125°C	13	**	mA			1.63E+00	4.6E-02	4.5E+00	6.3E+00	4.54	1.71E+00	2.9E-02	8.0E+00	9.0E+00	8.00	-4.81					
125°C	14	**	mA			1.62E+00	4.5E-02	4.5E+00	6.5E+00	4.55	1.63E+00	3.0E-02	7.0E+00	9.6E+00	7.05	0.94					
125°C	15	ISON_TOT@13V	mA	N.A.	6	2.72E+00	7.9E-02	N.A.	1.4E+01	13.78	2.69E+00	7.3E-02	N.A.	1.5E+01	15.09	-1.16					
125°C	16	**	mA			1.20E+00	2.8E-02	8.3E+00	9.4E+00	8.26	1.26E+00	1.4E-02	1.8E+01	1.7E+01	17.33	-4.77					
125°C	17	VINP1_CLAMP@1MA	V	5.5	7	6.59E+00	6.9E-02	5.3E+00	2.0E+00	1.98	6.47E+00	2.5E-02	1.3E+01	7.2E+00	7.21	-1.87					
125°C	18	VINP2_CLAMP@1MA	V	5.5	7	6.59E+00	6.9E-02	5.2E+00	2.0E+00	1.96	6.47E+00	2.5E-02	1.3E+01	7.1E+00	7.08	-1.88					
125°C	19	VCSDB_CLAMP@1MA	V	5.5	7	6.59E+00	7.1E-02	5.2E+00	1.9E+00	1.92	6.47E+00	3.1E-02	1.1E+01	5.8E+00	5.76	-1.86					
125°C	20	**	V			-5.85E-01	7.4E-03	1.4E+01	3.8E+00	3.85	-5.88E-01	3.5E-03	3.0E+01	8.3E+00	8.31	-0.47					
125°C	21	**	V			-5.85E-01	8.2E-03	1.3E+01	3.5E+00	3.47	-5.88E-01	4.9E-03	2.1E+01	6.0E+00	6.00	-0.45					
125°C	22	**	V			-5.86E-01	1.4E-02	7.6E+00	2.1E+00	2.07	-5.90E-01	1.5E-02	6.7E+00	1.9E+00	1.94	-0.67					
125°C	23	**	mV			2.63E+01	1.0E+00	5.3E+00	4.4E+00	4.44	2.70E+01	7.7E-01	7.3E+00	5.6E+00	5.62	2.65					
125°C	24	**	mV			2.64E+01	1.1E+00	5.1E+00	4.2E+00	4.25	2.72E+01	7.5E-01	7.6E+00	5.7E+00	5.67	3.12					
125°C	25	*	mOHM			2.68E+02	6.1E+00	N.A.	1.8E+00	1.77	2.60E+02	3.9E+00	N.A.	3.5E+00	3.48	-3.01					
125°C	26	*	mOHM			2.68E+02	6.1E+00	N.A.	1.8E+00	1.76	2.60E+02	3.7E+00	N.A.	3.6E+00	3.61	-2.82					
125°C	27	**	mOHM			2.72E+02	6.0E+00	N.A.	2.7E+00	2.66	2.65E+02	3.8E+00	N.A.	4.8E+00	4.82	-2.55					
125°C	28	**	mOHM			2.72E+02	6.0E+00	N.A.	2.7E+00	2.66	2.66E+02	3.6E+00	N.A.	5.0E+00	5.05	-2.32					
125°C	29	**	mOHM			2.85E+02	6.0E+00	N.A.	2.5E+00	2.46	2.79E+02	3.7E+00	N.A.	4.6E+00	4.57	-2.37					
125°C	30	**	mOHM			2.85E+02	6.2E+00	N.A.	2.4E+00	2.42	2.79E+02	3.6E+00	N.A.	4.7E+00	4.70	-2.18					
125°C	31	*	mOHM			2.68E+02	6.1E+00	N.A.	1.7E+00	1.75	2.61E+02	4.1E+00	N.A.	3.2E+00	3.20	-2.74					
125°C	32	*	mOHM			2.67E+02	6.2E+00	N.A.	1.8E+00	1.76	2.60E+02	3.8E+00	N.A.	3.5E+00	3.47	-2.57					
125°C	33	*	V			6.25E-01	5.5E-03	4.5E+00	4.5E+00	4.51	6.30E-01	2.1E-03	1.2E+01	1.1E+01	10.79	0.87					
125°C	34	*	V			6.25E-01	5.6E-03	4.5E+00	4.5E+00	4.49	6.30E-01	2.2E-03	1.2E+01	1.1E+01	10.75	0.88					
125°C	35	**	V			6.58E-01	5.2E-03	1.0E+01	1.0E+01	10.06	6.62E-01	2.0E-03	2.7E+01	2.6E+01	25.92	0.71					
125°C	36	**	V			6.57E-01	5.2E-03	1.0E+01	1.0E+01	10.02	6.62E-01	2.0E-03	2.6E+01	2.6E+01	25.79	0.71					
125°C	37	VDEM_CH1	V	-39	-28	-3.51E+01	3.2E-01	4.2E+00	7.4E+00	4.15	-3.40E+01	1.5E-01	1.1E+01	1.4E+01	11.21	2.96					
125°C	38	VDEM_CH2	V	-39	-28	-3.50E+01	3.3E-01	4.0E+00	7.1E+00	3.99	-3.40E+01	1.5E-01	1.1E+01	1.4E+01	11.23	2.94					
125°C	39	ILOFF_RISING_CH1_8V	uA	-120	0	-4.91E+01	1.4E+00	1.7E+01	1.2E+01	11.93	-5.07E+01	6.8E-01	3.4E+01	2.5E+01	24.98	-3.25					lot by lot variability. New better than std
125°C	40	ILOFF_FALLING_CH2_8V	uA	-120	0	-4.92E+01	1.3E+00	1.8E+01	1.3E+01	12.61	-5.14E+01	7.1E-01	3.2E+01	2.4E+01	24.04	-4.54					lot by lot variability. New better than std
125°C	41	ILOFF_RISING_CH1_18V	uA	-120	0	-3.89E+01	1.0E+00	2.6E+01	1.3E+01	12.50	-4.05E+01	6.0E-01	4.4E+01	2.3E+01	22.61	-4.03					lot by lot variability. New better than std
125°C	42	ILOFF_FALLING_CH2_18V	uA	-120	0	-3.88E+01	1.0E+00	2.7E+01	1.3E+01	12.99	-4.02E+01	6.0E-01	4.4E+01	2.2E+01	22.19	-3.42					lot by lot variability. New better than std
125°C	43	ILOFF_RISING_CH1_8V	uA	-50	90	-1.52E+01	4.4E-01	2.6E+01	8.0E+01	26.41	-1.70E+01	2.8E-01	3.9E+01	1.3E+02	38.83	-12.01			X		
125°C	44	ILOFF_FALLING_CH2_8V	uA	-50	90	-1.91E+01	4.3E-01	2.4E+01	8.4E+01	23.76	-1.79E+01	2.8E-01	3.8E+01	1.3E+02	38.27	6.50	X				
125°C	45	ILOFF_FALLING_CH1_18V	uA	-50	90	-8.38E+00	4.8E+00	2.9E+00	6.8E+00	2.89	-1.05E+01	2.0E+00	6.6E+00	1.7E+01	6.61	-24.85				X	
125°C	46	ILOFF_FALLING_CH2_18V	uA	-50	90	-9.32E+00	2.5E+00	5.4E+00	1.3E+01	5.36	-1.04E+01	9.1E+00	2.3E+01	9.08	-11.97			X			
125°C	47	*	uA			2.77E+00	6.6E-02	8.9E+00	3.1E+01	8.90	2.88E+00	4.2E-02	1.5E+01	4.9E+01	14.96	3.81					
125°C	48	*	uA			2.77E+00	6.5E-02	9.1E+00	3.2E+01	9.13	2.87E+00	4.0E-02	1.5E+01	5.1E+01	15.47	3.67					

-40°C	104	TDS1H_CH1	uS	N.A.	100	3.11E+01	1.2E+00	N.A.	2.0E+01	19.59	3.03E+01	9.5E-01	N.A.	2.4E+01	24.44	-2.50			
-40°C	105	TDS1H_CH2	uS	N.A.	100	3.28E+01	1.2E+00	N.A.	1.9E+01	19.37	3.14E+01	8.8E-01	N.A.	2.6E+01	25.88	-4.15			
-40°C	106	TDS2L_CH1	uS	N.A.	250	1.47E+02	9.5E-01	N.A.	3.6E+01	35.91	1.50E+02	8.8E-01	N.A.	3.8E+01	38.12	1.57			
-40°C	107	TDS2L_CH2	uS	N.A.	250	1.51E+02	9.8E-01	N.A.	3.4E+01	33.79	1.52E+02	8.3E-01	N.A.	4.0E+01	39.60	0.90			

DELTA CHAR 2 TEMP. VNF8_VND5012AK-E(STD - SGN6 FAB) Vs. VNF8_VND5012AK-E(NEW - SGN8 FAB)

note 1 : the low CPK is due to the fact that the low limit is in this case 0 and this impacts the CPKL. On the other side the distribution of this current is positive, therefore the CPK L is not important and only CPK H has to be taken into consideration.

note 3: the mean drift is not an issue because the difference between the two measurements is lower than the minimum measurement capability of the tool

(**) internal test

(*) guardbanded Vs spec

temp	Test	Test label	Unit	LTL	UTL	VNF8_VND5012AK-E STD					VNF8_VND5012AK-E NEW					Mean values Drift analysis in % referred to STD Differences between NEW and STD: [(NEW-STD)/STD]*100				REMARKS	
						Mean	Sigma	CPKL	CPKH	CPK	Mean	sigma	CPKL	CPKH	CPK	%	5%	10%	20%		
125°C	1	**	uAMPS			1.21E+00	1.9E-01	2.2E+00	3.2E+00	2.16	1.16E+00	2.2E-01	1.7E+00	2.7E+00	1.73	-4.06					
125°C	2	**	uAMPS			1.13E+00	1.9E-01	2.0E+00	3.3E+00	2.02	1.17E+00	1.9E-01	2.0E+00	3.2E+00	2.03	-3.50					
125°C	3	**	uAMPS			3.92E+00	3.8E-01	2.7E+00	3.1E+00	2.72	3.76E+00	2.5E-01	3.9E+00	5.0E+00	3.94	-4.03					
125°C	4	ILOFF_CH1@13V	uAMPS	0	5	1.30E+00	1.5E-01	2.9E+00	8.2E+00	2.87	1.26E+00	1.3E-01	3.4E+00	1.0E+01	3.36	-3.02					
125°C	5	ILOFF_CH2@13V	uAMPS	0	5	1.05E+00	2.0E-01	1.7E+00	6.5E+00	1.72	1.07E+00	1.2E-01	2.9E+00	1.1E+01	2.90	-2.39					
125°C	6	**	uAMPS	10	150	9.12E+01	3.7E+00	1.7E+00	5.2E+00	5.24	8.84E+01	3.6E+00	7.2E+00	5.6E+00	5.63	-3.05					
125°C	7	**	uAMPS	5	30	1.20E+01	3.6E-01	6.4E+00	1.7E+01	6.42	1.24E+01	1.6E-01	1.5E+01	3.6E+01	15.29	-3.84					
125°C	8	**	uAMPS	5	30	1.21E+01	4.7E-01	5.1E+00	1.3E+01	5.06	1.25E+01	2.6E-01	9.6E+00	2.2E+01	9.57	-3.04					
125°C	9	**	uAMPS	0	300	1.74E+02	5.8E+00	9.9E+00	7.2E+00	7.23	1.71E+02	5.6E+00	1.0E+01	7.7E+00	7.72	-1.50					
125°C	10	**	mAmps	1	2.2	1.41E+00	4.2E-02	3.3E+00	6.4E+00	3.26	1.43E+00	2.3E-02	6.2E+00	1.1E+01	6.24	-1.74					
125°C	11	**	mAmps	1	2.2	1.40E+00	4.1E-02	3.3E+00	6.5E+00	3.28	1.47E+00	2.3E-02	6.9E+00	1.1E+01	6.94	-4.98					
125°C	12	ISON_TOT@13V	mAmps	N.A.	6	2.31E+00	9.8E-02	N.A.	1.3E+01	12.53	2.25E+00	7.9E-02	N.A.	1.6E+01	15.88	-2.52					
125°C	13	VCC_CLAMP@20MA	VOLTS	41	52	4.65E+01	2.6E-01	7.2E+00	7.2E+00	7.17	4.56E+01	6.8E-02	2.3E+01	3.2E+01	22.74	-1.91					
125°C	14	VINPUT1_CLAMP@1MA	VOLTS	5.5	7	6.59E+00	4.3E-02	8.5E+00	3.2E+00	3.17	6.54E+00	1.3E-02	2.7E+01	1.2E+01	11.83	-0.74					
125°C	15	VINPUT2_CLAMP@1MA	VOLTS	5.5	7	6.59E+00	4.3E-02	8.4E+00	3.1E+00	3.12	6.54E+00	1.3E-02	2.7E+01	1.2E+01	11.90	-0.76					
125°C	16	VCSDS_CLAMP@1MA	VOLTS	5.5	7	6.60E+00	4.2E-02	8.7E+00	3.2E+00	3.21	6.55E+00	1.3E-02	2.7E+01	1.1E+01	11.48	-0.66					
125°C	17	**	VOLTS			-6.67E-01	6.1E-03	2.4E+01	1.5E+01	14.57	-5.65E-01	3.6E-03	4.1E+01	2.5E+01	24.63	-0.39					
125°C	18	**	VOLTS			-5.67E-01	8.5E-03	1.7E+01	1.1E+01	10.52	-5.65E-01	3.6E-03	4.0E+01	2.4E+01	24.35	-0.47					
125°C	19	**	VOLTS			-5.71E-01	4.0E-03	3.6E+01	2.2E+01	22.40	-5.75E-01	3.5E-03	4.0E+01	2.6E+01	25.86	-0.68					
125°C	20	**	mVOLTS			2.83E+01	1.3E+00	4.4E+00	3.2E+00	3.16	2.69E+01	5.8E-01	8.6E+00	7.6E+00	7.58	-4.96					
125°C	21	**	mVOLTS			2.86E+01	1.0E+00	5.3E+00	3.6E+00	3.64	2.80E+01	6.4E-01	6.4E+00	4.8E+00	4.76	-2.01					
125°C	22	*	MOHM			2.05E+01	5.0E-01	N.A.	1.7E+00	1.69	2.04E+01	3.5E-01	N.A.	2.4E+00	2.44	-0.20					
125°C	23	*	MOHM			2.04E+01	5.0E-01	N.A.	1.7E+00	1.71	2.05E+01	3.6E-01	N.A.	2.3E+00	2.26	-0.62					
125°C	24	*	MOHM			2.16E+01	4.8E-01	1.0E+01	1.7E+00	1.70	2.06E+01	3.1E-01	1.5E+01	3.7E+00	3.67	-4.53					
125°C	25	*	MOHM			2.17E+01	4.4E-01	1.1E+01	1.8E+00	1.75	2.07E+01	2.7E-01	1.7E+01	4.1E+00	4.09	-4.65					
125°C	26	**	mVOLTS			2.59E+01	9.1E-01	5.1E+00	5.2E+00	5.07	2.48E+01	5.2E-01	8.2E+00	9.7E+00	8.20	-3.95					
125°C	27	**	mVOLTS			2.63E+01	7.7E-01	6.2E+00	5.9E+00	5.93	2.55E+01	5.9E-01	7.6E+00	8.2E+00	7.60	-3.34					
125°C	28	**	VOLTS			-6.54E-01	2.8E-02	2.3E+00	1.8E+00	1.81	-6.69E-01	2.9E-02	2.1E+00	1.9E+00	1.94	-2.25					
125°C	29	**	VOLTS			-6.56E-01	1.3E-02	2.1E+00	4.1E+00	4.06	-6.58E-01	1.0E-02	6.3E+00	5.2E+00	5.16	-0.38					
125°C	30	**	VOLTS	-0.85	-0.5	-7.16E-01	1.0E-02	4.3E+00	6.9E+00	4.29	-7.19E-01	5.5E-03	7.9E+00	1.3E+01	7.95	-0.40					
125°C	31	**	VOLTS	-0.85	-0.5	-7.18E-01	9.5E-03	4.6E+00	7.6E+00	4.63	-7.20E-01	4.1E-03	1.0E+01	1.8E+01	10.42	-0.32					
125°C	32	VDEM_CH1	VOLTS	-39	-28	-3.55E+01	2.8E-01	4.1E+00	8.9E+00	4.07	-3.48E+01	1.5E-01	9.2E+00	1.5E+01	9.20	-2.14					
125°C	33	VDEM_CH2	VOLTS	-39	-28	-3.55E+01	2.7E-01	4.2E+00	9.2E+00	4.22	-3.47E+01	2.0E-01	7.2E+00	1.1E+01	7.24	-2.39					
125°C	34	**	VOLTS	0.5	7.5	4.72E+00	4.8E-01	2.9E+00	1.9E+00	1.92	4.54E+00	2.4E-01	5.6E+00	4.1E+00	4.06	-3.77					
125°C	35	ISENSE0_CH1@CSDSV/INOV	uAMPS	0	1	6.08E-03	2.1E-03	9.8E-01	1.6E+02	0.98	7.76E-03	2.2E-03	1.2E+00	1.5E+02	1.16	-17.49				X	cpk low: see note 1; mean drift: see note 3
125°C	36	ISENSE0_CH2@CSDSV/INOV	uAMPS	0	1	1.35E-02	5.8E-03	7.8E-01	5.7E+01	0.78	1.02E-02	2.3E-03	1.5E+00	1.5E+02	1.52	-24.42				X	cpk low: see note 1; mean drift: see note 3
125°C	37	ISENSE0_CH1@CSDOV/INOV	uAMPS	0	2	3.55E-02	1.2E-02	1.0E+00	5.6E+01	1.01	3.34E-02	8.4E-03	1.3E+00	7.8E+01	1.33	-6.04	X				cpk low: see note 1; mean drift: see note 3
125°C	38	ISENSE0_CH2@CSDOV/INOV	uAMPS	0	2	3.63E-02	9.6E-03	1.3E+00	6.9E+01	1.27	3.16E-02	8.6E-03	1.2E+00	7.6E+01	1.22	-12.83	X		X		cpk low: see note 1; mean drift: see note 3
125°C	39	ISENSE0_CH1@2A	uAMPS	0	1	1.14E-02	3.8E-03	9.9E-01	8.6E+01	0.99	1.03E-02	3.3E-03	1.0E+00	9.9E+01	1.04	-9.36	X				cpk low: see note 1; mean drift: see note 3
125°C	40	ISENSE0_CH2@2A	uAMPS	0	1	1.87E-02	5.2E-03	1.2E+00	6.3E+01	1.20	1.35E-02	3.4E-03	1.3E+00	9.7E+01	1.33	-27.91	X				cpk low: see note 1; mean drift: see note 3
125°C	41	K0_CH1@5V	#	2780	8390	5.15E+03	2.6E+02	3.0E+00	4.2E+00	3.05	5.18E+03	2.2E+02	3.6E+00	4.8E+00	3.58	-0.50					
125°C	42	K0_CH2@5V	#	2780	8390	5.22E+03	2.6E+02	3.2E+00	4.1E+00	3.18	5.31E+03	2.4E+02	3.5E+00	4.2E+00	3.48	-1.77					
125°C	43	K0_CH1@16V	#	2780	8390	5.14E+03	2.6E+02	3.0E+00	4.2E+00	3.04	5.17E+03	2.2E+02	3.6E+00	4.8E+00	3.57	-0.53					
125°C	44	K0_CH2@16V	#	2780	8390	5.21E+03	2.6E+02	3.2E+00	4.1E+00	3.17	5.30E+03	2.4E+02	3.5E+00	4.2E+00	3.47	-1.78					
125°C	45	K1_CH1@5V	#	4110	6090	4.97E+03	7.9E+01	3.7E+00	4.8E+00	3.68	4.91E+03	7.6E+01	3.5E+00	5.2E+00	3.51	-1.21					
125°C	46	K1_CH1@16V	#	4110	6090	4.97E+03	7.9E+01	3.6E+00	4.8E+00	3.64	4.90E+03	7.7E+01	3.4E+00	5.1E+00	3.44	-1.29					
125°C	47	K2_CH1@5V	#	4600	5590	4.97E+03	4.3E+01	2.9E+00	4.8E+00	2.93	4.92E+03	4.0E+01	2.6E+00	5.5E+00	2.65	-1.07					
125°C	48	K2_CH1@16V	#	4600	5590	4.97E+03	4.2E+01	2.9E+00	4.9E+00	2.94	4.92E+03	4.0E+01	2.7E+00	5.6E+00	2.68	-1.04					
125°C	49	K3_CH1@5V	#	4860	5250	4.98E+03	2.2E+01	1.8E+00	4.2E+00	1.80	4.99E+03	1.7E+01	2.5E+00	5.1E+00	2.52	-0.25					
125°C	50	K3_CH1@16V	#	4860	5250	4.98E+03	2.2E+01	1.8E+00	4.2E+00	1.80	4.98E+03	1.7E+01	2.3E+00	5.4E+00	2.34	-0.02					
125°C	51	K1_CH2@5V	#	4110	6090	4.99E+03	7.9E+01	3.7E+00	4.7E+00	3.73	4.95E+03	8.9E+01	3.2E+00	4.3E+00	3.16	-0.80					
125°C	52	K1_CH2@16V	#	4110	6090	4.99E+03	7.7E+01	3.8E+00	4.7E+00	3.77	4.95E+03	9.1E+01	3.1E+00	4.2E+00	3.08	-0.78					
125°C	53	K2_CH2@5V	#	4600	5590	4.98E+03	4.1E+01	3.1E+00	4.9E+00	3.07	4.94E+03	4.9E+01	2.3E+00	4.4E+00	2.35	-0.73					
125°C	54	K2_CH2@16V	#	4600	5590	4.98E+03	4.1E+01	3.1E+00	5.0E+00	3.08	4.94E+03	4.7E+01	2.4E+00	4.6E+00	2.42	-0.73					
125°C	55	K3_CH2@5V	#	4860	5250	4.98E+03	2.0E+01	2.0E+00	4.6E+00	1.97	4.99E+03	2.1E+01	2.1E+00	4.2E+00	2.07	-0.21					
125°C	56	K3_CH2@16V	#	4860	5250	4.98E+03	2.0E+01	2.0E+00	4.6E+00	1.98	4.99E+03	2.1E+01	2.1E+00	4.2E+00	2.08	-0.22					
125°C	57	**	A			6.76E+01	4.5E+00	1.9E+00	N.A.	1.90	6.63E+01	2.1E+00	3.8E+00	N.A.	3.79	-1.90					
125°C	58	**	A			6.25E+01	3.6E+00	1.9E+00	N.A.	1.88	6.35E+01	1.4E+00	5.2E+00	N.A.	5.21	-1.72					
125°C	59	ILIM1_CH1	AMPS	42	84	6.44E+01	3.3E+00	2.3E+00	2.0E+00	1.99	6.37E+01	1.4E+00	5.1E+00	4.8E+00	4.79	-2.11					

