Public Products List

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PCN Title : SOT23 3lds Qualification in TFME (Assembly & Test)

PCN Reference : AMS/22/13720

Subject : Public Products List

Dear Customer,

Please find below the Standard Public Products List impacted by the change.

STM810MWX6F	STM1061N30WX6F	STM1811LWX7F
TS3431AILT	TL431IL3T	STM1061N23WX6F
STM810TWX6F	STM809MWX6F	STM1815SWX7F
STM1815RWX7F	STM1812MWX7F	STM809RWX6F
STM1816TWX7F	STM1061N28WX6F	TL431ACL3T
STM1816SWX7F	TLVH431LIL3T	STM1812LWX7F
STM1001TWX6F	STM1061N19WX6F	STM810SWX6F
STM1061N21WX6F	STM810LWX6F	STM1817TWX7F
STM1816RWX7F	TL431CL3T	STM1061N26WX6F
STM1061N25WX6F	TS3431ILT	STM1001LWX6F
STM1001SWX6F	STM1810MWX7F	STM1813LWX7F
TL432AIL3T	TL431AIL3T	STM1817RWX7F
STM1811MWX7F	TLVH431MIL3T	STM1818TWX7F
STM1818SWX7F	STM1061N38WX6F	STM1061N22WX6F
STM1061N31WX6F	STM1061N29WX6F	STM1818RWX7F
STM1061N36WX6F	STM1001SBWX6F	STM1061N27WX6F
STM1061N34WX6F	STM1813MWX7F	STM810RWX6F
STM1001RWX6F	STM1061N17WX6F	STM1001MWX6F
STM809TWX6F	STM1810LWX7F	STM1061N16WX6F
STM1817SWX7F	STM1815TWX7F	STM809SWX6F
STM809LWX6F	TL432IL3T	

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Reliability Evaluation Report

TLVH431MIL3T, TS3431AILT, TL431AIL3T
SOT 23 3 LDS in NANTONG FUJITSU - CHINA

General Information	
Product Line	V43101, 343101, 043101
P/N	TLVH431MIL3T, TS3431AILT, TL431AIL3T
Product Division	AMS
Package	SOT 23 3 LDS
Silicon Process Technology	BCD3S, HBIP40

Location	
Wafer Fab	AM6F-Singapore
Assembly plant	NANTONG FUJITSU - CHINA
Results	
Reliability Assessment	PASS

DOCUMENT INFORMATION

Version	Date	Pages	Prepared by	Approved by	Comment
1.0	10/13/2022	4	Antonio Russo	Ivan Grasso	Intermediate Report

TABLE OF CONTENTS

1 APPLICABLE AND REFERENCE DOCUMENTS

Document reference	Short description
JESD47	Stress-Test-Driven Qualification of Integrated Circuits

2 GLOSSARY

	Short description
Tj	Temperature at junction of the device
T_A	Temperature of ambient air
RH	Relative Humidity
Vcc max	Max Operative Voltage

3 RELIABILITY EVALUATION OVERVIEW

3.1 Objectives

This document is intended to provide reliability evaluation report of New Assembly plant NANTONG FUJITSU - CHINA for SOT 23 3 LDS package

3.2 Conclusion

Qualification requirements have been fulfilled without exception. Reliability tests have shown that the devices behave correctly against environmental tests (no failure). The stability of electrical parameters during the accelerated tests demonstrates the ruggedness of the products and safe operation, which is consequently expected during their lifetime.

4 TESTS RESULTS SUMMARY

ST refers to the JEDEC standard JESD47 when conducting reliability tests for the qualification of new product.

4.1 Test plan and results summary

Table 1. Package qualification tests

Stress (Abbv.)	Ref.	Conditions	Requirements				Notes
			# Lot	SS	Duration	Pass Criteria (Fails / Tested)	
MSL Preconditioning Must be performed prior to: THB, HAST, TC, AC, & UHAST	JESD22 A113 J-STD-020	Preconditioning: (Test @ Rm) SMD only; Moisture Preconditioning for THB/HAST, AC/UHST, TC, & PTC; Peak Reflow Temp = 260C	MSL1				2
High Temperature Storage Life (HTSL)	JESD22 A103	$T_A \geq 150°C$	7 Lots	560	168hrs 500hrs 1000hrs	0/560 0/560 Running	2
Unbiased HAST (UHAST)	JESD22 A118	130 °C / 85% RH	7 Lots	560	96hrs	0/560	1,2
Temperature Cycling (TC)	JESD22 A104	-65°C to +150°C	7 Lots	560	500 cycles	0/560	1,2
Temperature Humidity bias (THB)	JESD22-A101	85 °C, 85 % RH, Vcc max	3 Lots	231	168hrs 500hrs 1000hrs	0/231 Running	1,3

Table 2. Assembly integrity Tests

Stress (Abbv.)	Ref.	Conditions	Requirements			Notes
			# Lot	SS	Pass Criteria (Fails / Tested)	
Solderability	J-STD-002	>95% Lead coverage	7	35 units / All Lead	PASS	2
WBP	Mil-STD-883, Method 2011	30 wires, characterization	7	35 units / All bonds	PASS Cpk>1.67	2
WBS	JESD22-B116	30 balls, characterization	7	35 units / All bonds	PASS Cpk>1.67	2

Notes:

1. Preconditioning with soak per J-STD-020 at rated moisture sensitivity level prior to acceleration stress testing.
2. It has been performed on 3 lots of TLVH431MIL3T, 3 lots of TL431AIL3T and 1 lot of TS3431AILT
3. It has been performed on 1 lot for each P/N