-40°C	54	**	A			6.06E+01	3.9E+00	1.8E+00	N.A.	1.75	5.76E+01	2.3E+00	2.6E+00	N.A.	2.56	-4.88				
-40°C	55	ILIM1_CH1	AMPS	42	84	5.83E+01	2.9E+00	1.9E+00	2.9E+00	1.86	5.77E+01	1.6E+00	3.2E+00	5.4E+00	3.25	-1.07				
-40°C	56	ILIM1_CH2	AMPS	42	84	5.67E+01	2.3E+00	2.1E+00	4.0E+00	2.14	5.51E+01	2.0E+00	2.2E+00	4.9E+00	2.24	-2.82				
-40°C	59	**	AMPS			5.77E+01	3.2E+00	1.9E+00	2.3E+00	1.87	5.58E+01	2.8E+00	1.9E+00	2.9E+00	1.87	-3.39				
-40°C	60	**	AMPS			5.45E+01	2.8E+00	1.7E+00	3.0E+00	1.72	5.40E+01	2.7E+00	1.7E+00	3.2E+00	1.71	-1.03				
-40°C	61	**	uAMPS			5.44E+00	1.8E+00	N.A.	2.0E+00	1.98	9.22E+00	1.1E-01	N.A.	3.1E+01	31.41	-2.29				
-40°C	62	**	uAMPS			2.26E+00	1.4E+00	N.A.	1.8E+00	1.81	2.24E+00	1.4E+00	N.A.	1.9E+00	1.87	-0.94				
-40°C	63	**	uAMPS			6.23E-01	5.4E-01	N.A.	5.8E+00	5.76	6.50E-01	4.1E-01	N.A.	7.6E+00	7.60	4.34				
-40°C	64	VUSD	VOLTS	N.A.	4.5	3.09E+00	8.1E-02	3.7E+00	N.A.	3.69	2.98E+00	7.0E-02	3.7E+00	N.A.	3.74	-3.56				
-40°C	65	VBATMIN	VOLTS	N.A.	4.5	4.21E+00	5.1E-02	N.A.	1.9E+00	1.94	4.04E+00	5.3E-02	N.A.	2.9E+00	2.86	-3.83				
-40°C	66	**	VOLTS			3.60E+01	1.1E-02	1.3E+02	N.A.	125.32	3.60E+01	7.8E-03	1.7E+02	N.A.	170.38	-0.02				
-40°C	67	VSENSE_CH1	VOLTS	5	N.A.	7.78E+00	6.6E-02	1.4E+01	1.1E+01	11.24	7.52E+00	7.7E-02	1.1E+01	1.1E+01	10.70	-3.33				
-40°C	68	VSENSE_CH2	VOLTS	5	N.A.	7.75E+00	7.8E-02	1.2E+01	9.7E+00	9.66	7.45E+00	8.5E-02	9.7E+00	1.0E+01	9.65	-3.79				
-40°C	69	**	USECONDS			4.34E+01	2.5E+00	5.1E+00	3.5E+00	3.54	4.51E+01	1.8E+00	7.4E+00	4.6E+00	4.57	3.77				
-40°C	70	**	USECONDS			4.49E+01	2.6E+00	5.2E+00	3.3E+00	3.26	4.43E+01	2.2E+00	6.0E+00	3.9E+00	3.90	-1.14				
-40°C	71	**	USECONDS			6.22E+01	5.3E+00	3.7E+00	5.7E+00	3.74	6.47E+01	2.2E+00	9.1E+00	1.3E+01	9.13	4.11				
-40°C	72	**	USECONDS			6.19E+01	5.2E+00	3.7E+00	5.7E+00	3.68	6.47E+01	2.2E+00	9.0E+00	1.3E+01	8.96	4.42				
-40°C	73	**	USECONDS			4.48E+01	3.0E+00	4.5E+00	2.8E+00	2.83	4.59E+01	2.2E+00	6.3E+00	3.7E+00	3.73	2.40				
-40°C	74	**	USECONDS			4.49E+01	2.9E+00	4.7E+00	2.9E+00	2.93	4.65E+01	2.3E+00	6.0E+00	3.4E+00	3.40	3.55				
-40°C	75	**	USECONDS			5.94E+01	3.3E+00	5.5E+00	3.1E+00	3.13	6.12E+01	2.9E+00	6.5E+00	3.3E+00	3.32	3.04				
-40°C	76	**	USECONDS			5.82E+01	3.2E+00	5.5E+00	3.3E+00	3.30	5.92E+01	3.2E+00	5.6E+00	3.2E+00	3.16	1.74				
-40°C	77	*	USECONDS	N.A.	400	2.15E+02	2.6E+01	N.A.	2.1E+00	2.08	2.35E+02	1.9E+01	N.A.	2.5E+00	2.48	9.66	X			lot by lot variability. New better than std
-40°C	78	*	USECONDS	N.A.	400	2.05E+02	2.7E+01	N.A.	2.2E+00	2.16	2.16E+02	2.2E+01	N.A.	2.4E+00	2.44	5.34	X			lot by lot variability. New better than std
-40°C	79	*	USECONDS	N.A.	20	8.33E+00	2.4E-01	N.A.	1.3E+01	13.19	8.20E+00	1.8E-01	N.A.	1.8E+01	18.03	-1.58				
-40°C	80	*	USECONDS	N.A.	20	7.92E+00	4.4E-01	N.A.	7.6E+00	7.63	7.82E+00	4.5E-01	N.A.	7.6E+00	7.63	-1.35				
-40°C	81	*	USECONDS	N.A.	100	4.69E+01	2.1E+00	N.A.	5.2E+00	5.22	4.59E+01	2.2E+00	N.A.	5.2E+00	5.17	-2.29				
-40°C	82	*	USECONDS	N.A.	100	4.81E+01	2.3E+00	N.A.	4.6E+00	4.64	5.03E+01	2.5E+00	N.A.	3.9E+00	3.91	4.68				
-40°C	83	*	USECONDS	N.A.	250	1.01E+02	5.5E+00	N.A.	7.8E+00	7.83	1.03E+02	5.3E+00	N.A.	8.0E+00	7.98	1.68				
-40°C	84	*	USECONDS	N.A.	250	1.00E+02	5.4E+00	N.A.	7.9E+00	7.93	1.02E+02	5.7E+00	N.A.	7.5E+00	7.46	1.66				

DELTA CHAR 2 TEMP. VNY7_VNL503055-E(STD - SGN6 FAB) Vs. VNY7_VNL503055-E(NEW - SGN8 FAB)

note 1 : the low CPK is due to the fact that the low limit is in this case 0 and this impacts the CPKL. On the other side the distribution of this current is positive , therefore the CPK L is not important and only CPK H has to be taken into consideration.

note 3: the mean drift is not an issue because the difference between the two measurements is lower than the minimum measurement capability of the tool.

(**) internal test

(*) guardbanded Vs spec

temp	Test	Test label	Unit	LTL	UTL	VNY7_VNL503055-E STD					VNY7_VNL503055-E NEW					Mean values Drift analysis in % referred to STD				REMARKS	
						Mean	Sigma	CPK L	CPK H	CPK	Mean	sigma	CPK L	CPK H	CPK	%	5%	10%	20%		
125°C	1	A IDSS@13V	A	0.00E+00	5.00E-06	1.65E-06	1.88E-07	2.9E+00	5.9E+00	2.92	1.59E-06	6.59E-08	8.0E+00	1.7E+01	8.03	-3.65					
125°C	2	**	A			1.90E-06	2.29E-07	2.3E+00	8.9E+00	2.32	1.81E-06	1.13E-07	4.4E+00	1.8E+01	4.44	-4.77					
125°C	3	**	A			2.30E-07	1.33E-07	5.8E-01	9.5E+00	0.58	2.19E-07	8.48E-08	8.6E-01	1.5E+01	0.86	-4.71					cpk low: see note 1
125°C	4	**	A			6.99E-06	4.81E-07	4.8E+00	1.2E+01	4.84	6.85E-06	1.39E-07	1.6E+01	4.4E+01	16.43	-2.04					
125°C	5	A ISON	A	N.A.	6.50E-05	2.19E-05	8.85E-07	N.A.	1.6E+01	16.26	2.15E-05	5.37E-07	N.A.	2.7E+01	27.00	-1.66					
125°C	6	**	OHM			2.30E-02	6.02E-04	4.4E+00	5.3E+00	4.41	2.38E-02	5.50E-04	5.4E+00	5.3E+00	5.25	3.75					
125°C	7	**	V			6.13E-01	4.16E-03	N.A.	1.5E+01	15.04	6.28E-01	2.32E-03	N.A.	2.5E+01	24.79	2.44					
125°C	8	**	A			3.88E+00	1.58E-02	3.9E+00	6.7E+00	3.90	3.94E+00	1.04E-02	7.8E+00	8.2E+00	7.84	1.53					
125°C	9	V VCLAMP DYN	V	41	52	4.81E+01	4.17E-01	5.7E+00	3.1E+00	3.13	4.69E+01	2.78E-01	7.1E+00	6.1E+00	6.06	-2.39					
125°C	10	**	A			3.76E+01	1.56E+00	3.8E+00	4.8E+00	3.76	3.79E+01	1.14E+00	5.2E+00	6.4E+00	5.23	0.92					
125°C	11	A ILIM H	A	25	49	3.58E+01	1.32E+00	2.7E+00	3.3E+00	2.72	3.75E+01	1.19E+00	3.5E+00	3.2E+00	3.22	-4.74					
125°C	12	**	A			1.33E+01	1.78E+00	1.7E+00	2.2E+00	1.75	1.25E+01	1.54E+00	2.7E+00	1.85	-6.16	X					lot by lot variability. New better than std
125°C	13	**	V			4.58E+01	3.17E-01	9.3E+00	5.4E+00	5.44	4.53E+01	1.43E-01	1.9E+01	1.3E+01	13.30	-1.15					
125°C	14	**	V			4.82E-01	1.67E-02	5.6E+00	4.3E+00	4.34	4.98E-01	1.13E-02	8.8E+00	6.0E+00	5.97	3.36					
125°C	15	V VSCL@1MA	V	5.5	7	6.48E+00	6.39E-02	5.1E+00	2.7E+00	2.69	6.54E+00	2.69E-02	1.3E+01	5.7E+00	5.66	0.92					
125°C	16	**	V			4.91E-01	4.33E-03	2.2E+01	1.6E+01	16.07	5.02E-01	2.16E-03	4.7E+01	3.1E+01	30.54	2.29					
125°C	17	V VSCL@1MA	V	5.5	7	6.49E+00	6.32E-02	5.2E+00	2.7E+00	2.67	6.45E+00	2.75E-02	1.1E+01	6.7E+00	6.71	-0.73					
125°C	18	A ILSTAT	A	N.A.	1.00E-05	8.45E-06	5.12E-08	N.A.	1.0E+01	10.11	8.39E-06	2.51E-08	N.A.	2.1E+01	21.37	-0.65					
125°C	19	V VSTAT	V	N.A.	0.5	3.33E-01	1.05E-02	N.A.	5.3E+00	5.29	3.19E-01	3.21E-03	N.A.	1.9E+01	18.81	-4.33					
125°C	20	**	V			3.94E-01	8.10E-03	N.A.	8.5E+00	8.49	3.79E-01	3.51E-03	N.A.	2.1E+01	21.03	-3.77					
125°C	21	**	V			4.97E+00	1.83E-02	8.6E+00	N.A.	8.63	5.00E+00	1.44E-02	1.2E+01	N.A.	11.53	0.49					
125°C	22	S TDLOFF	S	4.50E-05	1.10E-03	4.27E-04	1.83E-05	7.0E+00	1.2E+01	6.95	4.48E-04	1.24E-05	1.1E+01	1.7E+01	10.80	4.79					
125°C	23	**	A			2.15E-06	3.73E-05	N.A.	8.9E+00	8.92	2.06E-06	2.66E-05	N.A.	1.2E+01	12.50	-3.91					
125°C	24	**	A			1.34E-02	7.14E-05	6.4E+00	2.9E+00	2.93	1.34E-02	2.02E-05	2.2E+01	1.1E+01	10.73	-0.15					
125°C	25	A IIL	A	1.00E-06	N.A.	3.91E-06	3.25E-07	3.0E+00	N.A.	2.98	3.84E-06	7.32E-08	1.3E+01	N.A.	12.92	-1.76					
125°C	26	A IIH	A	N.A.	1.00E-05	2.84E-06	3.23E-07	N.A.	7.4E+00	7.40	2.72E-06	2.24E-07	N.A.	1.1E+01	10.82	-4.06					
125°C	27	**	V			5.10E-01	4.09E-03	2.5E+01	1.5E+01	15.44	5.23E-01	2.21E-03	4.9E+01	2.7E+01	26.64	2.55					
125°C	28	V VINCL@1MA	V	5.5	7	6.48E+00	6.30E-02	5.2E+00	2.7E+00	2.74	6.43E+00	2.74E-02	1.1E+01	6.9E+00	6.88	-0.73					
125°C	29	**	S			9.14E-06	2.95E-07	8.1E+00	6.6E+00	6.61	8.86E-06	1.67E-07	1.4E+01	1.2E+01	12.22	-3.12					
125°C	30	**	S			1.01E-05	7.50E-07	3.6E+00	2.2E+00	2.18	1.05E-05	3.57E-07	8.0E+00	4.2E+00	4.17	4.39					
125°C	31	**	S			2.19E-05	5.15E-07	4.5E+00	3.3E+00	3.27	2.25E-05	2.60E-07	9.6E+00	5.8E+00	5.75	2.59					
125°C	32	**	S			1.12E-05	2.23E-07	1.5E+01	1.3E+01	13.12	1.16E-05	1.66E-07	2.1E+01	1.7E+01	16.85	3.55					
125°C	33	**	A			1.34E-02	7.00E-05	6.5E+00	3.0E+00	2.98	1.34E-02	5.09E-05	8.9E+00	4.2E+00	4.24	-0.16					
125°C	34	**	A			4.06E-08	5.96E-08	N.A.	2.2E+01	22.13	4.13E-08	4.91E-08	N.A.	2.7E+01	26.86	1.55					
-40°C	1	A IDSS@13V	A	3.00E-07	3.00E-06	1.34E-06	5.04E-08	6.9E+00	1.1E+01	6.87	1.37E-06	2.65E-08	1.3E+01	2.0E+01	13.50	2.50					
-40°C	2	**	A			1.74E-06	8.12E-08	5.9E+00	9.3E+00	5.90	1.68E-06	3.18E-08	1.4E+01	2.4E+01	14.45	-3.42					
-40°C	3	**	A			2.97E-07	4.61E-08	2.1E+00	2.7E+01	2.15	3.04E-07	2.38E-08	4.3E+00	5.2E+01	4.26	2.27					
-40°C	4	*	A			8.66E-06	4.08E-07	7.1E+00	1.3E+01	7.07	8.52E-06	3.62E-07	7.8E+00	1.5E+01	7.85	-1.67					
-40°C	5	A ISON	A	N.A.	6.50E-05	2.76E-05	9.93E-07	N.A.	1.3E+01	12.55	2.68E-05	5.78E-07	N.A.	2.2E+01	22.04	-3.07					
-40°C	6	*	OHM			9.58E-03	1.27E-03	2.0E+00	2.5E+00	1.99	9.91E-03	3.50E-04	7.5E+00	8.7E+00	7.54	3.46					
-40°C	7	**	V			8.82E-01	9.82E-03	N.A.	7.4E+00	7.39	8.80E-01	2.58E-03	N.A.	2.8E+01	28.46	-0.30					
-40°C	8	**	A			2.58E+00	7.65E-02	7.8E+00	1.8E+01	7.82	2.60E+00	7.21E-03	9.4E+00	1.8E+01	9.41	0.93					
-40°C	9	V VCLAMP DYN	V	41	52	4.62E+01	6.94E-01	2.5E+00	2.8E+00	2.51	4.47E+01	1.77E-01	6.9E+00	1.4E+01	6.92	-3.39					
-40°C	10	V VCL@2MA	V	36	N.A.	4.49E+01	2.24E-01	1.3E+01	N.A.	13.23	4.43E+01	1.25E-01	2.2E+01	N.A.	22.23	-1.26					
-40°C	11	**	V			8.16E-01	3.09E-02	4.5E+00	2.0E+00	1.98	8.11E-01	4.74E-03	2.9E+01	1.3E+01	13.33	-0.68					
-40°C	12	V VSCL@1MA	V	5.5	7	6.05E+00	6.46E-02	2.9E+00	4.9E+00	2.85	6.03E+00	2.49E-02	7.1E+00	1.3E+01	7.09	-0.36					
-40°C	13	**	V			8.05E-01	6.94E-03	1.9E+01	9.4E+00	9.38	7.93E-01	4.82E-03	2.7E+01	1.4E+01	14.36	-1.51					
-40°C	14	V VSCL@1MA	V	5.5	7	6.05E+00	3.94E-02	4.7E+00	8.0E+00	4.68	6.03E+00	2.29E-02	7.7E+00	1.4E+01	7.73	-0.35					
-40°C	15	A ILSTAT	A	N.A.	1.00E-05	4.30E-08	3.04E-07	N.A.	1.1E+01	10.32	4.56E-08	2.97E-07	N.A.	1.1E+01	11.17	6.10	X				mean drift: see note 3

-40°C	16	V VSTAT	V	N.A.	5.00E-01	2.97E-01	1.22E-02	N.A.	5.6E+00	5.55	2.93E-01	9.64E-03	N.A.	7.2E+00	7.15	-1.40				
-40°C	17	**	V			3.55E-01	1.10E-02	N.A.	7.4E+00	7.41	3.50E-01	6.94E-03	N.A.	1.2E+01	12.02	-1.52				
-40°C	18	**	V			5.00E+00	7.34E-03	2.3E+01	N.A.	22.75	5.18E+00	7.67E-03	3.0E+01	N.A.	29.70	3.63				
-40°C	19	S TDOLOFF	S	4.50E-05	1.10E-03	2.73E-04	1.20E-05	6.3E+00	2.3E+01	6.31	2.81E-04	1.12E-05	7.0E+00	2.4E+01	7.00	2.67				
-40°C	20	**	A			-3.86E-07	3.21E-05	N.A.	1.0E+01	10.38	-3.96E-07	3.17E-05	N.A.	1.1E+01	10.51	-2.69				
-40°C	21	**	A			1.33E-02	2.49E-05	1.8E+01	9.2E+00	9.19	1.34E-02	1.95E-05	2.4E+01	1.0E+01	10.17	0.70				
-40°C	22	A IIL	A	1.00E-06	N.A.	4.49E-06	2.52E-07	4.6E+00	N.A.	4.61	4.57E-06	2.58E-07	4.6E+00	N.A.	4.63	1.98				
-40°C	23	A IIH	A	N.A.	1.00E-05	4.00E-06	2.63E-07	N.A.	7.6E+00	7.61	3.83E-06	2.53E-07	N.A.	8.1E+00	8.11	-4.23				
-40°C	24	**	V			8.21E-01	7.60E-03	1.8E+01	7.8E+00	7.84	8.16E-01	4.20E-03	3.3E+01	1.5E+01	14.58	-0.64				
-40°C	25	V VINCL@1MA	V	5.5	7	6.05E+00	3.97E-02	4.6E+00	7.9E+00	4.65	6.03E+00	2.30E-02	7.7E+00	1.4E+01	7.73	-0.32				
-40°C	26	**	S			9.08E-06	3.64E-07	6.5E+00	5.4E+00	5.42	8.86E-06	1.79E-07	1.3E+01	1.1E+01	11.41	-2.44				
-40°C	27	**	S			1.02E-05	9.32E-07	2.9E+00	1.7E+00	1.71	1.05E-05	4.68E-07	6.0E+00	3.2E+00	3.21	2.61				
-40°C	28	**	S			1.78E-05	4.19E-07	2.2E+00	7.3E+00	2.25	1.82E-05	3.80E-07	2.8E+00	7.7E+00	2.83	2.24				
-40°C	29	**	S			1.07E-05	3.00E-07	1.1E+01	1.0E+01	10.33	1.04E-05	2.33E-07	1.3E+01	1.4E+01	13.44	-2.91				
-40°C	30	**	A			1.33E-02	1.01E-04	4.4E+00	2.3E+00	2.27	1.34E-02	6.83E-05	6.9E+00	2.9E+00	2.88	0.72				
-40°C	31	**	A			2.30E-07	6.66E-08	N.A.	1.9E+01	18.87	2.41E-07	6.58E-08	N.A.	1.9E+01	19.03	4.74				

DELTA CHAR 2 TEMP. VN24_VNLD5300TR-E(STD - SGN6 FAB) Vs. VN24_VNLD5300TR-E(NEW - SGN8 FAB)

note 1 : the low CPK is due to the fact that the low limit is in this case 0 and this impacts the CPK L. On the other side the distribution of this current is positive , therefore the CPK L is not important and only CPK H has to be taken into consideration.

note 3: the mean drift is not an issue because the difference between the two measurements is lower than the minimum measurement capability of the tool.

(**) internal test

(*) guardbanded Vs spec

temp	Test	Test label	Unit	LTL	UTL	VN24_VNLD5300TR-E STD					VN24_VNLD5300TR-E NEW					Mean values Drift analysis in % referred to STD				REMARKS
						Mean	Sigma	CPK L	CPK H	CPK	Mean	sigma	CPK L	CPK H	CPK	%	5%	10%	20%	
125°C	1	A IDSS1@13V	A	0	0.000005	1.19E-06	1.3E-07	3.1E+00	1.0E+01	3.13	1.14E-06	1.2E-07	3.2E+00	1.1E+01	3.23	-4.34				
125°C	2	**	A			1.43E-06	2.1E-07	1.8E+00	5.6E+00	1.77	1.48E-06	2.0E-07	2.0E+00	5.8E+00	1.95	3.54				
125°C	3	**	A			5.71E-07	1.0E-07	1.9E+00	3.0E+00	1.87	5.79E-07	9.5E-08	2.0E+00	3.2E+00	2.04	1.41				
125°C	4	A IDSS2@13V	A	0	0.000005	1.49E-06	1.3E-07	3.7E+00	8.8E+00	3.73	1.47E-06	1.1E-07	4.4E+00	1.1E+01	4.44	-1.68				
125°C	5	**	A			2.15E-06	2.8E-07	2.2E+00	3.4E+00	2.22	2.22E-06	2.5E-07	2.6E+00	3.8E+00	2.58	2.98				
125°C	6	**	A			7.73E-07	1.4E-07	1.9E+00	1.7E+00	1.75	7.49E-07	1.4E-07	1.8E+00	1.9E+00	1.85	-3.21				
125°C	7	A IIS1_ON	A	N.A.	0.000065	2.54E-05	1.1E-06	N.A.	1.2E+01	12.19	2.47E-05	5.3E-07	N.A.	2.5E+01	25.48	-2.50				
125°C	8	A IIS2_ON	A	N.A.	0.000065	2.54E-05	1.1E-06	N.A.	1.3E+01	12.56	2.46E-05	4.6E-07	N.A.	2.9E+01	29.08	-3.06				
125°C	9	**	OHM			5.06E-01	1.4E-02	N.A.	2.1E+00	2.07	5.02E-01	9.2E-03	N.A.	3.2E+00	3.18	-0.75				
125°C	10	**	V			6.70E-01	6.7E-03	3.5E+00	4.0E+00	3.51	6.71E-01	2.4E-03	1.0E+01	1.1E+01	10.01	0.03				
125°C	11	**	OHM			5.07E-01	1.6E-02	N.A.	1.8E+00	1.76	5.00E-01	7.1E-03	N.A.	4.3E+00	4.26	-1.30				
125°C	12	**	V			6.72E-01	5.8E-03	4.1E+00	4.5E+00	4.12	6.72E-01	2.2E-03	1.1E+01	1.2E+01	10.71	-0.01				
125°C	13	V VCLAMP DYN 1	V	41	52	4.82E+01	5.6E-01	4.3E+00	2.3E+00	2.28	4.68E+01	3.3E-01	5.8E+00	5.2E+00	5.18	-2.87				
125°C	14	**	A			8.24E-01	1.5E-02	2.8E+00	6.2E+00	2.77	8.19E-01	1.7E-02	2.3E+00	5.5E+00	2.31	-0.60				
125°C	15	V VCLAMP DYN 2	V	41	52	4.81E+01	5.9E-01	4.0E+00	2.2E+00	2.20	4.70E+01	2.7E-01	7.4E+00	6.2E+00	6.24	-2.34				
125°C	16	**	A			8.30E-01	1.8E-02	2.4E+00	5.1E+00	2.42	8.54E-01	1.7E-02	3.0E+00	4.8E+00	2.97	2.89				
125°C	17	**	A			3.85E+00	1.8E-01	3.4E+00	2.1E+00	2.11	4.02E+00	1.2E-01	5.8E+00	2.8E+00	2.85	4.34				
125°C	18	A IIL1 M H	A	2	3.8	3.20E+00	1.2E-01	3.5E+00	1.7E+00	1.73	3.13E+00	1.2E-01	3.1E+00	1.8E+00	1.81	-2.23				
125°C	19	**	A			9.82E-01	5.9E-02	2.7E+00	1.1E+01	2.70	1.00E+00	3.9E-02	4.3E+00	1.7E+01	4.35	2.34				
125°C	20	**	A			8.94E-01	8.4E-02	2.4E+00	4.0E+00	2.36	9.34E-01	9.1E-02	2.3E+00	3.5E+00	2.32	4.56				
125°C	21	**	A			4.09E+00	1.5E-01	4.7E+00	2.1E+00	2.08	4.20E+00	1.2E-01	5.9E+00	2.1E+00	2.13	2.89				
125°C	22	A IIL2 M H	A	2	3.8	3.18E+00	1.2E-01	3.3E+00	1.7E+00	1.72	3.09E+00	1.0E-01	3.5E+00	2.3E+00	2.27	-2.92				
125°C	23	**	A			8.91E-01	8.4E-02	2.4E+00	N.A.	2.35	9.34E-01	9.3E-02	2.3E+00	N.A.	2.27	4.82				
125°C	24	V VCLTH1@2MA	V	36	N.A.	4.65E+01	3.8E-01	9.1E+00	N.A.	9.07	4.54E+01	1.5E-01	2.1E+01	N.A.	21.00	-2.22				
125°C	25	V VCLTH2@2MA	V	36	N.A.	4.65E+01	3.8E-01	9.2E+00	N.A.	9.22	4.54E+01	1.5E-01	2.1E+01	N.A.	20.94	-2.20				
125°C	26	**	V			4.92E-01	7.2E-03	4.3E+00	N.A.	4.26	4.91E-01	2.1E-03	1.5E+01	N.A.	14.55	-0.20				
125°C	27	**	V			4.91E-01	7.8E-03	3.9E+00	6.8E+00	3.86	4.88E-01	2.0E-03	1.5E+01	2.7E+01	14.62	-0.54				
125°C	28	V VICL1@1MA	V	5.5	7	6.49E+00	7.5E-02	4.4E+00	2.3E+00	2.28	6.36E+00	2.2E-02	1.3E+01	9.6E+00	9.57	-1.89				
125°C	29	V VICL2@1MA	V	5.5	7	6.49E+00	7.6E-02	4.3E+00	2.2E+00	2.25	6.37E+00	2.2E-02	1.3E+01	9.4E+00	9.40	-1.71				
125°C	30	**	V			5.11E-01	7.7E-03	4.8E+00	6.1E+00	4.82	5.11E-01	2.1E-03	1.7E+01	2.2E+01	17.27	-0.05				
125°C	31	**	V			5.10E-01	8.2E-03	4.5E+00	5.7E+00	4.50	5.08E-01	2.1E-03	1.8E+01	2.3E+01	17.58	-0.41				
125°C	32	V VSTCL1@1MA	V	5.5	7	6.49E+00	7.9E-02	4.2E+00	2.1E+00	2.13	6.38E+00	2.2E-02	1.3E+01	9.4E+00	9.41	-1.74				
125°C	33	V VSTCL2@1MA	V	5.5	7	6.50E+00	7.5E-02	4.4E+00	2.2E+00	2.22	6.39E+00	2.2E-02	1.4E+01	9.4E+00	9.39	-1.69				
125°C	34	A ILS1@5V	A	N.A.	0.00001	3.14E-07	5.2E-07	N.A.	6.2E+00	6.21	3.26E-07	3.8E-07	N.A.	8.6E+00	8.56	3.79				
125°C	35	A ILS2@5V	A	N.A.	0.00001	3.15E-07	3.3E-07	N.A.	9.8E+00	9.77	3.26E-07	2.6E-07	N.A.	1.3E+01	12.58	3.55				
125°C	36	**	A			2.10E-05	2.4E-06	N.A.	1.8E+01	18.28	2.17E-05	1.5E-06	N.A.	2.8E+01	28.45	3.19				
125°C	37	**	A			1.34E-02	3.1E-05	1.5E+01	6.5E+00	6.50	1.39E-02	2.2E-06	2.9E+02	1.7E+01	16.72	3.77				
125°C	38	A IIL1	A	0.000001	N.A.	9.12E-06	4.3E-07	6.3E+00	N.A.	6.31	8.79E-06	2.9E-07	8.9E+00	N.A.	8.89	-3.63				
125°C	39	A IH1	A	N.A.	0.00001	2.37E-05	8.6E-07	N.A.	5.3E+00	5.30	2.30E-05	3.8E-07	N.A.	1.1E+01	11.41	-3.01				
125°C	40	**	A			2.08E-05	1.8E-05	N.A.	2.4E+00	2.43	2.10E-05	1.5E-05	N.A.	2.9E+00	2.89	0.83				
125°C	41	**	A			1.32E-02	1.6E-04	2.4E+00	1.7E+00	1.74	1.31E-02	1.5E-04	2.5E+00	2.0E+00	1.97	-0.34				
125°C	42	A IIL2	A	0.000001	N.A.	9.12E-06	4.3E-07	6.3E+00	N.A.	6.29	8.82E-06	2.9E-07	9.0E+00	N.A.	8.98	-3.28				
125°C	43	A IH2	A	N.A.	0.00001	2.37E-05	8.6E-07	N.A.	5.3E+00	5.29	2.30E-05	3.7E-07	N.A.	1.2E+01	11.56	-2.98				
125°C	44	**	S			9.11E-06	5.1E-07	3.4E+00	3.2E+00	3.21	9.27E-06	1.8E-07	9.9E+00	8.9E+00	8.91	1.68				

125°C	45	**	S			1.75E-05	1.4E-06	3.7E+00	1.8E+00	1.76	1.69E-05	7.8E-07	6.3E+00	3.5E+00	3.46	-3.72					
125°C	46	**	S			6.72E-06	7.0E-07	3.2E+00	3.5E+00	3.16	6.98E-06	4.4E-07	5.2E+00	5.3E+00	5.16	3.86					
125°C	47	**	S			9.55E-06	6.5E-07	3.9E+00	3.8E+00	3.82	9.90E-06	1.5E-07	1.8E+01	1.6E+01	16.24	3.64					
125°C	48	**	S			8.60E-06	4.1E-07	3.7E+00	4.4E+00	3.72	8.73E-06	1.8E-07	9.0E+00	1.0E+01	8.96	1.53					
125°C	49	**	S			1.87E-05	5.5E-07	1.0E+01	N.A.	10.10	1.78E-05	4.8E-07	1.1E+01	N.A.	10.91	-4.66					
125°C	50	**	S			5.93E-06	7.4E-07	N.A.	3.6E+00	3.62	6.08E-06	3.5E-07	N.A.	7.6E+00	7.64	2.53					
125°C	51	**	S			1.05E-05	4.1E-07	6.9E+00	N.A.	6.89	1.00E-05	3.0E-07	8.9E+00	N.A.	8.90	-4.32					
-40°C	1	*	uAMPS			1.23E+00	6.7E-02	3.7E+00	6.3E+00	3.65	1.19E+00	4.3E-02	5.4E+00	1.0E+01	5.38	-2.98					
-40°C	2	**	uAMPS			8.68E+00	3.4E-01	4.7E+00	3.3E+00	3.30	8.49E+00	2.1E-01	7.0E+00	5.5E+00	5.47	-2.21					
-40°C	3	**	uAMPS			8.68E+00	3.4E-01	4.7E+00	3.3E+00	3.30	8.49E+00	2.1E-01	7.0E+00	5.5E+00	5.47	-2.21					
-40°C	4	**	uAMPS			1.28E+00	1.1E-01	2.5E+00	3.4E+00	2.47	1.26E+00	8.9E-02	2.9E+00	6.5E+00	2.85	-1.60					
-40°C	5	**	uAMPS			1.24E+00	1.3E-01	1.9E+00	7.0E+00	1.86	1.27E+00	7.4E-02	3.5E+00	1.2E+01	3.47	3.01					
-40°C	6	**	VCLAMP	41	52	4.52E+01	2.5E-01	5.6E+00	9.1E+00	5.65	4.43E+01	1.7E-01	6.7E+00	1.5E+01	6.68	-1.95					
-40°C	7	**	VOLTS			4.54E+01	2.5E-01	4.6E+00	2.2E+00	2.16	4.45E+01	1.7E-01	5.1E+00	5.0E+00	5.03	-1.96					
-40°C	8	**	VOLTS			2.54E+00	9.5E-02	5.7E+00	6.8E+00	5.74	2.49E+00	5.6E-02	9.4E+00	1.2E+01	9.40	-2.13					
-40°C	9	**	uAMPS			3.28E-03	5.2E-03	2.1E-01	9.6E+01	0.21	3.86E-03	4.2E-03	3.1E-01	1.2E+02	0.31	17.96	X			cpk low: see note 1; mean drift: see note 3	
-40°C	10	**	mAmps			6.58E-02	3.0E-03	4.8E+01	7.2E+00	7.22	-6.42E-02	2.1E-03	6.8E+01	1.0E+01	10.06	2.45					
-40°C	11	**	nAMPS			2.17E+02	9.2E-01	1.9E+02	3.0E+01	30.10	2.11E+02	9.1E-01	1.9E+02	3.3E+01	32.72	-2.69					
-40°C	12	**	nAMPS			1.82E-01	2.3E-01	2.6E-01	5.8E+01	0.26	1.56E-01	8.8E-02	5.9E-01	1.5E+02	0.59	-14.02	X			cpk low: see note 1; mean drift: see note 3	
-40°C	13	**	VOLTS			8.27E-01	1.7E-03	5.3E+00	4.5E+00	4.54	8.26E-01	1.1E-03	8.1E+00	7.3E+00	7.28	-0.06					
-40°C	14	**	VINCLAMP@+1MA	5.5	7	6.07E+00	3.5E-02	5.4E+00	8.7E+00	5.40	6.00E+00	2.4E-02	7.0E+00	1.4E+01	6.96	-1.24					
-40°C	15	**	VOLTS			8.21E-01	2.9E-03	3.6E+00	4.8E+00	3.56	8.21E-01	1.2E-03	6.0E+00	8.5E+00	6.00	-0.07					
-40°C	16	**	VOLTS			6.08E+00	3.5E-02	3.5E+00	4.0E+00	3.53	6.00E+00	2.4E-02	4.2E+00	7.0E+00	4.17	-1.25					
-40°C	17	**	VOLTS			8.21E-01	1.8E-03	3.9E+00	5.5E+00	1.93	8.21E-01	1.3E-03	5.5E+00	7.7E+00	5.50	0.00					
-40°C	18	**	VSTCLAMP@+1MA	5.5	7	6.07E+00	3.5E-02	5.4E+00	8.7E+00	5.42	6.00E+00	2.4E-02	7.0E+00	1.4E+01	6.98	-1.24					
-40°C	19	**	uAMPS			4.40E+00	1.6E-01	3.8E+00	4.3E+00	3.85	4.23E+00	9.9E-02	5.8E+00	7.6E+00	5.82	-3.84					
-40°C	20	**	ISON V\$SUPPLY=5V	N.A.	65	2.82E+01	1.1E+00	N.A.	1.1E+01	10.94	2.73E+01	6.8E-01	N.A.	1.8E+01	18.50	-3.20					
-40°C	21	**	VOLTS			2.95E-01	2.3E-02	5.8E+00	1.1E+01	5.77	1.95E-01	1.6E-02	8.4E+00	1.7E+01	8.45	-4.61					
-40°C	22	**	VOLTS			2.33E+00	1.1E-01	7.2E+00	5.2E+00	5.20	2.29E+00	4.6E-02	1.7E+01	1.2E+01	12.36	-1.40					
-40°C	23	**	MOHM			2.69E+02	2.1E+01	2.6E+00	2.8E+00	2.65	2.80E+02	1.9E+01	3.2E+00	3.1E+00	3.06	4.10					
-40°C	24	**	VOLTS			5.00E+00	7.4E-03	4.5E+00	4.5E+00	4.49	5.00E+00	5.4E-03	6.2E+00	6.1E+00	6.10	0.01					
-40°C	25	**	VOLTS			4.50E+00	3.7E-02	9.1E+00	9.1E+00	9.10	4.50E+00	3.7E-02	9.0E+00	9.1E+00	9.05	0.00					
-40°C	26	**	VOLTS			5.00E+00	4.1E-02	1.2E+01	4.0E+00	4.05	5.00E+00	3.8E-02	1.3E+01	4.4E+00	4.43	0.00					
-40°C	27	**	VOLTS			5.50E+00	4.7E-05	1.4E+04	6.7E+00	6.71	5.50E+00	2.6E-05	2.5E+04	8.6E+00	8.56	0.00					
-40°C	28	**	VOLTS			7.56E-01	4.7E-03	4.0E+00	6.6E+00	3.97	7.61E-01	4.7E-03	4.3E+00	6.3E+00	4.30	0.56					
-40°C	29	**	VOLTS			5.00E+00	3.6E-02	4.6E+00	4.6E+00	4.58	5.00E+00	1.5E-02	1.1E+01	1.1E+01	11.18	0.00					
-40°C	30	**	TSD TEMP	°C	150	200	1.81E+02	2.3E+00	4.4E+00	2.8E+00	2.81	1.84E+02	1.8E+00	6.3E+00	2.8E+00	2.83	2.15				
-40°C	31	**	IL_STAT	uAMPS	N.A.	10	1.53E-02	6.2E-01	N.A.	5.4E+00	5.37	1.47E-02	5.5E-01	N.A.	6.0E+00	6.02	-3.88				
-40°C	32	**	V_STAT	VOLTS	N.A.	0.5	2.83E-01	4.7E-03	N.A.	1.5E+01	15.32	2.87E-01	3.3E-03	N.A.	2.2E+01	21.61	1.27				
-40°C	33	**	VOLTS			3.41E-01	5.4E-03	8.8E+00	3.7E+00	3.68	3.45E-01	3.7E-03	1.3E+01	4.9E+00	4.92	1.23					
-40°C	34	**	VOLTS			5.00E+00	2.4E-02	6.8E+00	6.8E+00	6.82	5.00E+00	1.8E-02	9.1E+00	9.1E+00	9.12	0.00					
-40°C	35	**	TDOL_OFF	uSECONDS	45	1100	2.88E+02	1.5E+01	5.5E+00	1.9E+01	5.55	3.08E+02	1.3E+01	6.5E+00	2.0E+01	6.54	6.99	X			lot by lot variability. New better than std

DELTA CHAR 2 TEMP. VNP6_VNQ5E050AK-E(STD - SGN6 FAB) Vs. VNP6_VNQ5E050AK-E(NEW - SGN8 FAB)

note 1 : the low CPK is due to the fact that the low limit is in this case 0 and this impacts the CPK L. On the other side the distribution of this current is positive , therefore the CPK L is not important and only CPK H has to be taken into consideration.

note 3: the mean drift is not an issue because the difference between the two measurements is lower than the minimum measurement capability of the tool.

(**) internal test

(*) guardbanded Vs spec

Mean values Drift analysis in % referred to STD
Differences between NEW and STD: [(NEW-STD)/STD]*100

temp	Test	Test label	Unit	LTL	UTL	VNP6_VNQ5E050AK-E STD					VNP6_VNQ5E050AK-E NEW					Mean values Drift analysis in % referred to STD				REMARKS	
						Mean	Sigma	CPK L	CPK H	CPK	Mean	sigma	CPK L	CPK H	CPK	%	5%	10%	20%		
125°C	1	**	uA			2.90E-01	3.3E-02	2.9E+00	4.8E+01	2.95	2.76E-01	2.7E-02	3.4E+00	5.8E+01	3.38	-4.74					
125°C	2	ILOFF1@13V	uA	0	5	2.85E-01	2.9E-02	3.3E+00	5.4E+01	3.27	2.76E-01	2.7E-02	3.4E+00	5.8E+01	3.38	-3.32					
125°C	3	**	uA			2.14E+00	1.8E-01	3.9E+00	4.2E+01	3.89	2.15E+00	1.2E-01	6.2E+00	6.6E+01	6.19	0.73					
125°C	4	**	uA			1.10E+01	7.7E-01	2.6E+00	3.0E+02	2.63	1.13E+01	2.4E-01	9.0E+00	9.7E+02	8.97	2.69					
125°C	5	**	uA			2.83E-01	4.1E-02	2.3E+00	3.8E+01	2.29	2.73E-01	2.7E-02	3.4E+00	5.8E+01	3.36	-3.61					
125°C	6	ILOFF3@13V	uA	0	5	2.73E-01	4.1E-02	2.2E+00	3.8E+01	2.21	2.73E-01	2.7E-02	3.4E+00	5.8E+01	3.36	-0.08					
125°C	7	**	uA			2.19E+00	2.2E-01	3.3E+00	3.4E+01	3.27	2.14E+00	1.2E-01	6.0E+00	6.4E+01	5.98	-2.46					
125°C	8	**	uA			1.18E+01	7.1E-01	3.2E+00	3.2E+02	3.20	1.16E+01	6.1E-01	3.6E+00	3.8E+02	3.62	-1.79					
125°C	9	**	uA			2.89E-01	2.6E-02	3.7E+00	6.0E+01	3.69	2.98E-01	2.7E-02	3.6E+00	5.7E+01	3.64	3.19					
125°C	10	ILOFF2@13V	uA	0	5	2.59E-01	2.6E-02	3.3E+00	N.A.	3.31	2.68E-01	2.7E-02	3.3E+00	N.A.	3.27	3.56					
125°C	11	**	uA			2.11E+00	3.6E-01	1.9E+00	2.1E+01	1.95	2.16E+00	1.2E-01	6.1E+00	6.5E+01	6.13	2.11					
125°C	12	**	uA			1.11E+01	1.2E+00	1.7E+00	1.9E+02	1.68	1.13E+01	2.4E-01	8.9E+00	9.7E+02	8.92	2.37					
125°C	13	**	uA			2.82E-01	5.5E-02	1.7E+00	2.9E+01	1.71	2.69E-01	2.8E-02	3.2E+00	5.6E+01	3.18	-4.45					
125°C	14	ILOFF4@13V	uA	0	5	2.80E-01	2.6E-02	3.6E+00	6.1E+01	3.63	2.69E-01	2.3E-02	3.9E+00	6.8E+01	3.87	-3.70					
125°C	15	**	uA			2.20E+00	3.1E-01	2.3E+00	2.4E+01	2.35	2.13E+00	1.2E-01	5.8E+00	6.3E+01	5.83	-3.16					
125°C	16	**	uA			1.12E+01	1.1E+00	1.8E+00	2.0E+02	1.82	1.16E+01	6.1E-01	3.6E+00	3.7E+02	3.59	3.32					
125°C	17	**	uA			-7.79E+01	2.2E+00	4.1E+00	1.2E+01	4.12	-8.03E+01	1.7E+00	4.9E+00	1.6E+01	4.86	-3.11					
125°C	18	**	uA			-7.83E+01	2.3E+00	3.9E+00	1.2E+01	3.92	-8.11E+01	1.7E+00	4.6E+00	1.6E+01	4.59	-3.46					
125°C	19	**	uA			-7.81E+01	2.3E+00	3.9E+00	1.1E+01	3.95	-8.11E+01	1.8E+00	4.5E+00	1.5E+01	4.51	-3.87					
125°C	20	**	uA			-7.82E+01	2.3E+00	3.9E+00	1.1E+01	3.89	-8.11E+01	1.8E+00	4.4E+00	1.5E+01	4.43	-3.72					
125°C	21	**	uA			2.42E+00	2.1E-01	3.8E+00	N.A.	3.82	2.32E+00	1.1E-01	7.1E+00	N.A.	7.10	-4.13					
125°C	22	**	uA			2.43E+00	1.6E-01	4.0E+00	4.9E+00	3.97	2.32E+00	1.1E-01	5.6E+00	7.6E+00	5.57	-4.46					
125°C	23	ISONTOT@13V	mA	N.A.	14	5.32E+00	1.5E-01	N.A.	2.0E+01	19.83	5.44E+00	8.8E-02	N.A.	3.3E+01	32.60	2.34					
125°C	24	**	uA			2.46E+00	1.2E-01	6.4E+00	6.9E+00	6.40	2.34E+00	1.1E-01	6.8E+00	8.1E+00	6.85	-4.90					
125°C	25	**	uA			2.91E+02	1.8E+01	4.4E+00	N.A.	4.39	2.79E+02	1.2E+01	6.2E+00	N.A.	6.15	-4.05					
125°C	26	**	mA			1.99E+00	5.6E-02	5.8E+00	N.A.	5.84	2.04E+00	3.4E-02	1.0E+01	N.A.	10.10	2.51					
125°C	27	**	mA			2.00E+00	5.7E-02	5.8E+00	5.8E+00	5.79	2.04E+00	3.4E-02	1.0E+01	9.4E+00	9.42	2.17					
125°C	28	**	mA			2.00E+00	5.7E-02	5.8E+00	5.9E+00	5.82	2.04E+00	3.4E-02	1.0E+01	9.3E+00	9.32	2.09					
125°C	29	**	mA			2.00E+00	5.7E-02	5.8E+00	5.9E+00	5.85	2.04E+00	3.5E-02	1.0E+01	9.3E+00	9.29	2.17					
125°C	30	ILOF2_CH1_R@8V	uA	-120	0	-4.80E+01	9.9E-01	N.A.	1.6E+01	16.19	-4.94E+01	5.7E-01	N.A.	2.9E+01	28.91	-2.94					
125°C	31	ILOF2_CH1_R@13V	uA	-120	0	-4.15E+01	9.2E-01	2.8E+01	N.A.	28.40	-4.27E+01	5.2E-01	4.9E+01	N.A.	49.15	-2.95					
125°C	32	ILOF2_CH1_R@18V	uA	-120	0	-3.21E+01	1.1E+00	N.A.	1.0E+01	9.98	-3.21E+01	1.1E+00	N.A.	1.0E+01	10.09	-0.24					
125°C	33	ILOF2_CH2_R@8V	uA	-120	0	-4.81E+01	1.0E+00	2.4E+01	N.A.	24.07	-4.96E+01	5.7E-01	4.1E+01	N.A.	40.99	-3.15					
125°C	34	ILOF2_CH2_R@13V	uA	-120	0	-4.16E+01	9.3E-01	N.A.	1.5E+01	14.88	-4.29E+01	5.3E-01	N.A.	2.7E+01	27.03	-3.14					
125°C	35	ILOF2_CH2_R@18V	uA	-120	0	-3.22E+01	1.1E+00	2.8E+01	N.A.	27.68	-3.22E+01	1.1E+00	2.7E+01	N.A.	27.25	-0.16					
125°C	36	ILOF2_CH3_R@8V	uA	-120	0	-4.80E+01	9.9E-01	N.A.	1.6E+01	16.13	-4.96E+01	5.7E-01	N.A.	2.9E+01	29.08	-3.32					
125°C	37	ILOF2_CH3_R@13V	uA	-120	0	-4.15E+01	9.3E-01	2.8E+01	N.A.	28.17	-4.29E+01	5.3E-01	4.9E+01	N.A.	48.94	-3.35					
125°C	38	ILOF2_CH3_R@18V	uA	-120	0	-3.21E+01	1.1E+00	N.A.	1.0E+01	10.06	-3.22E+01	1.1E+00	N.A.	9.7E+00	9.75	-0.25					
125°C	39	ILOF2_CH4_R@8V	uA	-120	0	-4.81E+01	1.0E+00	2.4E+01	N.A.	23.96	-4.97E+01	5.6E-01	4.2E+01	N.A.	41.57	-3.28					
125°C	40	ILOF2_CH4_R@13V	uA	-120	0	-4.16E+01	9.3E-01	N.A.	1.5E+01	14.84	-4.29E+01	5.2E-01	N.A.	2.7E+01	27.31	-3.28					
125°C	41	ILOF2_CH4_R@18V	uA	-120	0	-3.21E+01	1.1E+00	2.7E+01	N.A.	26.89	-3.21E+01	1.1E+00	2.6E+01	N.A.	25.59	0.17					
125°C	42	ILOF2_CH1_F@8V	uA	-50	90	-9.62E+00	4.3E-01	N.A.	7.7E+01	77.21	-9.97E+00	4.2E-01	N.A.	7.9E+01	79.12	-3.65					
125°C	43	ILOF2_CH1_F@13V	uA	-50	90	-9.39E+00	2.8E-01	4.8E+01	N.A.	48.45	-9.73E+00	2.2E-01	6.2E+01	N.A.	62.27	-3.55					
125°C	44	ILOF2_CH1_F@18V	uA	-50	90	-1.11E+01	5.8E+00	3.5E+00	4.5E+00	3.51	-1.09E+01	4.6E+00	4.4E+00	5.8E+00	4.43	-1.60					

125°C	45	ILOF2_CH2_F@8V	uA	-50	90	-9.66E+00	3.1E-01	4.3E+01	1.1E+02	43.00	-1.00E+01	2.2E-01	6.1E+01	1.5E+02	61.38	-3.95			
125°C	46	ILOF2_CH2_F@13V	uA	-50	90	-9.43E+00	2.9E-01	4.7E+01	1.2E+02	47.07	-9.80E+00	2.2E-01	6.1E+01	1.5E+02	61.06	-3.87			
125°C	47	ILOF2_CH2_F@18V	uA	-50	90	1.08E+01	9.2E+00	2.2E+00	2.9E+00	2.20	1.10E+01	4.2E+00	4.8E+00	6.3E+00	4.85	1.89			
125°C	48	ILOF2_CH3_F@8V	uA	-50	90	-9.63E+00	3.1E-01	4.4E+01	1.1E+02	43.51	-1.01E+01	2.2E-01	6.1E+01	1.5E+02	61.22	-4.46			
125°C	49	ILOF2_CH3_F@13V	uA	-50	90	-9.40E+00	2.8E-01	4.7E+01	1.2E+02	47.49	-9.81E+00	2.2E-01	6.0E+01	1.5E+02	60.38	-4.32			
125°C	50	ILOF2_CH3_F@18V	uA	-50	90	1.15E+01	8.7E+00	2.3E+00	3.0E+00	2.34	1.13E+01	3.7E+00	5.5E+00	7.0E+00	5.46	-1.39			
125°C	51	ILOF2_CH4_F@8V	uA	-50	90	-9.65E+00	3.1E-01	4.3E+01	1.1E+02	43.07	-1.01E+01	2.2E-01	6.1E+01	1.5E+02	60.56	-4.30			
125°C	52	ILOF2_CH4_F@13V	uA	-50	90	-9.42E+00	2.9E-01	4.7E+01	1.2E+02	47.31	-9.81E+00	2.3E-01	6.0E+01	1.5E+02	59.51	-4.16			
125°C	53	ILOF2_CH4_F@18V	uA	-50	90	1.14E+01	8.8E+00	2.3E+00	3.0E+00	2.33	1.12E+01	4.0E+00	5.1E+00	6.6E+00	5.11	-1.97			
125°C	54	VCL@20MA	V	41	52	4.64E+01	2.4E-01	7.4E+00	7.7E+00	7.42	4.56E+01	8.0E-02	1.9E+01	2.6E+01	19.30	-1.64			
125°C	55	**	uA			2.24E+00	1.2E-01	5.8E+00	7.0E+00	5.81	2.28E+00	1.2E-01	6.3E+00	7.2E+00	6.26	1.77			
125°C	56	**	nA			4.48E+01	3.1E+01	5.9E+00	4.9E+00	4.91	4.47E+01	2.4E+01	7.7E+00	6.4E+00	6.40	-0.13			
125°C	57	VICL1_@_1MA	V	5.5	7	6.59E+00	4.8E-02	7.7E+00	2.9E+00	2.85	6.51E+00	1.5E-02	2.3E+01	1.1E+01	11.07	-1.28			
125°C	58	**	V			-6.10E-01	2.4E-03	5.4E+01	4.3E+01	43.17	-6.14E-01	1.8E-03	7.0E+01	5.7E+01	56.94	-0.69			
125°C	59	VICL2_@_1MA	V	5.5	7	6.57E+00	4.7E-02	7.5E+00	3.0E+00	3.05	6.48E+00	1.4E-02	2.3E+01	1.2E+01	12.20	-1.27			
125°C	60	**	V			-5.84E-01	2.0E-03	6.9E+01	4.7E+01	47.35	-5.89E-01	2.3E-03	5.9E+01	4.1E+01	41.23	-0.83			
125°C	61	VICL3_@_1MA	V	5.5	7	6.59E+00	4.7E-02	7.7E+00	2.9E+00	2.88	6.51E+00	1.5E-02	2.3E+01	1.1E+01	11.09	-1.27			
125°C	62	**	V			-6.11E-01	2.6E-03	5.1E+01	4.0E+01	40.40	-6.15E-01	2.0E-03	6.5E+01	5.3E+01	53.45	-0.65			
125°C	63	VICL4_@_1MA	V	5.5	7	6.57E+00	4.7E-02	7.6E+00	3.1E+00	3.06	6.49E+00	1.4E-02	2.3E+01	1.2E+01	12.18	-1.26			
125°C	64	**	V			-5.85E-01	2.9E-03	4.7E+01	3.2E+01	32.42	-5.90E-01	2.7E-03	5.0E+01	3.5E+01	35.37	-0.79			
125°C	65	VCS_DISC@1MA	V	5.5	7	6.56E+00	4.7E-02	7.5E+00	3.1E+00	3.14	6.47E+00	1.4E-02	2.3E+01	1.2E+01	12.39	-1.26			
125°C	66	**	V			-5.79E-01	2.2E-03	6.4E+01	4.3E+01	42.79	-5.84E-01	2.5E-03	5.5E+01	3.7E+01	37.42	-0.82			
125°C	67	**	V			6.33E-01	2.5E-03	N.A.	9.0E+00	9.03	6.38E-01	2.9E-03	N.A.	7.1E+00	7.12	0.77			
125°C	68	**	V			6.82E-01	2.4E-03	2.5E+01	4.4E+01	25.39	6.86E-01	2.8E-03	2.3E+01	3.8E+01	22.54	0.61			
125°C	69	**	V			6.32E-01	2.5E-03	N.A.	9.2E+00	9.22	6.37E-01	2.9E-03	N.A.	7.4E+00	7.36	0.77			
125°C	70	**	V			6.79E-01	2.5E-03	2.4E+01	4.4E+01	24.38	6.83E-01	2.7E-03	2.2E+01	3.9E+01	22.48	0.60			
125°C	71	**	V			6.32E-01	2.5E-03	N.A.	9.3E+00	9.30	6.36E-01	2.8E-03	N.A.	7.5E+00	7.50	0.76			
125°C	72	**	V			6.79E-01	2.4E-03	2.5E+01	4.5E+01	25.19	6.83E-01	2.7E-03	2.3E+01	4.0E+01	22.95	0.58			
125°C	73	**	V			6.33E-01	2.5E-03	N.A.	9.1E+00	9.06	6.38E-01	2.8E-03	N.A.	7.5E+00	7.45	0.74			
125°C	74	**	V			6.81E-01	2.4E-03	2.5E+01	4.3E+01	24.72	6.85E-01	2.6E-03	2.4E+01	4.0E+01	23.82	0.57			
125°C	75	**	mA			1.16E+00	1.0E-02	2.1E+01	N.A.	21.06	1.18E+00	9.7E-03	2.3E+01	N.A.	23.39	1.35			
125°C	76	ICSDH@2.1V	uA	N.A.	10	2.88E+00	7.4E-02	N.A.	3.2E+01	32.15	2.95E+00	4.5E-02	N.A.	5.3E+01	52.84	2.12			
125°C	77	ICSDL@0.9V	uA	1	N.A.	2.39E+00	4.9E-02	9.4E+00	N.A.	9.40	2.45E+00	3.0E-02	1.6E+01	N.A.	16.10	2.26			
125°C	78	IS01IN=5@VS0.9	uA	0	2	1.18E-01	1.2E-02	3.3E+00	5.3E+01	3.34	1.17E-01	1.0E-02	3.9E+00	6.3E+01	3.90	-0.43			
125°C	79	IS01IN=0@VS2.1	uA	0	1	6.35E-03	3.2E-03	6.6E-01	1.0E+02	0.66	5.38E-03	2.7E-03	6.7E-01	1.2E+02	0.67	-15.34	X		cpk low: see note 1; mean drift: see note 3
125°C	80	IS01@=2A	uA	0	1	3.34E-02	6.6E-03	1.7E+00	4.9E+01	1.69	3.20E-02	5.2E-03	2.1E+00	6.2E+01	2.06	-4.18			
125°C	81	IS02IN=5@VS0.9	uA	0	2	1.32E-01	1.3E-02	3.4E+00	N.A.	3.41	1.37E-01	1.1E-02	4.2E+00	5.8E+01	4.24	3.90			
125°C	82	IS02IN=0@VS2.1	uA	0	1	1.77E-02	1.0E-02	5.9E-01	N.A.	0.59	2.37E-02	1.3E-02	6.0E-01	2.5E+01	0.60	33.62	X		cpk low: see note 1; mean drift: see note 3
125°C	83	IS02@=2A	uA	0	1	3.17E-02	5.5E-03	1.9E+00	N.A.	1.91	3.05E-02	4.4E-03	2.3E+00	7.3E+01	2.30	-3.84			
125°C	84	IS03IN=5@VS0.9	uA	0	2	1.29E-01	1.6E-02	2.7E+00	3.9E+01	2.70	1.34E-01	1.1E-02	4.2E+00	5.8E+01	4.17	3.87			
125°C	85	IS03IN=0@VS2.1	uA	0	1	9.90E-03	9.7E-03	3.4E-01	3.4E+01	0.34	8.60E-03	2.9E-03	9.9E-01	1.1E+02	0.99	-13.12	X		cpk low: see note 1; mean drift: see note 3
125°C	86	IS03@=2A	uA	0	1	3.05E-02	5.1E-03	2.0E+00	6.4E+01	2.00	3.17E-02	4.5E-03	2.4E+00	7.2E+01	2.37	3.88			
125°C	87	IS04IN=5@VS0.9	uA	0	2	1.18E-01	1.2E-02	3.3E+00	5.3E+01	3.31	1.23E-01	9.2E-03	4.5E+00	6.8E+01	4.46	4.04			
125°C	88	IS04IN=0@VS2.1	uA	0	1	2.27E-02	1.7E-02	4.4E-01	1.9E+01	0.44	2.10E-02	1.3E-02	5.5E-01	2.6E+01	0.55	-7.45	X		cpk low: see note 1; mean drift: see note 3
125°C	89	IS04@=2A	uA	0	1	3.13E-02	6.1E-03	1.7E+00	5.3E+01	1.72	3.07E-02	4.0E-03	2.5E+00	8.0E+01	2.54	-1.78			
125°C	90	**	uA			-1.24E-02	3.9E-02	7.7E+00	7.9E+00	7.66	-1.19E-02	3.2E-02	9.1E+00	9.4E+00	9.13	4.15			
125°C	91	**	uA			-1.03E-02	4.2E-02	7.1E+00	7.3E+00	7.12	-9.82E-03	4.0E-02	7.4E+00	7.6E+00	7.40	4.38			
125°C	92	**	uA			-1.06E-02	5.5E-02	5.4E+00	5.5E+00	5.42	-1.02E-02	4.0E-02	7.5E+00	7.7E+00	7.50	4.49			
125°C	93	**	uA			-1.07E-02	4.4E-02	6.8E+00	7.0E+00	6.80	-1.02E-02	4.2E-02	7.1E+00	7.3E+00	7.11	4.46			
125°C	94	K0@_0.05A_CH1	#	1050	3170	2.09E+03	1.0E+02	3.4E+00	3.6E+00	3.43	2.06E+03	8.8E+01	3.8E+00	4.2E+00	3.81	-1.52			
125°C	95	K0@_0.05A_CH2	#	1050	3170	2.08E+03	9.9E+01	3.5E+00	3.7E+00	3.49	2.01E+03	8.5E+01	3.7E+00	4.6E+00	3.73	-3.73			
125°C	96	K0@_0.05A_CH3	#	1050	3170	2.11E+03	1.0E+02	3.5E+00	3.5E+00	3.50	2.03E+03	8.8E+01	3.7E+00	4.3E+00	3.72	-3.63			
125°C	97	K0@_0.05A_CH4	#	1050	3170	2.10E+03	1.0E+02	3.4E+00	3.5E+00	3.41	2.03E+03	8.4E+01	3.9E+00	4.5E+00	3.89	-3.60			
125°C	98	K1@_1A_CH1	#	1510	2270	1.75E+03	3.2E+01	2.6E+00	5.5E+00	2.55	1.72E+03	2.8E+01	2.5E+00	6.5E+00	2.54	-1.65			
125°C	99	K1@_1A_CH2	#	1510	2270	1.75E+03	3.1E+01	2.6E+00	5.6E+00	2.61	1.70E+03	2.5E+01	2.6E+00	7.7E+00	2.58	-2.81			
125°C	100	K1@_1A_CH3	#	1510	2270	1.76E+03	3.2E+01	2.6E+00	5.4E+00	2.63	1.71E+03	2.6E+01	2.5E+00	7.1E+00	2.53	-2.81			
125°C	101	K1@_1A_CH4	#	1510	2270	1.76E+03	3.2E+01	2.5E+00	5.3E+00	2.53	1.71E+03	2.6E+01	2.5E+00	7.1E+00	2.49	-2.77			
125°C	102	K2@_2A_CH1	#	1600	2000	1.73E+03	1.5E+01	2.7E+00	5.9E+00	2.69	1.70E+03	1.4E+01	2.5E+00	7.3E+00	2.53	-1.28			
125°C	103	K2@_2A_CH2	#	1600	2000	1.72E+03	1.5E+01	2.8E+00	6.1E+00	2.78	1.69E+03	1.1E+01	2.7E+00	9.0E+00	2.72	-1.84			
125°C	104	K2@_2A_CH3	#	1600	2000	1.73E+03	1.5E+01	N.A.	5.9E+00	5.87	1.70E+03	1.3E+01	2.5E+00	7.7E+00	2.48	-1.86			
125°C	105	K2@_2A_CH4	#	1600	2000	1.73E+03	1.6E+01	N.A.	5.8E+00	5.80	1.69E+03	1.3E+01	2.3E+00	7.6E+00	2.34	-1.79			
125°C	106	K3@_4A_CH1	#	1620	1920	1.71E+03	8.8E+00	3.5E+00	7.9E+00	3.55	1.69E+03	7.9E+00	3.1E+00	9.5E+00	3.11	-1.12			
125°C	107	K3@_4A_CH2	#	1620	1920	1.71E+03	8.4E+00	3.7E+00	8.2E+00	3.75	1.69E+03	6.6E+00	3.6E+00	1.2E+01	3.57	-1.41			
125°C	108	K3@_4A_CH3	#	1620	1920	1.72E+03	8.7E+00	3.7E+00	7.8E+00	3.71	1.69E+03	7.6E+00	3.2E+00	1.0E+01	3.15	-1.43			
125°C	109	K3@_4A_CH4	#	1620	1920	1.71E+03	9.0E+00	3.4E+00	7.7E+00	3.43	1.69E+03	8.1E+00	2.8E+00	9.5E+00	2.84	-1.36			
125°C	110	VSENSE_CH1	V	5	N.A.	7.72E+00	4.1E-02	2.2E+01	N.A.	22.31	7.57E								

125°C	117	IIN @_VIL3	uA	1	N.A.	2.39E+00	5.0E-02	9.2E+00	N.A.	9.20	2.45E+00	3.0E-02	1.6E+01	N.A.	15.92	2.51				
125°C	118	IIN @_VIL4	uA	1	N.A.	2.39E+00	5.1E-02	9.1E+00	N.A.	9.06	2.45E+00	3.1E-02	1.6E+01	N.A.	15.57	2.49				
125°C	119	IIN @_VIH1	uA	N.A.	10	2.81E+00	7.2E-02	N.A.	3.3E+01	33.12	2.88E+00	4.2E-02	N.A.	5.7E+01	56.85	2.29				
125°C	120	IIN @_VIH2	uA	N.A.	10	2.81E+00	7.1E-02	N.A.	3.4E+01	33.57	2.88E+00	4.2E-02	N.A.	5.7E+01	56.54	2.21				
125°C	121	IIN @_VIH3	uA	N.A.	10	2.81E+00	7.1E-02	N.A.	3.4E+01	33.87	2.87E+00	4.2E-02	N.A.	5.7E+01	57.11	2.27				
125°C	122	IIN @_VIH4	uA	N.A.	10	2.81E+00	7.1E-02	N.A.	3.4E+01	33.95	2.88E+00	4.3E-02	N.A.	5.5E+01	55.49	2.20				
125°C	123	*	mOHM			8.52E+01	1.5E+00	N.A.	2.1E+00	2.13	8.35E+01	1.5E+00	N.A.	2.5E+00	2.50	-1.92				
125°C	124	*	mOHM			8.43E+01	1.5E+00	N.A.	2.4E+00	2.37	8.26E+01	1.6E+00	N.A.	2.6E+00	2.61	-2.00				
125°C	125	*	mOHM			8.42E+01	1.5E+00	N.A.	2.4E+00	2.37	8.25E+01	1.6E+00	N.A.	2.7E+00	2.67	-2.08				
125°C	126	*	mOHM			8.50E+01	1.6E+00	N.A.	2.1E+00	2.12	8.33E+01	1.6E+00	N.A.	2.4E+00	2.45	-2.07				
125°C	127	**	mV			2.78E+01	8.4E-01	9.4E+00	8.8E+00	8.80	2.77E+01	5.4E-01	1.5E+01	1.4E+01	13.88	-0.53				
125°C	128	**	mV			2.78E+01	8.8E-01	9.0E+00	8.4E+00	8.42	2.77E+01	5.7E-01	1.4E+01	1.3E+01	13.09	-0.51				
125°C	129	**	mV			2.78E+01	8.6E-01	9.3E+00	8.6E+00	8.65	2.77E+01	5.4E-01	1.5E+01	1.4E+01	13.85	-0.36				
125°C	130	**	mV			2.78E+01	8.8E-01	9.0E+00	8.4E+00	8.39	2.77E+01	5.2E-01	1.5E+01	1.4E+01	14.14	-0.35				
125°C	131	**	uS			3.14E+01	4.2E+00	2.1E+00	2.3E+00	2.11	3.04E+01	1.2E+00	7.2E+00	8.5E+00	7.23	-3.19				
125°C	132	**	uS			3.35E+01	1.6E+00	6.0E+00	5.6E+00	5.59	3.43E+01	7.3E-01	1.3E+01	1.2E+01	11.72	2.39				
125°C	133	**	uS			3.18E+01	1.9E+00	4.1E+00	6.8E+00	4.06	3.19E+01	1.1E+00	7.0E+00	1.2E+01	7.03	0.06				
125°C	134	**	uS			5.28E+01	1.5E+00	1.1E+01	1.1E+01	10.61	5.26E+01	6.7E-01	2.4E+01	2.4E+01	23.71	-0.37				
125°C	135	**	uS			3.12E+01	4.1E+00	2.1E+00	2.3E+00	2.12	3.03E+01	1.2E+00	6.8E+00	8.0E+00	6.84	-2.96				
125°C	136	**	uS			3.36E+01	1.6E+00	6.1E+00	5.6E+00	5.65	3.45E+01	6.7E-01	1.5E+01	1.3E+01	12.63	2.69				
125°C	137	**	uS			3.21E+01	1.9E+00	4.1E+00	6.7E+00	4.07	3.21E+01	1.1E+00	7.2E+00	1.2E+01	7.17	-0.10				
125°C	138	**	uS			5.29E+01	1.5E+00	1.1E+01	1.0E+01	10.34	5.27E+01	7.0E-01	2.3E+01	2.2E+01	22.39	-0.28				
125°C	139	**	uS			3.12E+01	4.1E+00	2.1E+00	2.3E+00	2.14	3.03E+01	1.2E+00	7.1E+00	8.3E+00	7.07	-2.98				
125°C	140	**	uS			3.36E+01	1.6E+00	6.1E+00	5.6E+00	5.60	3.45E+01	7.2E-01	1.4E+01	1.2E+01	11.72	2.79				
125°C	141	**	uS			3.23E+01	1.9E+00	4.0E+00	6.5E+00	4.03	3.23E+01	1.1E+00	7.2E+00	1.2E+01	7.22	0.10				
125°C	142	**	uS			5.29E+01	1.5E+00	1.0E+01	1.0E+01	10.25	5.28E+01	7.0E-01	2.3E+01	2.3E+01	22.65	-0.19				
125°C	143	**	uS			3.01E+01	4.1E+00	2.0E+00	2.4E+00	2.04	3.03E+01	1.2E+00	7.2E+00	8.5E+00	7.25	0.36				
125°C	144	**	uS			3.36E+01	1.6E+00	5.9E+00	5.4E+00	5.42	3.45E+01	7.2E-01	1.4E+01	1.2E+01	11.76	2.59				
125°C	145	**	uS			3.22E+01	2.0E+00	3.9E+00	6.4E+00	3.92	3.22E+01	1.1E+00	7.2E+00	1.2E+01	7.23	0.20				
125°C	146	**	uS			5.29E+01	1.5E+00	1.0E+01	1.0E+01	10.19	5.29E+01	6.7E-01	2.4E+01	2.3E+01	23.48	-0.12				
125°C	147	VDEMIDNAM_CH1	V	28	39	3.49E+01	2.7E-01	8.5E+00	5.1E+00	5.14	3.39E+01	1.0E-01	1.9E+01	1.6E+01	16.42	-2.72				
125°C	148	VDEMIDNAM_CH2	V	28	39	3.49E+01	2.6E-01	8.8E+00	5.3E+00	5.27	3.39E+01	1.1E-01	1.8E+01	1.6E+01	15.56	-2.71				
125°C	149	VDEMIDNAM_CH3	V	28	39	3.49E+01	2.6E-01	8.8E+00	5.3E+00	5.27	3.39E+01	1.1E-01	1.9E+01	1.6E+01	15.86	-2.72				
125°C	150	VDEMIDNAM_CH4	V	28	39	3.49E+01	2.6E-01	8.8E+00	5.2E+00	5.23	3.39E+01	1.1E-01	1.9E+01	1.6E+01	15.94	-2.73				
125°C	151	**	A			6.97E+00	2.7E-01	3.6E+00	3.7E+00	3.63	6.82E+00	2.6E-01	3.7E+00	4.1E+00	3.68	-2.21				
125°C	152	**	V			8.35E+00	5.1E-02	2.2E+01	N.A.	21.85	8.20E+00	2.1E-02	5.2E+01	N.A.	51.65	-1.87				
125°C	153	**	A			7.04E+00	2.8E-01	3.7E+00	3.6E+00	3.58	7.28E+00	2.4E-01	4.6E+00	3.8E+00	3.78	3.41				
125°C	154	**	V			8.36E+00	5.1E-02	2.2E+01	N.A.	21.74	8.20E+00	2.3E-02	4.6E+01	N.A.	46.19	-1.85				
125°C	155	**	A			7.07E+00	2.8E-01	3.7E+00	3.5E+00	3.52	7.41E+00	2.3E-01	4.9E+00	3.7E+00	3.72	4.79				
125°C	156	**	V			8.36E+00	5.2E-02	2.2E+01	N.A.	21.65	8.20E+00	2.2E-02	4.8E+01	N.A.	47.96	-1.84				
125°C	157	**	A			7.08E+00	2.8E-01	3.7E+00	3.5E+00	3.51	7.38E+00	2.4E-01	4.6E+00	3.6E+00	3.59	4.23				
125°C	158	**	V			8.36E+00	5.2E-02	2.2E+01	N.A.	21.68	8.21E+00	2.3E-02	4.6E+01	N.A.	46.44	-1.85				
125°C	159	**	uS			4.31E+01	4.7E+00	3.0E+00	1.2E+01	3.04	4.47E+01	4.7E+00	3.2E+00	1.2E+01	3.18	3.84				
125°C	160	**	uS			4.01E+01	3.9E+00	3.4E+00	1.4E+01	3.41	4.19E+01	3.7E+00	3.8E+00	1.5E+01	3.76	4.40				
125°C	161	**	uS			3.92E+01	4.0E+00	3.3E+00	1.4E+01	3.25	4.09E+01	3.9E+00	3.5E+00	1.4E+01	3.48	4.48				
125°C	162	**	uS			4.02E+01	4.2E+00	3.2E+00	1.4E+01	3.21	4.07E+01	4.0E+00	3.4E+00	1.4E+01	3.42	1.29				
125°C	163	TDSTKON1_18V	uS	180	1200	7.27E+02	2.6E+01	7.0E+00	6.1E+00	6.05	7.03E+02	1.9E+01	9.3E+00	8.8E+00	8.84	3.22				
125°C	164	TDSTKON2_18V	uS	180	1200	7.26E+02	2.5E+01	7.2E+00	6.3E+00	6.30	7.06E+02	1.8E+01	9.9E+00	9.3E+00	9.30	-2.73				
125°C	165	TDSTKON3_18V	uS	180	1200	7.23E+02	2.5E+01	7.4E+00	6.5E+00	6.48	7.02E+02	1.9E+01	9.1E+00	8.7E+00	8.69	2.94				
125°C	166	TDSTKON4_18V	uS	180	1200	7.22E+02	2.4E+01	7.5E+00	6.7E+00	6.65	7.02E+02	1.9E+01	9.0E+00	8.6E+00	8.58	-2.72				
125°C	167	TDSTKON1_8V	uS	180	1200	7.28E+02	2.6E+01	7.0E+00	6.0E+00	6.02	7.06E+02	1.9E+01	9.3E+00	8.8E+00	8.76	-3.05				
125°C	168	TDSTKON2_8V	uS	180	1200	7.27E+02	2.5E+01	7.2E+00	6.3E+00	6.26	7.09E+02	1.8E+01	9.9E+00	9.2E+00	9.23	-2.54				
125°C	169	TDSTKON3_8V	uS	180	1200	7.25E+02	2.5E+01	7.4E+00	6.4E+00	6.43	7.05E+02	1.9E+01	9.1E+00	8.6E+00	8.61	-2.77				
125°C	170	TDSTKON4_8V	uS	180	1200	7.24E+02	2.4E+01	7.5E+00	6.6E+00	6.60	7.05E+02	1.9E+01	9.0E+00	8.5E+00	8.51	-2.55				
-40°C	1	**	uA			1.60E-02	9.4E-03	5.7E-01	1.8E+02	0.57	1.57E-02	8.2E-03	6.4E-01	2.0E+02	0.64	-1.39				cpk low: see note 1
-40°C	2	**	uA			1.60E-02	9.4E-03	5.7E-01	1.1E+02	0.57	1.57E-02	8.2E-03	6.4E-01	1.2E+02	0.64	-1.39				cpk low: see note 1
-40°C	3	**	uA			3.71E+00	2.3E-01	5.3E+00	3.0E+01	5.31	3.62E+00	1.9E-01	6.5E+00	3.8E+01	6.47	-2.63				
-40°C	4	**	uA			4.80E+01	4.6E+00	3.1E+00	4.7E+01	3.10	4.95E+01	3.0E+00	4.9E+00	7.2E+01	4.92	3.07				
-40°C	5	**	uA			1.61E-02	1.2E-03	4.4E+00	1.3E+03	4.36	1.66E-02	1.1E-03	5.1E+00	1.5E+02	5.13	2.85				
-40°C	6	**	uA			1.61E-02	1.2E-03	4.4E+00	8.1E+02	4.36	1.66E-02	1.1E-03	5.1E+00	9.3E+02	5.13	2.85				
-40°C	7	**	uA			3.80E+00	2.3E-01	5.4E+00	3.0E+01	5.44	3.61E+00	1.9E-01	6.3E+00	3.7E+01	6.30	-4.89				
-40°C	8	**	uA			4.74E+01	4.4E+00	3.2E+00	4.9E+01	3.19	4.83E+01	4.3E+00	3.3E+00	5.0E+01	3.34	1.88				
-40°C	9	**	uA			1.42E-02	4.0E-03	1.2E+00	4.2E+02	1.20	1.48E-02	4.3E-03	1.2E+00	3.9E+02	1.16	4.01				cpk low: see note 1
-40°C	10	**	uA			1.42E-02	4.0E-03	1.2E+00	2.5E+02	1.20	1.48E-02	4.3E-03	1.2E+00	2.3E+02	1.16	4.01				cpk low: see note 1
-40°C	11	**	uA			3.72E+00	2.3E-01	5.4E+00	3.1E+01	5.42	3.63E+00	1.9E-01	6.5E+00	3.8E+01	6.46	-2.48				
-40°C	12	**	uA			4.80E+01	5.1E+00	2.8E+00	4.3E+01	2.84	4.95E+01	1.0E+00	1.5E+01	7.1E+02	14.63	3.08				
-40°C	13	**	uA			1.78E-02	1.9E-03	3.1E+00	8.8E+02	3.14	1.72E-02	1.8E-03	3.3E+00	9.4E+0						

-40°C	19	**	uA			6.88E+00	5.7E-01	4.0E+00	1.8E+00	1.82	6.78E+00	5.4E-01	4.2E+00	2.0E+00	1.99	-1.47				
-40°C	20	**	uA			7.37E+00	3.5E-01	6.9E+00	2.5E+00	2.47	7.22E+00	3.0E-01	7.9E+00	3.0E+00	3.04	-2.03				
-40°C	21	**	uA			7.51E+00	2.2E-01	1.1E+01	3.7E+00	3.73	7.21E+00	2.5E-01	9.7E+00	3.8E+00	3.76	-4.07				
-40°C	22	**	uA			1.20E+01	2.3E-01	1.7E+01	1.2E+01	11.75	1.21E+01	2.5E-01	1.6E+01	1.0E+01	10.36	1.27				
-40°C	23	**	uA			9.51E+00	2.7E-01	1.2E+01	1.3E+01	11.60	9.90E+00	2.8E-01	1.2E+01	1.2E+01	11.61	4.06				
-40°C	24	**	uA			9.73E+00	2.9E-01	1.1E+01	1.2E+01	11.19	9.80E+00	3.0E-01	1.1E+01	1.1E+01	10.90	0.73				
-40°C	25	**	uA			9.73E+00	2.4E-01	1.3E+01	1.4E+01	13.39	9.90E+00	2.7E-01	1.2E+01	1.2E+01	12.17	1.78				
-40°C	26	**	uA			1.31E+01	3.3E-01	9.7E+00	N.A.	9.70	1.38E+01	3.5E-01	9.8E+00	N.A.	9.79	4.88				
-40°C	27	**	uA			1.47E+00	4.9E-02	1.0E+01	3.1E+01	10.05	1.50E+00	3.4E-02	1.5E+01	4.4E+01	14.61	2.26				
-40°C	28	**	uA			1.47E+00	4.9E-02	N.A.	4.3E+00	4.29	1.50E+00	3.4E-02	N.A.	5.8E+00	5.78	2.26				
-40°C	29	**	mA	N.A.	14	6.40E+00	1.8E-01	N.A.	1.4E+01	13.74	6.61E+00	1.2E-01	N.A.	2.1E+01	21.26	3.29				
-40°C	30	**	uA			1.47E+00	4.6E-02	7.0E+00	4.5E+00	4.52	1.50E+00	3.6E-02	9.3E+00	5.5E+00	5.51	2.06				
-40°C	31	**	uA			2.70E+02	1.2E+01	6.0E+00	6.3E+00	6.03	2.66E+02	7.4E+00	9.7E+00	1.0E+01	9.67	-1.58				
-40°C	32	**	mA			2.46E+00	7.1E-02	4.0E+00	2.5E+00	2.54	2.53E+00	4.6E-02	6.7E+00	3.4E+00	3.35	3.05				
-40°C	33	**	mA			2.46E+00	7.3E-02	3.9E+00	2.5E+00	2.48	2.53E+00	4.5E-02	6.9E+00	3.5E+00	3.49	2.85				
-40°C	34	**	mA			2.46E+00	7.3E-02	3.9E+00	2.5E+00	2.47	2.53E+00	4.5E-02	6.9E+00	3.5E+00	3.53	2.77				
-40°C	35	**	mA			2.46E+00	7.2E-02	4.0E+00	2.5E+00	2.48	2.53E+00	4.6E-02	6.8E+00	3.4E+00	3.42	2.84				
-40°C	36	**	uA	ILOF2_CH1_F@8V	-50	90	-8.75E+00	2.8E-01	4.9E+01	1.2E+02	48.56	-9.08E+00	2.4E-01	5.7E+01	1.4E+02	56.93	-3.82			
-40°C	37	**	uA			-4.29E+02	8.0E+00	7.1E+00	1.8E+01	7.14	-4.35E+02	6.2E+00	8.8E+00	2.3E+01	8.82	-1.58				
-40°C	38	**	uA			3.02E+01	3.0E+00	8.4E+00	6.1E+00	6.10	3.17E+01	2.3E+00	1.1E+01	7.6E+00	7.57	4.78				
-40°C	39	**	uA	ILOF2_CH2_F@8V	-50	90	-8.78E+00	2.9E-01	4.7E+01	1.1E+02	47.05	-9.15E+00	2.4E-01	5.7E+01	1.4E+02	56.67	-4.18			
-40°C	40	**	uA			-4.29E+02	8.0E+00	7.1E+00	1.8E+01	7.10	-4.36E+02	6.2E+00	8.8E+00	2.3E+01	8.79	-1.64				
-40°C	41	**	uA			3.12E+01	3.0E+00	8.5E+00	6.0E+00	5.99	3.27E+01	2.4E+00	1.1E+01	7.3E+00	7.32	4.94				
-40°C	42	**	uA	ILOF2_CH3_F@8V	-50	90	-8.75E+00	9.3E-01	1.5E+01	3.6E+01	14.85	-9.15E+00	4.0E-01	3.4E+01	8.4E+01	34.41	-4.57			
-40°C	43	**	uA			-4.29E+02	8.0E+00	7.1E+00	1.8E+01	7.10	-4.36E+02	6.3E+00	8.7E+00	2.3E+01	8.73	-1.76				
-40°C	44	**	uA			3.21E+01	3.1E+00	8.4E+00	5.7E+00	5.73	3.29E+01	2.4E+00	1.1E+01	7.3E+00	7.33	2.32				
-40°C	45	**	uA	ILOF2_CH4_F@8V	-50	90	-8.77E+00	3.0E-01	4.7E+01	1.1E+02	46.54	-9.15E+00	2.4E-01	5.7E+01	1.4E+02	57.25	-4.41			
-40°C	46	**	uA			-4.30E+02	8.1E+00	7.0E+00	1.9E+01	7.04	-4.37E+02	6.3E+00	8.6E+00	2.3E+01	8.56	-1.71				
-40°C	47	**	uA			3.09E+01	3.1E+00	8.1E+00	5.8E+00	5.81	3.18E+01	2.3E+00	1.1E+01	7.7E+00	7.66	2.71				
-40°C	48	**	uS	TDSENSE2H_CH1	N.A.	250	7.05E+01	1.0E+01	N.A.	5.8E+00	5.81	7.07E+01	8.4E+00	N.A.	7.1E+00	7.12	0.18			
-40°C	49	**	uS	TDSENSE2H_CH2	N.A.	250	7.41E+01	1.0E+01	N.A.	5.6E+00	5.63	7.68E+01	7.6E+00	N.A.	7.6E+00	7.56	3.64			
-40°C	50	**	uS	TDSENSE2H_CH3	N.A.	250	7.25E+01	1.0E+01	N.A.	5.8E+00	5.77	7.61E+01	8.1E+00	N.A.	7.2E+00	7.17	4.98			
-40°C	51	**	uS	TDSENSE2H_CH4	N.A.	250	7.21E+01	1.0E+01	N.A.	5.7E+00	5.70	7.55E+01	7.7E+00	N.A.	7.6E+00	7.58	4.67			
-40°C	52	**	uS	TDSENSE2L_CH1	N.A.	250	4.93E+01	2.0E+00	N.A.	3.4E+01	33.92	4.42E+01	9.5E-01	N.A.	7.2E+01	71.91	0.54			
-40°C	53	**	uS	TDSENSE2L_CH2	N.A.	250	4.51E+01	2.1E+00	N.A.	3.3E+01	33.24	4.54E+01	9.8E-01	N.A.	7.0E+01	69.62	0.73			
-40°C	54	**	uS	TDSENSE2L_CH3	N.A.	250	4.52E+01	2.1E+00	N.A.	3.3E+01	32.78	4.55E+01	9.6E-01	N.A.	7.1E+01	70.94	0.73			
-40°C	55	**	uS	TDSENSE2L_CH4	N.A.	250	4.45E+01	2.1E+00	N.A.	3.3E+01	32.88	4.49E+01	9.5E-01	N.A.	7.2E+01	71.83	0.98			
-40°C	56	**	uS	TDSENSE1H_CH1	N.A.	100	3.75E+01	1.7E+00	N.A.	1.2E+01	12.36	3.59E+01	1.2E+00	N.A.	1.7E+01	17.24	-4.26			
-40°C	57	**	uS	TDSENSE1H_CH2	N.A.	100	3.54E+01	1.7E+00	N.A.	1.2E+01	12.41	3.62E+01	1.4E+00	N.A.	1.6E+01	15.64	2.31			
-40°C	58	**	uS	TDSENSE1H_CH3	N.A.	100	3.58E+01	1.7E+00	N.A.	1.3E+01	12.56	3.66E+01	1.2E+00	N.A.	1.7E+01	17.30	2.18			
-40°C	59	**	uS	TDSENSE1H_CH4	N.A.	100	3.72E+01	1.7E+00	N.A.	1.2E+01	12.19	3.60E+01	1.3E+00	N.A.	1.7E+01	16.54	-3.44			
-40°C	60	**	uS	TDSENSE1L_CH1	N.A.	20	9.40E+00	3.2E-01	N.A.	1.1E+01	11.03	9.08E+00	2.8E-01	N.A.	1.3E+01	13.23	-3.35			
-40°C	61	**	uS	TDSENSE1L_CH2	N.A.	20	1.06E+01	3.4E-01	N.A.	9.3E+00	9.35	1.00E+01	2.8E-01	N.A.	1.2E+01	12.01	-4.94			
-40°C	62	**	uS	TDSENSE1L_CH3	N.A.	20	9.61E+00	3.6E-01	N.A.	9.7E+00	9.69	1.01E+01	3.1E-01	N.A.	1.1E+01	10.69	4.71			
-40°C	63	**	uS	TDSENSE1L_CH4	N.A.	20	1.06E+01	3.5E-01	N.A.	8.9E+00	8.93	1.01E+01	2.9E-01	N.A.	1.1E+01	11.43	-4.90			
-40°C	64	**	uA			-5.47E-03	3.6E-02	8.2E+00	8.4E+00	8.25	-5.72E-03	3.5E-02	8.5E+00	8.6E+00	8.46	-4.68				
-40°C	65	**	uA			-1.79E-03	3.6E-02	8.4E+00	8.4E+00	8.39	-1.80E-03	3.3E-02	9.0E+00	9.1E+00	9.02	-1.15				
-40°C	66	**	uA			-1.60E-03	3.5E-02	8.4E+00	8.6E+00	8.61	-1.58E-03	3.2E-02	9.2E+00	9.3E+00	9.24	0.67				
-40°C	67	**	uA			-1.70E-03	3.8E-02	7.9E+00	7.9E+00	7.89	-1.64E-03	4.0E-02	7.4E+00	7.5E+00	7.45	3.92				
-40°C	68	**	#	K0@_0.05A_CH1		1050	3170	2.04E+03	1.6E+02	2.1E+00	2.4E+00	2.12	2.08E+03	1.2E+02	3.0E+00	3.1E+00	2.96	1.99		
-40°C	69	**	#	K0@_0.05A_CH2		1050	3170	1.95E+03	1.6E+02	1.9E+00	2.6E+00	1.93	2.03E+03	1.3E+02	2.6E+00	3.0E+00	2.57	4.22		
-40°C	70	**	#	K0@_0.05A_CH3		1050	3170	2.09E+03	1.6E+02	2.2E+00	2.3E+00	2.16	2.07E+03	1.3E+02	2.6E+00	2.8E+00	2.59	-0.67		
-40°C	71	**	#	K0@_0.05A_CH4		1050	3170	1.96E+03	1.6E+02	1.9E+00	2.0E+00	1.93	2.04E+03	1.3E+02	2.6E+00	3.0E+00	2.63	4.05		
-40°C	72	**	#	K1@_1A_CH1		1510	2650	1.90E+03	7.0E+01	1.8E+00	3.5E+00	1.85	1.98E+03	8.8E+01	1.8E+00	2.6E+00	1.78	4.03		
-40°C	73	**	#	K1@_1A_CH2		1510	2650	1.98E+03	8.8E+01	1.8E+00	2.5E+00	1.77	1.93E+03	8.1E+01	1.7E+00	2.9E+00	1.75	-2.19		
-40°C	74	**	#	K1@_1A_CH3		1510	2650	2.03E+03	1.0E+02	1.7E+00	2.0E+00	1.70	1.96E+03	8.2E+01	1.8E+00	2.8E+00	1.84	-3.32		
-40°C	75	**	#	K1@_1A_CH4		1510	2650	2.02E+03	1.0E+02	1.7E+00	2.1E+00	1.68	1.93E+03	8.0E+01	1.7E+00	3.0E+00	1.73	-4.67		
-40°C	76	**	#	K2@_2A_CH1		1600	2230	1.91E+03	5.1E+01	2.0E+00	2.1E+00	2.02	1.86E+03	4.5E+01	1.9E+00	2.7E+00	1.92	-2.49		
-40°C	77	**	#	K2@_2A_CH2		1600	2230	1.91E+03	5.0E+01	2.1E+00	2.1E+00	2.06	1.83E+03	4.1E+01	1.9E+00	3.2E+00	1.91	-3.99		
-40°C	78	**	#	K2@_2A_CH3		1600	2230	1.93E+03	5.1E+01	2.1E+00	2.0E+00	1.97	1.85E+03	4.2E+01	2.0E+00	3.0E+00	2.00	-3.98		
-40°C	79	**	#	K2@_2A_CH4		1600	2230	1.91E+03	5.1E+01	2.0E+00	2.1E+00	2.01	1.83E+03	4.1E+01	1.9E+00	3.3E+00	1.86	-4.24		
-40°C	80	**	#	K3@_4A_CH1		1620	1990	1.84E+03	2.4E+01	3.1E+00	2.0E+00	2.04	1.81E+03	2.2E+01	2.9E+00	2.8E+00	2.77	-1.80		
-40°C	81	**	#	K3@_4A_CH2		1620	1990	1.85E+03	2.4E+01	3.2E+00	2.0E+00	1.98	1.80E+03	2.0E+01	3.1E+00	3.2E+00	3.06	-2.53		
-40°C	82	**	#	K3@_4A_CH3		1620	1990	1.85E+03	2.4E+01	3.2E+00	1.9E+00	1.85	1.81E+03	2.0E+01	3.1E+00	3.0E+00	3.03	-2.53		
-40°C	83	**	#	K3@_4A_CH4		1620	1990	1.84E+03	2.4E+01	3.0E+00	2.1E+00	2.05	1.79E+03	2.0E+01	2.9E+00	3.4E+00	2.92	-2.64		
-40°C	84	**	V	VSENSE_CH1		5	N.A.	7.54E+00	3.5E-02	2.4E+01	N.A.	23.95	7.38E+00	2.1E-02	3.8E+01	N.A.	38.13	-2.03		

-40°C	91	*	mOHM			3.12E+01	5.2E-01	N.A.	8.9E+00	8.87	3.04E+01	4.1E-01	N.A.	1.2E+01	11.83	-2.65				
-40°C	92	*	mOHM			3.18E+01	5.4E-01	N.A.	8.2E+00	8.17	3.10E+01	4.1E-01	N.A.	1.1E+01	11.48	-2.53				
-40°C	93	*	mOHM			3.31E+01	5.7E-01	N.A.	1.0E+01	9.95	3.22E+01	4.1E-01	N.A.	1.4E+01	14.38	-2.80				
-40°C	94	*	mOHM			3.26E+01	5.6E-01	N.A.	1.0E+01	10.39	3.16E+01	4.0E-01	N.A.	1.5E+01	15.21	-2.97				
-40°C	95	*	mOHM			3.26E+01	5.6E-01	N.A.	1.0E+01	10.28	3.16E+01	4.0E-01	N.A.	1.5E+01	15.36	-3.15				
-40°C	96	*	mOHM			3.31E+01	5.9E-01	N.A.	9.6E+00	9.64	3.21E+01	4.1E-01	N.A.	1.5E+01	14.57	-2.99				
-40°C	97	**	mV			2.42E+01	6.9E-01	9.7E+00	1.2E+01	9.73	2.50E+01	6.2E-01	1.1E+01	1.3E+01	11.26	2.97				
-40°C	98	**	mV			2.44E+01	6.8E-01	1.0E+01	1.3E+01	9.99	2.50E+01	6.0E-01	1.2E+01	1.4E+01	11.67	2.38				
-40°C	99	**	mV			2.44E+01	6.8E-01	9.9E+00	1.2E+01	9.94	2.50E+01	6.3E-01	1.1E+01	1.3E+01	11.06	2.39				
-40°C	100	**	mV			2.44E+01	6.9E-01	9.8E+00	1.2E+01	9.79	2.50E+01	5.7E-01	1.2E+01	1.5E+01	12.31	2.56				
-40°C	101	**	A			2.76E+01	7.8E-01	6.0E+00	N.A.	6.94	2.80E+01	8.2E-01	5.9E+00	N.A.	5.86	1.58				
-40°C	102	**	A			2.79E+01	7.1E-01	N.A.	1.0E+01	10.39	2.68E+01	7.7E-01	N.A.	1.0E+01	10.02	-3.94				
-40°C	103		ILIMH_CH1	A	19	38	2.79E+01	7.5E-01	3.9E+00	4.5E+00	3.93	2.68E+01	7.7E-01	3.3E+00	4.8E+00	3.34	-3.94			
-40°C	104		ILIMH2_CH1	A	19	38	2.90E+01	7.2E-01	4.7E+00	4.2E+00	4.17	2.80E+01	8.2E-01	3.7E+00	4.1E+00	3.66	-3.63			
-40°C	105	**	V			8.16E+00	5.9E-02	2.9E+01	N.A.	29.37	8.02E+00	4.8E-02	9.5E+01	N.A.	35.12	-1.69				
-40°C	106	**	A			2.72E+01	7.2E-01	6.3E+00	N.A.	6.32	2.81E+01	7.6E-01	6.4E+00	N.A.	6.40	3.17				
-40°C	107	**	A			2.60E+01	6.6E-01	N.A.	1.2E+01	12.12	2.68E+01	7.2E-01	N.A.	1.1E+01	10.78	3.14				
-40°C	108		ILIMH_CH2	A	19	38	2.80E+01	7.5E-01	4.0E+00	4.4E+00	3.99	2.68E+01	7.2E-01	3.6E+00	5.2E+00	3.63	-4.23			
-40°C	109		ILIMH2_CH2	A	19	38	2.72E+01	7.8E-01	3.5E+00	4.7E+00	3.52	2.80E+01	7.6E-01	4.0E+00	4.4E+00	3.96	3.17			
-40°C	110		VSENSEH_CH2	V	3	N.A.	8.17E+00	6.1E-02	2.8E+01	N.A.	28.11	8.02E+00	3.7E-02	4.5E+01	N.A.	45.00	-1.84			
-40°C	111	**	A			2.73E+01	7.3E-01	6.3E+00	N.A.	6.25	2.82E+01	8.2E-01	5.9E+00	N.A.	5.94	3.26				
-40°C	112	**	A			2.80E+01	7.0E-01	N.A.	1.0E+01	10.50	2.69E+01	7.6E-01	N.A.	1.0E+01	10.17	-4.02				
-40°C	113		ILIMH_CH3	A	19	38	2.70E+01	7.6E-01	3.5E+00	4.8E+00	3.53	2.69E+01	7.6E-01	3.5E+00	4.9E+00	3.47	-0.46			
-40°C	114		ILIMH2_CH3	A	19	38	2.72E+01	7.3E-01	3.8E+00	4.9E+00	3.77	2.81E+01	8.2E-01	3.7E+00	4.0E+00	3.69	3.25			
-40°C	115		VSENSEH_CH3	V	3	N.A.	8.17E+00	6.2E-02	2.8E+01	N.A.	27.65	8.03E+00	5.0E-02	3.3E+01	N.A.	33.37	-1.68			
-40°C	116	**	A			2.72E+01	7.3E-01	6.3E+00	N.A.	6.29	2.79E+01	7.7E-01	6.2E+00	N.A.	6.23	2.53				
-40°C	117	**	A			2.60E+01	7.7E-01	N.A.	1.0E+01	10.40	2.66E+01	7.2E-01	N.A.	1.1E+01	10.88	2.61				
-40°C	118		ILIMH_CH4	A	19	38	2.60E+01	6.6E-01	3.5E+00	6.1E+00	3.51	2.66E+01	7.2E-01	3.6E+00	5.3E+00	3.55	2.61			
-40°C	119		ILIMH2_CH4	A	19	38	2.72E+01	7.2E-01	3.8E+00	5.0E+00	3.80	2.78E+01	7.6E-01	3.9E+00	4.5E+00	3.89	2.51			
-40°C	120		VSENSEH_CH4	V	3	N.A.	8.16E+00	5.8E-02	2.9E+01	N.A.	29.46	8.02E+00	3.2E-02	5.2E+01	N.A.	51.99	-1.79			
-40°C	121	**	uA			1.83E+00	1.7E-01	3.0E+00	5.3E+00	3.03	1.91E+00	1.7E-01	3.2E+00	5.1E+00	3.16	4.78				
-40°C	122	**	uA			1.92E+00	1.7E-01	3.3E+00	5.2E+00	3.25	1.96E+00	1.9E-01	3.0E+00	4.5E+00	2.97	2.41				
-40°C	123	**	uA			1.85E+00	1.8E-01	2.8E+00	4.8E+00	2.82	1.92E+00	1.9E-01	2.8E+00	4.4E+00	2.79	3.38				
-40°C	124	**	uA			1.91E+00	1.7E-01	3.2E+00	5.2E+00	3.24	1.96E+00	1.9E-01	2.9E+00	4.5E+00	2.95	2.49				
-40°C	125	**	uA			8.93E+00	6.6E-01	1.9E+00	5.1E+00	1.95	9.18E+00	6.2E-01	2.2E+00	5.3E+00	2.20	2.79				
-40°C	126	**	uA			9.00E+00	6.5E-01	2.0E+00	5.1E+00	2.00	9.43E+00	6.9E-01	2.1E+00	4.6E+00	2.10	4.80				
-40°C	127	**	uA			8.97E+00	6.4E-01	2.0E+00	5.1E+00	2.01	9.25E+00	7.0E-01	2.0E+00	4.6E+00	1.97	3.08				
-40°C	128	**	uA			9.16E+00	6.5E-01	2.1E+00	5.0E+00	2.09	9.41E+00	6.7E-01	2.1E+00	4.7E+00	2.14	2.71				
-40°C	129	**	uA			1.99E+00	1.8E-01	3.1E+00	4.6E+00	3.10	2.09E+00	1.8E-01	3.3E+00	4.4E+00	3.26	4.74				
-40°C	130	**	uA			2.13E+00	1.9E-01	3.2E+00	4.2E+00	3.21	2.14E+00	2.0E-01	3.0E+00	3.9E+00	3.05	0.70				
-40°C	131	**	uA			2.05E+00	2.0E-01	2.9E+00	4.1E+00	2.94	2.10E+00	2.1E-01	2.9E+00	3.9E+00	2.88	2.27				
-40°C	132	**	uA			2.07E+00	1.9E-01	3.1E+00	4.3E+00	3.12	2.13E+00	2.0E-01	3.0E+00	3.9E+00	3.03	3.14				
-40°C	133	**	uA			8.98E+00	6.7E-01	1.9E+00	5.0E+00	1.94	9.36E+00	6.3E-01	2.3E+00	5.1E+00	2.27	4.21				
-40°C	134	**	uA			9.16E+00	6.6E-01	2.0E+00	4.9E+00	2.05	9.62E+00	7.0E-01	2.2E+00	4.4E+00	2.15	4.95				
-40°C	135	**	uA			9.24E+00	6.9E-01	2.0E+00	4.7E+00	2.01	9.43E+00	7.1E-01	2.0E+00	4.4E+00	2.03	2.11				
-40°C	136	**	uA			9.22E+00	6.6E-01	2.1E+00	4.9E+00	2.09	9.59E+00	6.8E-01	2.2E+00	4.6E+00	2.20	4.01				

DELTA CHAR 2 TEMP. VNK7_VNQ5050AK-E(STD - SGN6 FAB) Vs. VNK7_VNQ5050AK-E(NEW - SGN8 FAB)

note 1 : the low CPK is due to the fact that the low limit is in this case 0 and this impacts the CPKL. On the other side the distribution of this current is positive , therefore the CPK L is not important and only CPK H has to be taken into consideration.

note 2 : the low CPK is due to the fact that the upper limit is in this case 0 and this impacts the CPK H. On the other side the distribution of this current is negative , therefore the CPK H is not important and only CPK L has to be taken into consideration.

note 3: the mean drift is not an issue because the difference between the two measurements is lower than the minimum measurement capability of the tool.

(**) internal test

(*) guardbanded Vs spec

Mean values Drift analysis in % referred to STD
Differences between NEW and STD: $\frac{((NEW-STD)/STD)*100}{}$

temp	Test	Test label	Unit	LTL	UTL	VNK7_VNQ5050AK-E STD					VNK7_VNQ5050AK-E NEW					Mean values Drift analysis in % referred to STD				REMARKS
						Mean	Sigma	CPK L	CPK H	CPK	Mean	sigma	CPK L	CPK H	CPK	%	5%	10%	20%	
125°C	2000006	VCC_CLAMP_20MA	V	41	52	4.64E+01	2.68E-01	6.7E+00	7.0E+00	6.68	4.58E+01	1.06E-01	1.5E+01	1.9E+01	15.07	-1.21				
125°C	2100001	**	uA			2.84E-01	5.33E-02	1.8E+00	1.7E+01	1.78	2.98E-01	2.71E-02	3.7E+00	3.3E+01	3.66	4.75				
125°C	2100002	A_ILOFF1@13V	uA	0	5	2.85E-01	4.74E-02	2.0E+00	3.3E+01	2.00	2.99E-01	2.78E-02	3.6E+00	5.6E+01	3.59	4.96				
125°C	2100003	**	uA			1.09E+01	3.44E-01	9.6E+00	1.4E+01	9.61	1.08E+01	1.57E-01	2.1E+01	3.0E+01	20.85	-1.04				
125°C	2100004	**	uA			3.02E+01	1.47E+00	5.7E+00	1.5E+02	5.72	3.16E+01	7.85E-01	1.1E+01	2.8E+02	11.30	4.81				
125°C	2100006	**	uA			2.58E-01	4.27E-02	2.0E+00	2.1E+01	2.02	2.69E-01	2.96E-02	3.0E+00	3.1E+01	3.04	4.31				
125°C	2100007	A_ILOFF3@13V	uA	0	5	2.58E-01	4.50E-02	1.9E+00	3.5E+01	1.91	2.70E-01	3.03E-02	3.0E+00	5.2E+01	2.97	4.67				
125°C	2100008	**	uA			1.09E+01	3.31E-01	1.0E+01	1.4E+01	9.99	1.08E+01	1.58E-01	2.1E+01	3.0E+01	20.68	-1.17				
125°C	2100009	**	uA			3.13E+01	1.45E+00	6.1E+00	1.5E+02	6.05	3.28E+01	9.58E-01	9.7E+00	2.3E+02	9.66	4.75				
125°C	2100011	**	uA			2.71E-01	4.43E-02	2.0E+00	2.1E+01	2.04	2.84E-01	2.99E-02	3.2E+00	3.0E+01	3.17	4.93				
125°C	2100012	A_ILOFF2@13V	uA	0	5	2.86E-01	4.77E-02	2.0E+00	3.3E+01	2.00	2.97E-01	2.95E-02	3.4E+00	5.3E+01	3.36	4.03				
125°C	2100013	**	uA			1.09E+01	3.32E-01	1.0E+01	1.4E+01	9.99	1.08E+01	1.59E-01	2.1E+01	3.0E+01	20.61	-1.17				
125°C	2100014	**	uA			3.11E+01	1.42E+00	6.1E+00	1.6E+02	6.13	3.26E+01	7.81E-01	1.2E+01	2.8E+02	11.76	4.59				
125°C	2100016	**	uA			2.57E-01	3.69E-02	2.3E+00	2.5E+01	2.32	2.67E-01	3.01E-02	3.0E+00	3.0E+01	2.96	4.20				
125°C	2100017	A_ILOFF4@13V	uA	0	5	2.59E-01	4.56E-02	1.9E+00	3.5E+01	1.89	2.71E-01	3.08E-02	2.9E+00	5.1E+01	2.93	4.51				
125°C	2100018	**	uA			1.09E+01	3.62E-01	9.1E+00	1.3E+01	9.15	1.08E+01	1.51E-01	2.2E+01	3.1E+01	21.60	-1.12				
125°C	2100019	**	uA			3.08E+01	1.46E+00	5.9E+00	1.5E+02	5.89	3.22E+01	9.43E-01	9.6E+00	2.4E+02	9.63	4.51				
125°C	2100025	**	uA			2.22E+00	1.91E-01	3.7E+00	4.5E+00	3.69	2.32E+00	1.21E-01	6.1E+00	6.9E+00	6.12	4.36				
125°C	2100026	A_JSONTOT@13V	mA	n.a.	14	4.45E+00	1.44E-01	n.a.	2.2E+01	22.09	4.40E+00	5.93E-02	n.a.	5.4E+01	53.94	-1.28				
125°C	2100027	**	uA			2.26E+00	1.95E-01	3.7E+00	4.7E+00	3.70	2.32E+00	1.23E-01	6.0E+00	7.3E+00	6.01	2.30				
125°C	2100028	**	mA			2.79E-01	1.76E-02	4.3E+00	4.2E+00	4.18	2.69E-01	1.09E-02	6.7E+00	7.1E+00	6.68	-3.58				
125°C	2100029	**	mA			1.71E+00	5.45E-02	4.3E+00	7.9E+00	4.34	1.69E+00	2.40E-02	9.6E+00	1.8E+01	9.64	-0.95				
125°C	2100030	**	mA			1.71E+00	5.49E-02	4.3E+00	7.8E+00	4.32	1.69E+00	2.34E-02	9.8E+00	1.9E+01	9.83	-1.32				
125°C	2100031	**	mA			1.71E+00	5.46E-02	4.3E+00	7.9E+00	4.34	1.69E+00	2.31E-02	1.0E+01	1.9E+01	9.95	-1.31				
125°C	2100032	**	mA			1.71E+00	5.43E-02	4.4E+00	7.9E+00	4.38	1.69E+00	2.32E-02	9.9E+00	1.9E+01	9.92	-1.34				
125°C	2500000	V_VICL1_@1MA	V	5.5	7	6.59E+00	5.14E-02	7.0E+00	2.7E+00	2.69	6.52E+00	2.04E-02	1.7E+01	7.9E+00	7.90	-1.04				
125°C	2500001	**	V			-6.15E-01	6.14E-03	2.1E+01	1.7E+01	17.11	-6.14E-01	1.50E-03	8.6E+01	7.0E+01	69.76	0.29				
125°C	2500002	V_VICL2_@1MA	V	5.5	7	6.56E+00	5.18E-02	6.8E+00	2.8E+00	2.83	6.49E+00	2.00E-02	1.7E+01	8.5E+00	8.45	-1.02				
125°C	2500003	**	V			-5.89E-01	5.32E-03	2.6E+01	1.8E+01	18.11	-5.89E-01	2.23E-03	6.2E+01	4.3E+01	43.13	0.08				
125°C	2500004	V_VICL3_@1MA	V	5.5	7	6.59E+00	5.14E-02	7.0E+00	2.7E+00	2.68	6.52E+00	2.04E-02	1.7E+01	7.8E+00	7.85	-1.04				
125°C	2500005	**	V			-6.16E-01	6.92E-03	1.8E+01	1.5E+01	15.23	-6.14E-01	1.79E-03	7.2E+01	5.8E+01	58.27	0.42				
125°C	2500006	V_VICL4_@1MA	V	5.5	7	6.56E+00	5.18E-02	6.8E+00	2.8E+00	2.83	6.49E+00	2.00E-02	1.7E+01	8.4E+00	8.44	-1.01				
125°C	2500007	**	V			-5.90E-01	5.31E-03	2.6E+01	1.8E+01	18.18	-5.89E-01	2.94E-03	4.7E+01	3.3E+01	32.82	0.05				
125°C	2500008	V_VCS_DISCL@1MA	V	5.5	7	6.55E+00	5.19E-02	6.7E+00	2.9E+00	2.89	6.48E+00	2.00E-02	1.6E+01	8.6E+00	8.61	-1.01				
125°C	2500009	**	V			-5.85E-01	5.26E-03	2.6E+01	1.8E+01	18.02	-5.84E-01	2.40E-03	5.8E+01	3.9E+01	39.49	0.11				
125°C	2600000	*	V			6.32E-01	2.99E-03	n.a.	7.6E+00	7.59	6.29E-01	2.42E-03	n.a.	9.7E+00	9.73	-0.39				
125°C	2600001	**	V			6.90E-01	5.93E-03	n.a.	1.5E+01	14.61	6.89E-01	2.38E-03	n.a.	3.7E+01	36.59	-0.16				
125°C	2600002	*	V			6.38E-01	4.76E-03	n.a.	4.4E+00	4.37	6.38E-01	2.54E-03	n.a.	8.1E+00	8.14	0.07				
125°C	2600003	**	V			6.85E-01	5.26E-03	n.a.	1.7E+01	16.78	6.85E-01	2.36E-03	n.a.	3.7E+01	37.40	0.00				
125°C	2600004	*	V			6.38E-01	6.44E-03	n.a.	3.2E+00	3.21	6.38E-01	2.52E-03	n.a.	8.2E+00	8.20	0.00				

125°C	2600005	**	V			6.85E-01	4.32E-03	n.a.	2.0E+01	20.45	6.85E-01	2.33E-03	n.a.	3.8E+01	37.80	0.03				
125°C	2600006	*	V			6.39E-01	4.64E-03	n.a.	4.4E+00	4.36	6.40E-01	2.48E-03	n.a.	8.0E+00	8.04	0.11				
125°C	2600007	**	V			6.89E-01	4.70E-03	n.a.	1.9E+01	18.53	6.89E-01	2.27E-03	n.a.	3.8E+01	38.35	0.05				
125°C	2700000	**				1.17E+00	8.98E-03	2.47E+01	n.a.	2.47E+01	1.18E+00	8.35E-03	2.7E+01	n.a.	27.21	1.41				
125°C	2700001	A_IJSDH@2.1V	uA	n.a.	10	2.92E+00	7.65E-02	n.a.	3.08E+01	3.08E+01	2.89E+00	3.43E-02	n.a.	6.9E+01	69.14	-0.98				
125°C	2700002	A_IJSDL@0.9V	uA	1	n.a.	2.43E+00	5.09E-02	9.35E+00	n.a.	9.35E+00	2.41E+00	2.55E-02	1.8E+01	n.a.	18.46	-0.69				
125°C	2700003	A_IS01IN=5@VS0.9	uA	0	2	4.99E-02	8.13E-03	2.0E+00	8.0E+01	2.04	5.20E-02	5.05E-03	3.4E+00	1.3E+02	3.43	4.19				
125°C	2700004	A_IS01IN=0@VS2.1	uA	0	1	4.03E-03	3.82E-03	3.5E+01	8.7E+01	0.35	3.86E-03	2.63E-03	4.9E+01	1.3E+02	0.49	-4.26				cpk low: see note 1;
125°C	2700005	A_IS01@I=2A	uA	0	1	3.52E-02	6.78E-03	1.7E+00	4.7E+01	1.73	3.17E-02	5.40E-03	2.0E+00	6.0E+01	1.95	-9.98	X			mean drift: see note 3
125°C	2700006	A_IS02IN=5@VS0.9	uA	0	2	5.37E-02	7.88E-03	2.3E+00	8.2E+01	2.27	5.57E-02	6.21E-03	3.0E+00	1.0E+02	2.99	3.82				
125°C	2700007	A_IS02IN=0@VS2.1	uA	0	1	3.12E-03	4.44E-03	2.3E+01	7.5E+01	0.23	3.22E-03	3.71E-03	2.9E+01	9.0E+01	0.29	3.24				cpk low: see note 1;
125°C	2700008	A_IS02@I=2A	uA	0	1	3.53E-02	6.80E-03	1.7E+00	4.7E+01	1.73	3.20E-02	4.34E-03	2.5E+00	7.4E+01	2.46	-9.49	X			mean drift: see note 3
125°C	2700009	A_IS03IN=5@VS0.9	uA	0	2	5.38E-02	7.97E-03	2.2E+00	8.1E+01	2.25	5.63E-02	6.02E-03	3.1E+00	1.1E+02	3.12	4.75				
125°C	2700010	A_IS03IN=0@VS2.1	uA	0	1	7.61E-03	3.56E-03	7.1E+01	9.3E+01	0.71	7.77E-03	3.28E-03	7.9E+01	1.0E+02	0.79	2.06				cpk low: see note 1;
125°C	2700011	A_IS03@I=2A	uA	0	1	3.68E-02	6.45E-03	1.9E+00	5.0E+01	1.90	3.34E-02	4.51E-03	2.5E+00	7.1E+01	2.47	-9.11	X			mean drift: see note 3
125°C	2700012	A_IS04IN=5@VS0.9	uA	0	2	5.01E-02	8.81E-03	1.9E+00	7.4E+01	1.90	5.25E-02	5.99E-03	2.9E+00	1.1E+02	2.92	4.87				
125°C	2700013	A_IS04IN=0@VS2.1	uA	0	1	5.97E-03	5.27E-03	3.8E+01	6.3E+01	0.38	5.78E-03	4.37E-03	4.4E+01	7.6E+01	0.44	-3.24				cpk low: see note 1;
125°C	2700014	A_IS04@I=2A	uA	0	1	3.52E-02	6.42E-03	1.8E+00	5.0E+01	1.83	3.23E-02	4.22E-03	2.6E+00	7.6E+01	2.55	-8.33	X			mean drift: see note 3
125°C	2800008	K0@_0.05A_CH1	#	1340	3460	2.10E+03	9.41E+01	2.7E+00	4.8E+00	2.68	2.04E+03	7.22E+01	3.2E+00	6.5E+00	3.24	-2.63				
125°C	2800009	K0@_0.05A_CH2	#	1340	3460	2.13E+03	1.03E+02	2.5E+00	4.3E+00	2.54	2.04E+03	9.22E+01	2.5E+00	5.1E+00	2.55	-3.86				
125°C	2800010	K0@_0.05A_CH3	#	1340	3460	2.13E+03	1.03E+02	2.6E+00	4.3E+00	2.55	2.03E+03	8.56E+01	2.7E+00	5.6E+00	2.70	-4.38				
125°C	2800011	K0@_0.05A_CH4	#	1340	3460	2.12E+03	1.03E+02	2.5E+00	4.3E+00	2.54	2.04E+03	9.58E+01	2.5E+00	4.9E+00	2.45	-3.71				
125°C	2800016	K1@_1A_CH1	#	1510	2210	1.75E+03	2.64E+01	3.0E+00	5.8E+00	2.99	1.71E+03	2.43E+01	2.8E+00	6.8E+00	2.79	-1.93				
125°C	2800017	K1@_1A_CH2	#	1510	2210	1.76E+03	2.87E+01	2.9E+00	5.2E+00	2.88	1.72E+03	3.30E+01	2.1E+00	5.0E+00	2.09	-2.35				
125°C	2800018	K1@_1A_CH3	#	1510	2210	1.76E+03	2.84E+01	2.9E+00	5.3E+00	2.91	1.71E+03	2.92E+01	2.3E+00	5.7E+00	2.33	-2.54				
125°C	2800019	K1@_1A_CH4	#	1510	2210	1.76E+03	2.85E+01	2.9E+00	5.3E+00	2.87	1.71E+03	3.22E+01	2.1E+00	5.1E+00	2.10	-2.39				
125°C	2800024	K2@_2A_CH1	#	1600	1930	1.72E+03	1.31E+01	3.0E+00	5.4E+00	3.03	1.70E+03	1.17E+01	2.8E+00	6.6E+00	2.76	-1.27				
125°C	2800025	K2@_2A_CH2	#	1600	1930	1.73E+03	1.40E+01	3.0E+00	4.9E+00	2.99	1.70E+03	1.59E+01	2.1E+00	4.9E+00	2.08	-1.56				
125°C	2800026	K2@_2A_CH3	#	1600	1930	1.73E+03	1.38E+01	3.0E+00	4.9E+00	3.03	1.70E+03	1.43E+01	2.3E+00	5.4E+00	2.26	-1.65				
125°C	2800027	K2@_2A_CH4	#	1600	1930	1.72E+03	1.39E+01	2.9E+00	5.0E+00	2.94	1.70E+03	1.57E+01	2.0E+00	5.0E+00	2.02	-1.59				
125°C	2800032	K3@_4A_CH1	#	1650	1830	1.71E+03	8.00E+00	2.4E+00	5.1E+00	2.41	1.69E+03	6.64E+00	1.9E+00	7.1E+00	1.92	-1.14				
125°C	2800033	K3@_4A_CH2	#	1650	1830	1.71E+03	8.31E+00	2.5E+00	4.7E+00	2.54	1.69E+03	8.16E+00	1.7E+00	5.7E+00	1.69	-1.28				
125°C	2800034	K3@_4A_CH3	#	1650	1830	1.71E+03	8.29E+00	2.5E+00	4.7E+00	2.54	1.69E+03	7.43E+00	1.8E+00	6.3E+00	1.81	-1.33				
125°C	2800035	K3@_4A_CH4	#	1650	1830	1.71E+03	8.53E+00	2.4E+00	4.7E+00	2.36	1.69E+03	7.19E+00	1.8E+00	6.6E+00	1.75	-1.32				
125°C	2800036	VSENSE_CH1	V	5	n.a.	7.71E+00	4.90E-02	1.8E+01	n.a.	18.44	7.61E+00	2.01E-02	4.3E+01	n.a.	43.21	-1.34				
125°C	2800037	VSENSE_CH2	V	5	n.a.	7.75E+00	4.89E-02	1.9E+01	n.a.	18.73	7.64E+00	1.93E-02	4.6E+01	n.a.	45.77	-1.32				
125°C	2800038	VSENSE_CH3	V	5	n.a.	7.75E+00	4.90E-02	1.9E+01	n.a.	18.70	7.65E+00	1.87E-02	4.7E+01	n.a.	47.11	-1.32				
125°C	2800039	VSENSE_CH4	V	5	n.a.	7.75E+00	4.89E-02	1.9E+01	n.a.	18.75	7.65E+00	1.92E-02	4.6E+01	n.a.	46.08	-1.32				
125°C	2900000	VUSD	V	n.a.	4.5	3.13E+00	5.51E-02	n.a.	8.3E+00	8.30	3.09E+00	6.39E-02	n.a.	7.4E+00	7.37	-1.37				
125°C	3000000	IIN@_VIL1	uA	1	n.a.	2.41E+00	5.15E-02	9.1E+00	n.a.	9.14	2.39E+00	2.56E-02	1.8E+01	n.a.	18.14	-0.82				
125°C	3000001	IIN@_VIL2	uA	1	n.a.	2.41E+00	5.11E-02	9.2E+00	n.a.	9.22	2.39E+00	2.58E-02	1.8E+01	n.a.	17.99	-0.95				
125°C	3000002	IIN@_VIL3	uA	1	n.a.	2.41E+00	5.12E-02	9.2E+00	n.a.	9.19	2.39E+00	2.67E-02	1.7E+01	n.a.	17.35	-1.01				
125°C	3000003	IIN@_VIL4	uA	1	n.a.	2.41E+00	5.10E-02	9.2E+00	n.a.	9.24	2.39E+00	2.54E-02	1.8E+01	n.a.	18.27	-0.90				
125°C	3000004	**	V			1.12E+00	3.22E-03	n.a.	8.0E+00	7.97	1.12E+00	3.43E-03	n.a.	7.5E+00	7.48	0.00				
125°C	3000005	**	V			1.12E+00	3.22E-03	n.a.	8.0E+00	7.97	1.12E+00	3.43E-03	n.a.	7.5E+00	7.48	0.00				
125°C	3000006	**	V			1.12E+00	3.22E-03	n.a.	8.0E+00	7.97	1.12E+00	3.43E-03	n.a.	7.5E+00	7.48	0.00				
125°C	3000007	**	V			1.12E+00	3.22E-03	n.a.	8.0E+00	7.97	1.12E+00	3.43E-03	n.a.	7.5E+00	7.48	0.00				
125°C	3000008	IIN@_VIH1	uA	n.a.	10	2.84E+00	7.46E-02	n.a.	3.2E+01	31.98	2.81E+00	3.36E-02	n.a.	7.1E+01	71.41	-1.02				
125°C	3000009	IIN@_VIH2	uA	n.a.	10	2.84E+00	7.39E-02	n.a.	3.2E+01	32.29	2.81E+00	3.36E-02	n.a.	7.1E+01	71.41	-1.13				
125°C	3000010	IIN@_VIH3	uA	n.a.	10	2.84E+00	7.34E-02	n.a.	3.3E+01	32.50	2.81E+00	3.41E-02	n.a.	7.0E+01	70.24	-1.19				
125°C	3000011	IIN@_VIH4	uA	n.a.	10	2.84E+00	7.34E-02	n.a.	3.3E+01	32.51	2.81E+00	3.30E-02	n.a.	7.3E+01	72.59	-1.11				
125°C	3000012	**	V			3.33E+01	1.46E-01	4.9E+01	n.a.	48.74	3.33E+01	1.41E-01	5.0E+01	n.a.	50.30	-0.07				
125°C	3000013	**	V			3.33E+01	1.46E-01	4.9E+01	n.a.	48.74	3.33E+01	1.41E-01	5.0E+01	n.a.	50.30	-0.07				
125°C	3000014	**	V			3.33E+01	1.46E-01	4.9E+01	n.a.	48.74	3.33E+01	1.41E-01	5.0E+01	n.a.	50.30	-0.07				
125°C	3000015	**	V			3.33E+01	1.46E-01	4.9E+01	n.a.	48.74	3.33E+01	1.41E-01	5.0E+01	n.a.	50.30	-0.07				
125°C	3100012	*	mOHM			8.42E+01	2.13E+00	n.a.	1.7E+00	1.69	8.47E+01	1.05E+00	n.a.	3.3E+00	3.29	0.58				
125°C	3100013	*	mOHM			8.40E+01	2.19E+00	n.a.	1.7E+00	1.67	8.35E+01	1.00E+00	n.a.	3.8E+00	3.84	-0.60				
125°C	3100014	*	mOHM			8.39E+01	2.21E+00	n.a.	1.7E+00	1.68	8.35E+01	9.61E-01	n.a.	4.0E+00	3.99	-0.47				
125°C	3100015	*	mOHM			8.41E+01	2.18E+00	n.a.	1.7E+00	1.67	8.49E+01	1.01E+00	n.a.	3.3E+00	3.32	0.99				
125°C	3100016	*	mOHM			8.51E+01	1.14E+00	n.a.	2.9E+00	2.89	8.46E+01	1.05E+00	n.a.	3.3E+00	3.28	-0.59				
125°C	3100017	*	mOHM			8.35E+01	1.22E+00	n.a.	3.1E+00	3.14	8.31E+01	1.09E+00	n.a.	3.6E+00	3.65	-0.54				
125°C	3100018	*	mOHM			8.38E+01	2.22E+00	n.a.	1.7E+00	1.68	8.35E+01	9.67E-01	n.a.	4.0E+00	3.98	-0.45				
125°C	3100019	*	mOHM			8.47E+01	1.19E+00	n.a.	2.9E+00	2.91	8.45E+01	1.11E+00	n.a.	3.1E+00	3.15	-0.18				
125°C	3100020	*	mOHM			8.35E+01	2.23E+00	n.a.	1.7E+00	1.72	8.45E+01	1.23E+00	n.a.	2.9E+00	2.86	1.15				

125°C	3100024	**	mV				2.73E+01	9.16E-01	8.5E+00	1.6E+01	8.49	2.80E+01	5.86E-01	1.4E+01	2.4E+01	13.67	2.58				
125°C	3100025	**	mV				2.73E+01	9.12E-01	8.5E+00	8.3E+00	8.29	2.80E+01	5.92E-01	1.3E+01	1.2E+01	12.41	2.37				
125°C	3100026	**	mV				2.73E+01	9.14E-01	8.5E+00	1.6E+01	8.51	2.79E+01	5.51E-01	1.4E+01	2.5E+01	14.47	2.20				
125°C	3100027	**	mV				2.73E+01	9.33E-01	8.3E+00	1.5E+01	8.34	2.80E+01	6.19E-01	1.3E+01	2.3E+01	12.91	2.37				
125°C	3300000	**	uS				3.27E+01	4.08E+00	2.3E+00	2.2E+00	2.23	3.42E+01	1.65E+00	5.9E+00	5.2E+00	5.23	4.34				
125°C	3300001	**	uS				3.38E+01	1.29E+00	7.4E+00	6.8E+00	6.76	3.45E+01	6.95E-01	1.4E+01	1.2E+01	12.23	1.97				
125°C	3300002	**	uS				3.11E+01	1.98E+00	3.7E+00	6.5E+00	3.72	3.03E+01	9.39E-01	7.6E+00	1.4E+01	7.56	-2.57				
125°C	3300003	**	uS				5.44E+01	1.88E+00	8.7E+00	8.1E+00	8.07	5.26E+01	8.58E-01	1.8E+01	1.8E+01	18.41	-3.33				
125°C	3300005	**	uS				3.26E+01	4.00E+00	2.3E+00	2.3E+00	2.28	3.41E+01	1.67E+00	5.8E+00	5.2E+00	5.17	4.72				
125°C	3300006	**	uS				3.39E+01	1.28E+00	7.5E+00	6.8E+00	6.80	3.46E+01	7.41E-01	1.3E+01	1.1E+01	11.42	2.05				
125°C	3300007	**	uS				3.13E+01	1.98E+00	3.8E+00	6.5E+00	3.75	3.05E+01	9.32E-01	7.7E+00	1.4E+01	7.68	-2.73				
125°C	3300008	**	uS				5.44E+01	1.89E+00	8.7E+00	8.0E+00	8.05	5.27E+01	8.77E-01	1.8E+01	1.8E+01	17.97	-3.10				
125°C	3300010	**	uS				3.26E+01	3.94E+00	2.3E+00	2.3E+00	2.32	3.41E+01	1.74E+00	5.6E+00	5.0E+00	4.96	4.61				
125°C	3300011	**	uS				3.39E+01	1.24E+00	7.7E+00	7.0E+00	6.98	3.47E+01	6.76E-01	1.5E+01	1.2E+01	12.49	2.15				
125°C	3300012	**	uS				3.15E+01	2.01E+00	3.7E+00	6.4E+00	3.73	3.07E+01	8.99E-01	8.0E+00	1.5E+01	8.03	-2.61				
125°C	3300013	**	uS				5.44E+01	1.92E+00	8.6E+00	7.9E+00	7.92	5.27E+01	9.24E-01	1.7E+01	1.7E+01	17.08	-3.21				
125°C	3300015	**	uS				3.25E+01	3.94E+00	2.3E+00	2.3E+00	2.32	3.38E+01	1.68E+00	5.7E+00	5.2E+00	5.20	4.25				
125°C	3300016	**	uS				3.39E+01	1.26E+00	7.6E+00	6.9E+00	6.87	3.46E+01	6.90E-01	1.4E+01	1.2E+01	12.29	1.87				
125°C	3300017	**	uS				3.15E+01	2.06E+00	3.6E+00	6.2E+00	3.63	3.07E+01	9.38E-01	7.7E+00	1.4E+01	7.72	-2.41				
125°C	3300018	**	uS				5.44E+01	1.92E+00	8.6E+00	7.9E+00	7.90	5.27E+01	9.13E-01	1.7E+01	1.7E+01	17.29	-3.17				
125°C	3400020	V_VDEMDINAM_CH1	V	27.5	38.5		3.50E+01	2.85E-01	8.7E+00	4.1E+00	4.14	3.42E+01	1.36E-01	1.6E+01	1.1E+01	10.54	-2.14				
125°C	3400021	V_VDEMDINAM_CH2	V	27.5	38.5		3.50E+01	2.79E-01	9.0E+00	4.2E+00	4.21	3.42E+01	1.41E-01	1.6E+01	1.0E+01	10.06	-2.11				
125°C	3400022	V_VDEMDINAM_CH3	V	27.5	38.5		3.50E+01	2.78E-01	9.0E+00	4.2E+00	4.22	3.42E+01	1.43E-01	1.6E+01	9.9E+00	9.95	-2.12				
125°C	3400023	V_VDEMDINAM_CH4	V	27.5	38.5		3.50E+01	2.79E-01	8.9E+00	4.2E+00	4.19	3.43E+01	1.46E-01	1.5E+01	9.7E+00	9.72	-2.12				
125°C	3500000	**	A				1.81E+01	4.35E-01	3.5E+00	n.a.	3.52	1.89E+01	3.59E-01	5.1E+00	n.a.	5.05	4.63				
125°C	3500001	A_ILIMH_CH1	A	13.5	26.5		1.82E+01	4.37E-01	3.6E+00	6.4E+00	3.56	1.89E+01	3.67E-01	4.9E+00	6.9E+00	4.91	4.11				
125°C	3500002	**	A				2.94E-02	7.20E-03	n.a.	7.9E+00	7.90	2.98E-02	7.35E-03	n.a.	7.7E+00	7.72	1.56				
125°C	3500003	**	A				7.50E+00	2.73E-01	4.3E+00	4.3E+00	4.27	7.85E+00	2.21E-01	5.8E+00	4.8E+00	4.76	4.69				
125°C	3500004	**	V				8.32E+00	6.02E-02	1.8E+01	n.a.	18.39	8.21E+00	2.85E-02	3.8E+01	n.a.	37.59	-1.28				
125°C	3500005	**	A				1.82E+01	4.31E-01	3.6E+00	n.a.	3.61	1.89E+01	3.85E-01	4.7E+00	n.a.	4.68	4.13				
125°C	3500006	A_ILIMH_CH2	A	13.5	26.5		1.83E+01	4.32E-01	3.7E+00	6.3E+00	3.73	1.88E+01	3.86E-01	4.6E+00	6.6E+00	4.61	2.76				
125°C	3500007	**	A				2.91E-02	7.13E-03	n.a.	8.0E+00	7.99	2.90E-02	7.14E-03	n.a.	8.0E+00	7.98	-0.37				
125°C	3500008	**	A				7.58E+00	2.69E-01	4.4E+00	4.2E+00	4.24	7.86E+00	2.35E-01	5.5E+00	4.5E+00	4.47	3.65				
125°C	3500009	**	V				8.32E+00	6.05E-02	1.8E+01	n.a.	18.30	8.21E+00	2.84E-02	3.8E+01	n.a.	37.72	-1.30				
125°C	3500010	**	A				1.81E+01	4.50E-01	3.4E+00	n.a.	3.44	1.88E+01	3.68E-01	4.8E+00	n.a.	4.85	3.91				
125°C	3500011	A_ILIMH_CH3	A	13.5	26.5		1.81E+01	4.22E-01	3.6E+00	6.6E+00	3.64	1.88E+01	3.87E-01	4.5E+00	6.7E+00	4.52	3.58				
125°C	3500012	**	A				2.91E-02	7.11E-03	n.a.	8.0E+00	8.01	2.90E-02	7.17E-03	n.a.	8.0E+00	7.95	-0.25				
125°C	3500013	**	A				7.48E+00	2.72E-01	4.3E+00	4.3E+00	4.26	7.83E+00	2.12E-01	6.0E+00	5.0E+00	4.99	4.62				
125°C	3500014	**	V				8.33E+00	6.02E-02	1.8E+01	n.a.	18.42	8.22E+00	2.80E-02	3.8E+01	n.a.	38.29	-1.29				
125°C	3500015	**	A				1.81E+01	4.24E-01	3.6E+00	n.a.	3.65	1.88E+01	3.99E-01	4.4E+00	n.a.	4.42	3.58				
125°C	3500016	A_ILIMH_CH4	A	13.5	26.5		1.82E+01	4.09E-01	3.8E+00	6.8E+00	3.84	1.87E+01	3.75E-01	4.6E+00	7.0E+00	4.58	2.46				
125°C	3500017	**	A				2.92E-02	7.13E-03	n.a.	8.0E+00	7.99	2.96E-02	7.08E-03	n.a.	8.0E+00	8.02	1.49				
125°C	3500018	**	A				7.57E+00	2.62E-01	4.5E+00	4.4E+00	4.37	7.81E+00	2.07E-01	6.1E+00	5.1E+00	5.12	3.27				
125°C	3500019	**	V				8.33E+00	6.47E-02	1.7E+01	n.a.	17.14	8.22E+00	2.86E-02	3.8E+01	n.a.	37.55	-1.30				
125°C	3600008	S_TDSENSE2H_CH1	uS	n.a.	250		1.05E+02	6.03E+00	n.a.	8.0E+00	8.01	1.10E+02	3.34E+00	n.a.	1.4E+01	13.98	4.68				
125°C	3600009	S_TDSENSE2H_CH2	uS	n.a.	250		1.06E+02	5.98E+00	n.a.	8.0E+00	8.04	1.11E+02	3.52E+00	n.a.	1.3E+01	13.18	4.91				
125°C	3600010	S_TDSENSE2H_CH3	uS	n.a.	250		1.05E+02	6.03E+00	n.a.	8.0E+00	7.99	1.10E+02	3.44E+00	n.a.	1.4E+01	13.52	4.75				
125°C	3600011	S_TDSENSE2H_CH4	uS	n.a.	250		1.06E+02	5.95E+00	n.a.	8.1E+00	8.08	1.10E+02	3.45E+00	n.a.	1.3E+01	13.47	4.42				
125°C	3600012	S_TDSENSE2L_CH1	uS	n.a.	250		7.96E+01	3.48E+00	n.a.	1.6E+01	16.30	7.58E+01	1.43E+00	n.a.	4.1E+01	40.54	-4.70				
125°C	3600013	S_TDSENSE2L_CH2	uS	n.a.	250		8.00E+01	3.47E+00	n.a.	1.6E+01	16.33	7.62E+01	1.47E+00	n.a.	3.9E+01	39.40	-4.70				
125°C	3600014	S_TDSENSE2L_CH3	uS	n.a.	250		8.01E+01	3.58E+00	n.a.	1.6E+01	15.84	7.64E+01	1.48E+00	n.a.	3.9E+01	39.09	-4.65				
125°C	3600015	S_TDSENSE2L_CH4	uS	n.a.	250		7.99E+01	3.56E+00	n.a.	1.6E+01	15.93	7.62E+01	1.48E+00	n.a.	3.9E+01	39.05	-4.56				
125°C	3600016	S_TDSENSE1H_CH1	uS	n.a.	100		2.31E+01	7.94E-01	n.a.	3.2E+01	32.29	2.31E+01	5.37E-01	n.a.	4.8E+01	47.78	-0.10				
125°C	3600017	S_TDSENSE1H_CH2	uS	n.a.	100		2.37E+01	8.18E-01	n.a.	3.1E+01	31.11	2.37E+01	5.74E-01	n.a.	4.4E+01	44.34	-0.12				
125°C	3600018	S_TDSENSE1H_CH3	uS	n.a.	100		2.37E+01	7.89E-01	n.a.	3.2E+01	32.23	2.36E+01	5.08E-01	n.a.	5.0E+01	50.17	-0.25				
125°C	3600019	S_TDSENSE1H_CH4	uS	n.a.	100		2.36E+01	8.14E-01	n.a.	3.1E+01	31.28	2.35E+01	5.48E-01	n.a.	4.7E+01	46.51	-0.23				
125°C	3600020	S_TDSENSE1L_CH1	uS	n.a.	20		6.77E+00	2.04E-01	n.a.	2.2E+01	21.67	6.76E+00	2.06E-01	n.a.	2.1E+01	21.43	-0.13				
125°C	3600021	S_TDSENSE1L_CH2	uS	n.a.	20		7.35E+00	2.83E-01	n.a.	1.5E+01	14.88	7.34E+00	2.73E-01	n.a.	1.5E+01	15.46	-0.15				
125°C	3600022	S_TDSENSE1L_CH3	uS	n.a.	20		7.40E+00	2.39E-01	n.a.	1.8E+01	17.58	7.38E+00	2.51E-01	n.a.	1.7E+01	16.78	-0.27				
125°C	3600023	S_TDSENSE1L_CH4	uS	n.a.	20		7.40E+00	2.92E-01	n.a.	1.4E+01	14.37	7.38E+00	2.62E-01	n.a.	1.6E+01	16.05	-0.19				
-40°C	24	**	uA				1.41E-02	9.27E-03	5.1E-01	3.5E+01	0.51	1.35E-02	8.33E-03	5.4E-01	3.9E+01	0.54	-4.08				cpk low: see note 1
-40°C	25	**	uA				1.09E-02	5.57E-03	6.5E-01	5.9E+01	0.65	1.06E-02	4.96E-03	7.1E-01	6.7E+01	0.71	-2.43				cpk low: see note 1
-40°C	26	**	uA				1.41E+01	4.34E-01	1.0E+01	8.4E+00	8.39	1.38E+01	2.46E-01	1.7E+01	1.5E+01	15.16	-1.79				
-40°C	27	**	mA				4.59E-02	1.68E-03	8.1E+00	1.3E+02	8.11	4.80E-02	8.89E-04	1.6E+01							

-40°C	31	**	mA			4.53E-02	2.52E-03	5.3E+00	8.6E+01	5.33	4.75E-02	1.23E-03	1.2E+01	1.8E+02	11.55	4.82				
-40°C	34	**	uA			1.25E-02	8.84E-03	4.7E-01	3.7E+01	0.47	1.20E-02	8.62E-03	4.6E-01	3.8E+01	0.46	-3.62				cpk low: see note 1
-40°C	35	**	uA			1.23E-02	4.55E-03	9.0E-01	7.2E+01	0.90	1.19E-02	5.67E-03	7.0E-01	5.8E+01	0.70	-3.41				cpk low: see note 1
-40°C	36	**	uA			1.41E+01	4.33E-01	1.0E+01	8.4E+00	8.43	1.38E+01	2.43E-01	1.8E+01	1.5E+01	15.39	-1.94				
-40°C	37	**	mA			4.59E-02	1.67E-03	8.1E+00	1.3E+02	8.14	4.79E-02	8.93E-04	1.6E+01	2.4E+02	16.03	4.49				
-40°C	38	**	uA			1.19E-02	1.38E-02	2.9E-01	2.4E+01	0.29	1.14E-02	6.23E-03	6.1E-01	5.3E+01	0.61	-4.03				cpk low: see note 1
-40°C	39	*	uA			1.04E-02	1.37E-02	2.5E-01	2.4E+01	0.25	1.02E-02	6.22E-03	5.5E-01	5.3E+01	0.55	-2.15				cpk low: see note 1
-40°C	40	**	uA			1.41E+01	4.37E-01	1.0E+01	8.3E+00	8.29	1.39E+01	2.38E-01	1.8E+01	1.6E+01	15.62	-1.93				
-40°C	41	**	mA			4.56E-02	2.10E-03	6.5E+00	1.0E+02	6.45	4.78E-02	1.22E-03	1.2E+01	1.8E+02	11.64	4.80				
-40°C	44	*	uA			1.39E+00	5.18E-02	8.3E+00	2.2E+01	8.30	1.42E+00	2.91E-02	1.5E+01	3.9E+01	15.10	2.09				
-40°C	45	A_ISONTOT@13V	mA	1	13.5	5.42E+00	1.92E-01	7.7E+00	1.4E+01	7.68	5.37E+00	8.02E-02	1.8E+01	3.4E+01	18.14	-1.00				
-40°C	46	**	mA			2.13E+00	7.25E-02	5.2E+00	4.0E+00	4.00	2.11E+00	3.28E-02	1.1E+01	9.0E+00	9.02	-0.75				
-40°C	47	**	mA			2.12E+00	7.27E-02	5.2E+00	4.0E+00	4.01	2.10E+00	3.18E-02	1.2E+01	9.4E+00	9.44	-1.19				
-40°C	48	**	mA			2.12E+00	7.24E-02	5.2E+00	4.0E+00	4.04	2.10E+00	3.11E-02	1.2E+01	9.7E+00	9.68	-1.24				
-40°C	49	**	mA			2.13E+00	7.21E-02	5.2E+00	4.0E+00	4.03	2.10E+00	3.23E-02	1.1E+01	9.3E+00	9.29	-1.25				
-40°C	50	**	uA			1.28E+00	5.10E-02	7.7E+00	2.4E+01	7.68	1.30E+00	3.17E-02	1.3E+01	3.9E+01	12.64	2.15				
-40°C	51	**	mA			2.71E-01	1.35E-02	5.4E+00	5.6E+00	5.44	2.62E-01	1.59E-02	4.4E+00	5.0E+00	4.44	-3.29				
-40°C	59	V_VICL1@_1MA	V	5.5	7	6.13E+00	4.80E-02	4.4E+00	6.0E+00	4.40	6.09E+00	1.74E-02	1.1E+01	1.7E+01	11.30	-0.74				
-40°C	60	**	V			-9.03E-01	7.23E-03	4.5E+00	2.8E+01	4.47	-9.08E-01	5.14E-03	5.9E+00	3.9E+01	5.94	-0.59				
-40°C	61	V_VICL2@_1MA	V	5.5	7	6.11E+00	4.81E-02	4.2E+00	6.2E+00	4.23	6.06E+00	1.63E-02	1.2E+01	1.9E+01	11.59	-0.75				
-40°C	62	**	V			-8.79E-01	5.64E-03	7.1E+00	3.4E+01	7.13	-8.84E-01	3.30E-03	1.2E+01	5.9E+01	11.76	-0.49				
-40°C	63	V_VICL4@_1MA	V	5.5	7	6.11E+00	4.83E-02	4.2E+00	6.1E+00	4.22	6.07E+00	1.60E-02	1.2E+01	1.9E+01	11.76	-0.75				
-40°C	64	**	V			-8.80E-01	5.79E-03	6.9E+00	3.3E+01	6.89	-8.85E-01	3.57E-03	1.1E+01	5.5E+01	10.77	-0.50				
-40°C	65	V_VICL3@_1MA	V	5.5	7	6.14E+00	4.88E-02	4.4E+00	5.9E+00	4.35	6.09E+00	1.81E-02	1.1E+01	1.7E+01	10.92	-0.71				
-40°C	66	**	V			-9.05E-01	8.98E-03	3.5E+00	2.2E+01	3.54	-9.11E-01	8.81E-03	3.3E+00	2.3E+01	3.35	-0.77				
-40°C	67	V_VCS_DISCL@1MA	V	5.5	7	6.11E+00	4.97E-02	4.1E+00	6.0E+00	4.06	6.06E+00	1.59E-02	1.2E+01	2.0E+01	11.70	-0.76				
-40°C	68	**	V			-8.78E-01	6.81E-03	6.0E+00	2.8E+01	6.00	-8.81E-01	3.57E-03	1.1E+01	5.4E+01	11.10	-0.40				
-40°C	77	*	OHM			3.20E-02	5.55E-04	n.a.	9.6E+00	9.61	3.10E-02	3.17E-04	n.a.	1.8E+01	17.80	-2.98				
-40°C	78	**	OHM			3.29E-02	6.00E-04	n.a.	1.7E+01	16.71	3.19E-02	3.78E-04	n.a.	2.7E+01	27.42	-3.07				
-40°C	79	*	mV			2.41E+01	7.09E-01	9.4E+00	1.2E+01	9.43	2.52E+01	6.30E-01	1.1E+01	1.3E+01	11.23	4.80				
-40°C	80	*	OHM			3.27E-02	5.79E-04	n.a.	8.8E+00	8.83	3.17E-02	3.37E-04	n.a.	1.6E+01	16.10	-2.95				
-40°C	81	*	OHM			3.27E-02	5.80E-04	n.a.	1.7E+01	17.43	3.17E-02	3.37E-04	n.a.	3.1E+01	30.98	-2.95				
-40°C	82	**	mV			2.40E+01	7.04E-01	9.5E+00	2.2E+01	9.46	2.51E+01	5.96E-01	1.2E+01	2.5E+01	11.79	4.57				
-40°C	83	*	OHM			3.27E-02	5.70E-04	n.a.	9.0E+00	8.97	3.18E-02	3.37E-04	n.a.	1.6E+01	16.00	-2.60				
-40°C	84	*	OHM			3.36E-02	6.15E-04	n.a.	1.6E+01	15.96	3.26E-02	3.81E-04	n.a.	2.7E+01	26.59	-2.72				
-40°C	85	**	mV			2.40E+01	7.35E-01	9.1E+00	2.1E+01	9.09	2.52E+01	6.08E-01	1.2E+01	2.5E+01	11.61	4.78				
-40°C	86	*	OHM			3.20E-02	5.60E-04	n.a.	9.5E+00	9.54	3.11E-02	3.31E-04	n.a.	1.7E+01	17.06	-2.88				
-40°C	87	*	OHM			3.29E-02	6.10E-04	n.a.	1.6E+01	16.46	3.19E-02	3.80E-04	n.a.	2.7E+01	27.30	-2.99				
-40°C	88	**	mV			2.41E+01	7.17E-01	9.3E+00	2.1E+01	9.34	2.52E+01	6.44E-01	1.1E+01	2.3E+01	10.98	4.81				
-40°C	89	A_IS01IN=5@VS0.9	uA	0	2	4.97E-02	7.02E-03	2.4E+00	9.3E+01	2.36	5.21E-02	9.21E-03	1.9E+00	7.0E+01	1.88	4.91				
-40°C	90	A_IS01IN=0@VS2.1	uA	0	1	1.36E-02	4.61E-03	9.8E-01	7.1E+01	0.98	1.30E-02	4.60E-03	9.4E-01	7.1E+01	0.94	-4.30				cpk low: see note 1;
-40°C	91	A_IS01@I=2A	uA	0	1	5.82E-03	4.38E-03	4.4E-01	7.6E+01	0.44	5.50E-03	4.51E-03	4.3E-01	7.4E+01	0.41	-5.45	X			cpk low: see note 1; mean drift: see note 3
-40°C	92	**	mA	0.5		1.07E+00	2.37E-02	8.0E+00	n.a.	7.98	1.08E+00	2.57E-02	7.6E+00	n.a.	7.56	1.40				
-40°C	93	A_ICSDH@2.1V	uA	n.a.	10	3.93E+00	9.83E-02	n.a.	2.1E+01	20.59	3.88E+00	4.86E-02	n.a.	4.2E+01	42.01	-1.32				
-40°C	94	A_ICSDL@0.9V	uA	1	n.a.	3.95E+00	6.25E-02	1.9E+01	n.a.	12.54	3.32E+00	3.46E-02	2.2E+01	n.a.	22.35	-0.87				
-40°C	95	#_K0@_0.05A_CH1	#	1340	3460	2.15E+03	1.59E+02	1.7E+00	2.7E+00	1.70	2.08E+03	1.28E+02	1.9E+00	3.6E+00	1.93	-3.28				
-40°C	96	#_K1@_1A_CH1	#	1370	2510	2.01E+03	9.14E+01	2.3E+00	1.8E+00	1.79	1.98E+03	8.88E+01	2.3E+00	2.0E+00	1.97	-1.63				
-40°C	97	#_K2@_2A_CH1	#	1590	2140	1.87E+03	4.10E+01	2.3E+00	1.8E+00	1.83	1.85E+03	4.40E+01	2.0E+00	1.9E+00	1.91	-1.39				
-40°C	98	#_K3@_4A_CH1	#	1650	1950	1.82E+03	1.96E+01	2.9E+00	2.2E+00	2.22	1.80E+03	2.08E+01	2.3E+00	2.5E+00	2.33	-1.31				
-40°C	99	V_VSENSE_CH1	V	5	n.a.	7.53E+00	5.28E-02	1.6E+01	n.a.	15.94	7.42E+00	2.11E-02	3.8E+01	n.a.	38.32	-1.35				
-40°C	100	S_TDSENSE2H_CH1	uS	n.a.	250	8.44E+01	1.05E+01	n.a.	5.3E+00	5.25	8.08E+01	8.27E+00	n.a.	6.8E+00	6.82	-4.29				
-40°C	101	S_TDSENSE1L_CH1	uS	n.a.	20	7.75E+00	2.77E-01	n.a.	1.5E+01	14.72	7.49E+00	2.87E-01	n.a.	1.5E+01	14.51	-3.30				
-40°C	102	S_TDSENSE1H_CH1	uS	n.a.	100	3.18E+01	2.89E+00	n.a.	7.8E+00	7.85	3.21E+01	1.39E+00	n.a.	1.6E+01	16.28	0.67				
-40°C	103	S_TDSENSE2L_CH1	uS	n.a.	250	4.58E+01	5.08E+00	n.a.	1.3E+01	13.40	4.47E+01	9.11E-01	n.a.	7.5E+01	75.15	-2.46				
-40°C	104	A_IS02IN=5@VS0.9	uA	0	2	4.80E-02	6.81E-03	2.4E+00	9.6E+01	2.35	5.00E-02	9.14E-03	1.8E+00	7.1E+01	1.82	4.15				
-40°C	105	A_IS02IN=0@VS2.1	uA	0	1	3.14E-03	2.49E-03	4.2E-01	1.3E+02	0.42	3.30E-03	2.60E-03	4.2E-01	1.3E+02	0.42	4.96				cpk low: see note 1;
-40°C	106	A_IS02@I=2A	uA	0	1	3.51E-03	2.26E-03	5.2E-01	1.5E+02	0.52	3.20E-03	2.25E-03	4.7E-01	1.5E+02	0.47	-8.71	X			cpk low: see note 1; mean drift: see note 3
-40°C	107	#_K0@_0.05A_CH2	#	1340	3460	2.21E+03	1.67E+02	1.7E+00	2.5E+00	1.73	2.10E+03	1.47E+02	1.7E+00	3.1E+00	1.72	-4.95				
-40°C	108	#_K1@_1A_CH2	#	1370	2510	2.04E+03	8.70E+01	2.6E+00	1.7E+00	1.74	1.99E+03	9.92E+01	2.1E+00	1.7E+00	1.70	-2.55				
-40°C	109	#_K2@_2A_CH2	#	1590	2140	1.88E+03	4.07E+01	2.4E+00	1.8E+00	1.77	1.86E+03	4.48E+01	2.0E+00	1.8E+00	1.78	-1.23				
-40°C	110	#_K3@_4A_CH2	#	1650	1950	1.84E+03	2.15E+01	2.9E+00	1.8E+00	1.75	1.81E+03	2.56E+01	2.0E+00	1.9E+00	1.88	-1.73				
-40°C	111	V_VSENSE_CH2	V	5	n.a.	7.55E+00	5.08E-02	1.7E+01	n.a.	16.72	7.45E+00	1.97E-02	4.1E+01	n.a.	41.50	-1.29				
-40°C	112	S_TDSENSE2H_CH2	uS	n.a.	250	8.41E+01	9.98E+00	n.a.	5.5E+00	5.54	8.15E+01	9.50E+00	n.a.	5.9E+00	5.91	-3.13				
-40°C	113	S_TDSENSE1L_CH2	uS	n.a.	20	8.71E+00	3.12E-01	n.a.	1.2E+01	12.07	8.39E+00	3.10E-01	n.a.	1.2E+01	12.47	-3.59				
-40°C	114	S_TDSENSE1H_CH2	uS	n.a.	100	3.31E+01	1.67E+00	n.a.	1.3E+01	13.37	3.30E+01	1.68E+00	n.a.	1.3E+01	13.29	-0.25				
-40°C	115	S_TDSENSE2L_CH2	uS	n.a.	250	4.64E+01	2.52E+00	n.a.	2.7E+01											

-40°C	117	A_IS04IN=0@VS2.1	uA	0	1	4.50E-02	1.95E-02	7.7E-01	1.6E+01	0.77	4.62E-02	1.94E-02	7.9E-01	1.6E+01	0.79	2.68			cpk low: see note 1;
-40°C	118	A_IS04@I=2A	uA	0	1	3.20E-03	2.26E-03	4.7E-01	1.5E+02	0.47	2.96E-03	2.08E-03	4.7E-01	1.6E+02	0.47	-7.61	X		cpk low: see note 1; mean drift: see note 3
-40°C	119	#_K0@_0.05A_CH4	#	1340	3460	2.17E+03	1.65E+03	1.7E+00	2.6E+00	1.67	2.07E+03	1.21E+02	2.0E+00	3.8E+00	2.00	-4.63			
-40°C	120	#_K1@_1A_CH4	#	1370	2510	2.02E+03	9.31E+01	2.3E+00	1.7E+00	1.71	1.95E+03	9.47E+01	2.0E+00	1.9E+00	1.93	-3.50			
-40°C	121	#_K2@_2A_CH4	#	1590	2140	1.88E+03	4.36E+01	2.2E+00	1.7E+00	1.68	1.84E+03	4.63E+01	1.8E+00	1.9E+00	1.77	-2.36			
-40°C	122	#_K3@_4A_CH4	#	1650	1950	1.62E+03	2.08E+01	2.8E+00	2.0E+00	2.05	1.79E+03	2.32E+01	2.0E+00	2.3E+00	2.00	-1.81			
-40°C	123	V_VSENSE_CH4	V	5	n.a.	7.56E+00	5.15E-02	1.7E+01	n.a.	16.56	7.46E+00	1.88E-02	4.4E+01	n.a.	43.62	-1.26			
-40°C	124	S_TDSENSE2H_CH4	uS	n.a.	250	8.34E+01	1.01E+01	n.a.	5.5E+00	5.49	8.16E+01	9.04E+00	n.a.	6.2E+00	6.21	-2.16			
-40°C	125	S_TDSENSE1L_CH4	uS	n.a.	20	8.73E+00	3.16E-01	n.a.	1.2E+01	11.90	8.41E+00	3.34E-01	n.a.	1.2E+01	11.58	-3.72			
-40°C	126	S_TDSENSE1H_CH4	uS	n.a.	100	3.29E+01	1.62E+00	n.a.	1.8E+01	13.80	3.27E+01	1.54E+00	n.a.	1.5E+01	14.54	-0.60			
-40°C	127	S_TDSENSE2L_CH4	uS	n.a.	250	4.54E+01	2.53E+00	n.a.	2.7E+01	26.97	4.45E+01	8.79E-01	n.a.	7.8E+01	77.90	-1.90			
-40°C	128	A_IS03IN=5@VS0.9	uA	0	2	4.97E-02	5.94E-03	2.8E+00	1.1E+02	2.79	5.17E-02	9.44E-03	1.8E+00	6.9E+01	1.83	3.93			
-40°C	129	A_IS03IN=0@VS2.1	uA	0	1	3.92E-03	3.43E-03	3.8E-01	9.7E+01	0.38	3.87E-03	2.91E-03	4.4E-01	1.1E+02	0.44	-1.31			cpk low: see note 1;
-40°C	130	A_IS03@I=2A	uA	0	1	4.13E-03	1.70E-03	8.1E-01	2.0E+02	0.81	3.73E-03	2.10E-03	5.9E-01	1.6E+02	0.59	-9.52	X		cpk low: see note 1; mean drift: see note 3
-40°C	131	#_K0@_0.05A_CH3	#	1340	3460	2.20E+03	1.71E+02	1.7E+00	2.4E+00	1.68	2.10E+03	1.25E+02	2.0E+00	3.6E+00	2.02	-4.86			
-40°C	132	#_K1@_1A_CH3	#	1370	2510	2.06E+03	8.72E+01	2.6E+00	1.7E+00	1.68	1.98E+03	9.87E+01	2.1E+00	1.7E+00	1.74	-3.66			
-40°C	133	#_K2@_2A_CH3	#	1590	2140	1.88E+03	4.29E+01	2.3E+00	1.7E+00	1.69	1.86E+03	4.40E+01	2.0E+00	1.8E+00	1.84	-1.32			
-40°C	134	#_K3@_4A_CH3	#	1650	1950	1.84E+03	2.12E+01	2.9E+00	1.8E+00	1.79	1.80E+03	2.43E+01	2.1E+00	2.0E+00	2.01	-1.78			
-40°C	135	V_VSENSE_CH3	V	5	n.a.	7.55E+00	5.10E-02	1.7E+01	n.a.	16.67	7.45E+00	1.80E-02	4.5E+01	n.a.	45.42	-1.27			
-40°C	136	S_TDSENSE2H_CH3	uS	n.a.	250	8.36E+01	1.00E+01	n.a.	5.5E+00	5.55	8.11E+01	9.06E+00	n.a.	6.2E+00	6.21	-3.03			
-40°C	137	S_TDSENSE1L_CH3	uS	n.a.	20	8.76E+00	3.19E-01	n.a.	1.2E+01	11.74	8.47E+00	3.13E-01	n.a.	1.2E+01	12.29	-3.32			
-40°C	138	S_TDSENSE1H_CH3	uS	n.a.	100	3.32E+01	1.61E+00	n.a.	1.4E+01	13.79	3.31E+01	1.46E+00	n.a.	1.5E+01	15.23	-0.33			
-40°C	139	S_TDSENSE2L_CH3	uS	n.a.	250	4.63E+01	2.53E+00	n.a.	2.7E+01	26.83	4.55E+01	8.86E-01	n.a.	7.7E+01	76.91	-1.64			
-40°C	140	V_VUSD	V	n.a.	4.5	3.96E+00	6.61E-02	n.a.	8.7E+00	4.73	3.90E+00	6.64E-02	n.a.	5.0E+00	5.04	-1.88			
-40°C	144	A_IIN_@_VIL2	uA	1	n.a.	3.32E+00	6.36E-02	1.2E+01	n.a.	12.17	3.28E+00	3.37E-02	2.3E+01	n.a.	22.58	-1.07			
-40°C	145	A_IIN_@_VIL1	uA	1	n.a.	3.33E+00	6.40E-02	1.2E+01	n.a.	12.12	3.29E+00	3.33E-02	2.3E+01	n.a.	22.94	-0.95			
-40°C	146	A_IIN_@_VIH2	uA	1	n.a.	3.82E+00	9.63E-02	9.8E+00	n.a.	9.77	3.77E+00	4.66E-02	2.0E+01	n.a.	19.83	-1.30			
-40°C	147	A_IIN_@_VIH1	uA	1	n.a.	3.83E+00	9.72E-02	9.7E+00	n.a.	9.71	3.79E+00	4.64E-02	2.0E+01	n.a.	20.02	-1.17			
-40°C	148	A_IIN_@_VIL3	uA	n.a.	10	3.32E+00	6.34E-02	n.a.	3.5E+01	35.14	3.29E+00	3.38E-02	n.a.	6.6E+01	66.30	-1.05			
-40°C	149	A_IIN_@_VIL4	uA	n.a.	10	3.33E+00	6.36E-02	n.a.	3.5E+01	34.98	3.29E+00	3.34E-02	n.a.	6.7E+01	66.99	-1.04			
-40°C	150	A_IIN_@_VIH3	uA	n.a.	10	3.82E+00	9.55E-02	n.a.	2.2E+01	21.57	3.77E+00	4.73E-02	n.a.	4.4E+01	43.95	-1.30			
-40°C	151	A_IIN_@_VIH4	uA	n.a.	10	3.83E+00	9.57E-02	n.a.	2.1E+01	21.48	3.78E+00	4.63E-02	n.a.	4.5E+01	44.71	-1.31			
-40°C	152	**	uS	**	**	2.78E+01	3.04E+00	2.5E+00	3.5E+00	2.50	2.75E+01	1.09E+00	6.9E+00	9.9E+00	6.90	-1.07			
-40°C	153	**	uS	**	**	2.98E+01	2.09E+00	4.0E+00	4.8E+00	3.96	3.06E+01	9.54E-01	8.9E+00	1.0E+01	8.93	2.42			
-40°C	154	**	uS	**	**	1.99E+01	1.42E+00	2.6E+00	1.2E+01	2.56	1.99E+01	5.90E-01	6.1E+00	2.8E+01	6.13	-0.29			
-40°C	155	**	uS	**	**	2.88E+01	1.46E+00	5.4E+00	1.6E+01	5.44	2.85E+01	4.61E-01	1.7E+01	5.2E+01	16.96	-0.98			
-40°C	157	**	uS	**	**	2.90E+01	2.94E+00	2.7E+00	3.5E+00	2.71	2.84E+01	9.25E-01	8.4E+00	1.1E+01	8.42	-2.16			
-40°C	158	**	uS	**	**	3.01E+01	2.06E+00	4.1E+00	4.9E+00	4.07	3.09E+01	9.31E-01	9.3E+00	1.0E+01	9.27	2.69			
-40°C	159	**	uS	**	**	2.01E+01	1.43E+00	2.6E+00	1.2E+01	2.60	2.01E+01	5.85E-01	6.3E+00	2.8E+01	6.34	-0.09			
-40°C	160	**	uS	**	**	2.91E+01	1.46E+00	5.5E+00	1.6E+01	5.48	2.89E+01	4.66E-01	1.7E+01	5.1E+01	17.10	-0.53			
-40°C	162	**	uS	**	**	2.82E+01	2.87E+00	2.7E+00	3.7E+00	2.69	2.77E+01	1.10E+00	6.8E+00	9.8E+00	6.85	-1.76			
-40°C	163	**	uS	**	**	3.05E+01	2.01E+00	4.2E+00	4.9E+00	4.22	3.14E+01	9.36E-01	9.4E+00	1.0E+01	9.39	2.81			
-40°C	164	**	uS	**	**	2.02E+01	1.43E+00	2.6E+00	1.2E+01	2.61	2.02E+01	5.93E-01	6.3E+00	2.8E+01	6.28	-0.13			
-40°C	165	**	uS	**	**	2.90E+01	1.49E+00	5.4E+00	1.6E+01	5.37	2.88E+01	4.69E-01	1.7E+01	5.1E+01	16.91	-0.54			
-40°C	167	**	uS	**	**	2.66E+01	2.95E+00	2.4E+00	3.8E+00	2.45	2.63E+01	1.03E+00	6.9E+00	1.1E+01	6.93	-1.22			
-40°C	168	**	uS	**	**	3.03E+01	2.04E+00	4.1E+00	4.8E+00	4.14	3.11E+01	9.77E-01	8.9E+00	9.9E+00	8.90	2.48			
-40°C	169	**	uS	**	**	2.00E+01	1.43E+00	2.5E+00	1.2E+01	2.55	1.99E+01	5.83E-01	6.2E+00	2.9E+01	6.23	-0.29			
-40°C	170	**	uS	**	**	2.83E+01	1.50E+00	5.2E+00	1.6E+01	5.19	2.81E+01	4.90E-01	1.6E+01	4.9E+01	15.73	-0.71			
-40°C	175	*	V	*	*	3.30E+01	2.58E-01	5.8E+00	7.2E+00	5.77	3.23E+01	1.21E-01	1.0E+01	1.7E+01	10.42	-2.05			
-40°C	179	*	V	*	*	3.29E+01	2.63E-01	5.6E+00	7.1E+00	5.61	3.23E+01	1.21E-01	1.0E+01	1.7E+01	10.35	-2.05			
-40°C	183	*	V	*	*	3.30E+01	2.56E-01	5.8E+00	7.2E+00	5.81	3.23E+01	1.21E-01	1.0E+01	1.7E+01	10.45	-2.06			
-40°C	187	*	V	*	*	3.30E+01	2.58E-01	5.8E+00	7.2E+00	5.76	3.23E+01	1.22E-01	1.0E+01	1.7E+01	10.27	-2.08			
-40°C	189	**	A	**	**	1.68E+01	5.87E-01	1.9E+00	n.a.	1.89	1.76E+01	5.23E-01	2.6E+00	n.a.	2.58	4.33			
-40°C	190	**	A	**	**	1.64E+01	5.74E-01	n.a.	1.1E+01	10.78	1.72E+01	5.05E-01	n.a.	1.2E+01	11.77	4.58			
-40°C	191	A_ILIMH_CH1	A	13.5	26	1.64E+01	5.67E-01	1.7E+00	5.9E+00	1.72	1.72E+01	5.05E-01	2.4E+00	6.2E+00	2.43	4.56			
-40°C	192	**	A	**	**	2.58E-02	6.45E-03	n.a.	9.0E+00	9.00	2.45E-02	5.85E-03	n.a.	1.0E+01	10.01	-4.74			
-40°C	193	**	A	**	**	1.68E+01	5.79E-01	1.9E+00	5.3E+00	1.91	1.76E+01	5.23E-01	2.6E+00	5.4E+00	2.58	4.32			
-40°C	194	**	A	**	**	1.69E+01	5.76E-01	2.0E+00	n.a.	1.97	1.75E+01	5.59E-01	2.4E+00	n.a.	2.41	3.87			
-40°C	195	**	A	**	**	1.65E+01	5.59E-01	n.a.	1.1E+01	11.03	1.72E+01	5.39E-01	n.a.	1.1E+01	11.00	4.20			
-40°C	196	A_ILIMH_CH2	A	13.5	26	1.65E+01	5.54E-01	1.8E+00	6.0E+00	1.81	1.72E+01	5.39E-01	2.3E+00	5.7E+00	2.29	4.19			
-40°C	197	**	A	**	**	2.58E-02	6.46E-03	n.a.	9.0E+00	8.99	2.47E-02	5.88E-03	n.a.	9.9E+00	9.95	-4.32			
-40°C	198	**	A	**	**	1.69E+01	5.71E-01	2.0E+00	5.3E+00	1.98	1.75E+01	5.59E-01	2.4E+00	5.0E+00	2.41	3.88			
-40°C	199	**	A	**	**	1.69E+01	5.66E-01	2.0E+00	n.a.	2.02	1.75E+01	4.98E-01	2.7E+00	n.a.	2.69	3.52			
-40°C	200	**	A	**	**	1.66E+01	5.44E-01	n.a.	1.1E+01	11.30	1.72E+01	4.95E-01	n.a.	1.2E+01	12.00	3.83			
-40°C	201	A_ILIMH_CH3	A	13.5	26	1.66E+01	5.42E-01	1.9E+00	6.1E+00	1.88	1.72E+01	4.95E-01	2.5E+00	6.3E+00	2.48	3.83			
-40°C	202	**	A	**	**	2.58E-02	6.50E-03	n.a.	8.9E+00	8.91	2.47E-02	5.91E-03	n.a.	9.9E+00	9.88	-4.51			
-40°C	203	**	A	**	**	1.69E+01	5.64E-01	2.0E+00	5.4E+00	2.02	1.75E+01	4.99E-01	2.7E+00	5.7E+00	2.68	3.52			

-40°C	204	**	A			1.69E+01	5.84E-01	2.0E+00	n.a.	1.99	1.74E+01	5.70E-01	2.3E+00	n.a.	2.28	3.14			
-40°C	205	**	A			1.65E+01	5.46E-01	n.a.	1.1E+01	11.30	1.71E+01	5.74E-01	n.a.	1.0E+01	10.40	3.60			
-40°C	206	A_ILMH_CH4	A	13.5	26	1.65E+01	5.39E-01	1.8E+00	6.2E+00	1.85	1.71E+01	5.74E-01	2.1E+00	5.5E+00	2.08	3.59			
-40°C	207	**	A			2.59E-02	6.53E-03	n.a.	8.9E+00	8.88	2.47E-02	5.91E-03	n.a.	9.9E+00	9.88	-4.86			
-40°C	208	**	A			1.69E+01	5.57E-01	2.0E+00	5.5E+00	2.02	1.74E+01	5.70E-01	2.3E+00	5.0E+00	2.28	3.12			
-40°C	2000004	VCC_CLAMP_ZOMA	V	41	52	4.42E+01	2.38E-01	4.5E+00	1.1E+01	4.47	4.37E+01	9.18E-02	9.7E+00	3.0E+01	9.67	-1.18			
-40°C	2400020	**	A			4.99E-04	2.22E-05	7.5E+00	7.5E+00	7.50	5.07E-04	2.24E-05	7.5E+00	7.5E+00	7.55	1.56			
-40°C	2400021	**	A			4.85E-04	2.34E-05	6.9E+00	6.9E+00	6.92	5.03E-04	2.73E-05	6.1E+00	6.1E+00	6.14	3.62			
-40°C	2400022	**	A			4.86E-04	2.32E-05	7.0E+00	7.0E+00	6.99	5.05E-04	2.50E-05	6.7E+00	6.7E+00	6.73	3.79			
-40°C	2400023	**	A			4.95E-04	2.33E-05	7.1E+00	7.1E+00	7.09	5.13E-04	2.47E-05	6.9E+00	6.9E+00	6.93	3.62			
-40°C	2500004	**	V			1.92E+00	6.19E-02	1.0E+01	5.8E+00	5.79	1.96E+00	6.87E-02	9.5E+00	5.0E+00	5.04	1.87			
-40°C	2500005	**	V			1.93E+00	6.68E-02	9.6E+00	5.3E+00	5.35	1.95E+00	7.63E-02	8.5E+00	4.6E+00	4.60	1.05			
-40°C	2500006	**	V			1.89E+00	6.64E-02	9.5E+00	5.6E+00	5.58	1.95E+00	7.05E-02	9.2E+00	5.0E+00	4.96	3.31			
-40°C	2500007	**	V			1.91E+00	6.63E-02	9.6E+00	5.5E+00	5.46	1.98E+00	7.50E-02	8.8E+00	4.6E+00	4.55	3.22			
-40°C	2600000	**	V			8.25E-01	5.42E-02	n.a.	2.3E+00	2.31	8.25E-01	4.91E-02	n.a.	2.6E+00	2.55	-0.08			
-40°C	2600001	**	V			8.89E-01	5.72E-02	n.a.	1.8E+00	1.81	8.85E-01	5.76E-02	n.a.	1.8E+00	1.82	-0.41			
-40°C	2600002	**	V			8.84E-01	5.40E-02	n.a.	2.0E+00	1.95	8.81E-01	5.38E-02	n.a.	2.0E+00	1.97	-0.27			
-40°C	2600003	**	V			8.74E-01	5.55E-02	n.a.	2.0E+00	1.95	8.74E-01	5.19E-02	n.a.	2.1E+00	2.10	-0.08			
-40°C	2600004	**	V			2.90E+01	8.41E-03	6.7E+02	n.a.	672.78	2.90E+01	5.44E-03	1.0E+03	n.a.	1040.29	-0.02			
-40°C	2600005	**	V			2.90E+01	6.50E-03	8.7E+02	n.a.	870.22	2.90E+01	3.11E-03	1.8E+03	n.a.	1819.16	-0.01			
-40°C	2600006	**	V			2.90E+01	6.23E-03	9.1E+02	n.a.	907.91	2.90E+01	2.85E-03	2.0E+03	n.a.	1985.93	-0.01			
-40°C	2600007	**	V			2.90E+01	6.26E-03	9.0E+02	n.a.	904.35	2.90E+01	2.68E-03	2.1E+03	n.a.	2108.58	-0.01			
-40°C	2800000	**	A			2.00E+00	1.67E-03	n.a.	1.0E+02	99.95	2.00E+00	1.58E-03	n.a.	1.1E+02	105.43	-0.01			
-40°C	2800001	**	A			2.00E+00	1.67E-03	n.a.	6.0E+01	59.98	2.00E+00	1.58E-03	n.a.	6.3E+01	63.28	-0.01			
-40°C	2800002	**	A			2.00E+00	1.67E-03	1.0E+02	n.a.	99.92	2.00E+00	1.58E-03	1.1E+02	n.a.	105.30	-0.01			
-40°C	2800003	**	A			2.00E+00	1.69E-03	n.a.	9.9E+01	98.70	2.00E+00	1.55E-03	n.a.	1.1E+02	107.51	-0.01			
-40°C	2800004	**	A			2.00E+00	1.69E-03	n.a.	5.9E+01	59.23	2.00E+00	1.55E-03	n.a.	6.5E+01	64.54	-0.01			
-40°C	2800005	**	A			2.00E+00	1.69E-03	9.9E+01	n.a.	98.65	2.00E+00	1.55E-03	1.1E+02	n.a.	107.36	-0.01			
-40°C	2800006	**	A			2.00E+00	1.68E-03	n.a.	9.9E+01	99.03	2.00E+00	1.67E-03	n.a.	1.0E+02	99.58	-0.01			
-40°C	2800007	**	A			2.00E+00	1.68E-03	n.a.	5.9E+01	59.43	2.00E+00	1.67E-03	n.a.	6.0E+01	59.77	-0.01			
-40°C	2800008	**	A			2.00E+00	1.68E-03	9.9E+01	n.a.	98.97	2.00E+00	1.67E-03	9.9E+01	n.a.	99.45	-0.01			
-40°C	2800009	**	A			2.00E+00	1.66E-03	n.a.	1.0E+02	100.33	2.00E+00	1.63E-03	n.a.	1.0E+02	102.57	-0.01			
-40°C	2800010	**	A			2.00E+00	1.66E-03	n.a.	6.0E+01	60.21	2.00E+00	1.63E-03	n.a.	6.2E+01	61.57	-0.01			
-40°C	2800011	**	A			2.00E+00	1.66E-03	1.0E+02	n.a.	100.28	2.00E+00	1.63E-03	1.0E+02	n.a.	102.41	-0.01			
-40°C	2800018	**	uA			1.48E+00	5.11E-02	6.1E+00	2.2E+01	6.14	1.47E+00	2.96E-02	1.1E+01	3.8E+01	10.91	1.80			
-40°C	2900000	**	V			2.97E-03	1.79E-02	1.9E+01	1.9E+01	18.57	2.91E-03	1.79E-02	1.9E+01	1.9E+01	18.59	-2.20			
-40°C	2900001	**	V			2.95E-03	1.81E-02	1.9E+01	1.8E+01	18.41	2.81E-03	1.85E-02	1.8E+01	1.8E+01	17.92	-4.64			
-40°C	2900002	**	V			2.94E-03	1.86E-02	1.8E+01	1.8E+01	17.91	2.81E-03	1.87E-02	1.8E+01	1.8E+01	17.75	-4.23			
-40°C	2900003	**	V			2.98E-03	1.78E-02	1.9E+01	1.9E+01	18.68	2.84E-03	1.82E-02	1.8E+01	1.8E+01	18.26	-4.62			