

PRODUCT/PROCESS CHANGE NOTIFICATION

PCN APM-IPC/07/2731 Notification Date 09/27/2007

MULTIWATT & HEPTAWATT BACK-END TRANSFER FROM ST TOA PAYOH TO BOUSKOURA 2000 PLANT

IPC - IND.& POWER CONV.

Product Identification (Product Family/Commercial Product)	see attachment
Type of change	Package assembly location change
Reason for change	Corporate back-end roadmap & capacity increase
Description of the change	Multiwatt & Heptawatt Back-end transfer from Toa Payoh to Bouskoura 2000 plant
Product Line(s) and/or Part Number(s)	See attached
Description of the Qualification Plan	See attached
Change Product Identification	assy plant digit "CZ" inside traceability code
Manufacturing Location(s)	

Table 1. Change Identification

Table 2. Change Implementation Schedule

Forecasted implementation date for change	20-Nov-2007
Forecasted availabillity date of samples for customer	15-Dec-2007
Forecasted date for STMicroelectronics change Qualification Plan results availability	31-Dec-2007
Estimated date of changed product first shipment	31-Jan-2008

Table 3. List of Attachments

Customer Part numbers list	
Qualification Plan results	

Customer Acknowledgement of Receipt	PCN APM-IPC/07/2731
Please sign and return to STMicroelectronics Sales Office	Notification Date 09/27/2007
Qualification Plan Denied	Name:
Qualification Plan Approved	Title:
	Company:
🗖 Change Denied	Date:
Change Approved	Signature:
Remark	

DOCUMENT APPROVAL

Name	Function
Menniti, Pietro	Division Marketing Manager
Pulicelli, Fulvio	Division Product Manager
Motta, Antonino	Division Q.A. Manager



ATTACHMENT TO PCN APM-IPC/07/2731

MULTIWATT & HEPTAWATT BACK-END TRANSFER FROM ST TOA PAYOH TO BOUSKOURA 2000 PLANT

WHAT:

Following the Corporate decision to move the Multiwatt and Heptawatt packages from Toa Payoh to Bouskoura 2000 plant (Marocco), we are going to complete the movement process by transferring the following devices.

During the transfer some material changes will occur to the below devices:

Device	Line	Package	Material change
L4960H	L74003	HEPTAWATT	Wire: from Au to Cu. Frame: from Cu Ag plated to Cu
L4962EH/A	L84303	HEPTAWATT	as above
L296	L29603	MULTIWATT	as above
L4964	L29603	MULTIWATT	as above
L296HT	L29603	MULTIWATT	as above
L4964HT	L29603	MULTIWATT	as above
IL13464	L69303	MULTIWATT	as above
L298N	L69303	MULTIWATT	as above
L298HN	L69303	MULTIWATT	as above
IL13485	L75603	MULTIWATT	as above
L296P	L75603	MULTIWATT	as above

As regards the below devices no material change will occur during the transfer:

Device	Line	Package
L4970A	U01003	MULTIWATT
L4975A	U01903	MULTIWATT
L4977A	U02103	MULTIWATT

WHY:

Corporate package roadmap & capacity increase

HOW:

IPC Heptawatt package qualification in Bouskoura is done by extension of formerly CMG Heptawatt reliability plan here following plus a construction analysis done on an HPC product TDA2030AV. IPC Multiwatt package qualification is in progress and the reliability report will be available by the end of 2007 and can be provided upon customer's request

WHEN:

The production of the new devices could start in Q1, 2008. The relevant samples could be available starting from mid December 2007.

HEPTAWATT LINE TRANSFER BOUSKOURA QUALITY ACTION PLAN

- The transferred line will be integrated in the Quality System already in place at Bouskoura
- ST Bouskoura is certified ISO-TS 16949
- All major steps of the qualification will be defined in a Time Action Profile.

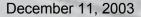
Z Quality System:

- o All equipment recorded in a calibration DB
- o SPC insertion in computer system
- Daily QA audit + Anti-mixing audit
- Line will be integrated in construction analysis roadmap
- Reliability monitoring implementation
- People:
 - Line Operators training and certification scheme
 - Maintenance Technicians and QA Operators training and certification scheme

- **Equipment:**
 - Each equipment efficiency controlled through centralized computer system
 - o Formal buy-off performed for each equipment
 - All necessary spares codified and recorded in Spare library
- Process:
 - Flow chart and Control Plan documented in Document Control System
 - FMEA's & OCAP's done and documented in Document Control System
 - o Anti-mixing Risk assessment performed
 - o Input/Output checklist on each eqpt
 - o Anti-mixing Check List with travelog for each lot
 - o Manufacturing and Maintenance Recording books

Materials:

- Procurement recording in computer systems
- o Local Qualified Material List updated
- o Incoming procedures implementation



CMG B/E Quality Assurance

HEPTAWATT LINE TRANSFER CMG QUALITY PLAN

- In addition to Bouskoura action plan, CMG Group will complement the line transfer qualification with the following:
 - Package Qualification plan (see next page)
 - Application level qualification plan
 - o Assembly line Technical Audit
 - Package Reliability Monitoring after production start, with a plan revised quarterly



HEPTAWATT – ASSEMBLY TRANSFER QUALIFICATION PLAN

Qualification purpose:

Assembly transfer from ST Toa Payoh (Singapore) plan to ST Bouskoura plant (Morocco).

• Test vehicles:

	Line	Comm. Prod.	Assy lots	Final test	Rel. plant	Particular points
TV1	∟559	STV9302A	1	TPY	ТРҮ	Highest CMG volume in HW – Gnd wire
TV2	L079	STV9379	1	TPY	ТРҮ	Largest CMG die in HW – Gnd wire
TV3	L368	STV8131	1	TPY	ТРҮ	Smallest CMG die in HW - Polyimide

• Assembly materials for Bouskoura assembly: Strictly identical to actual Toa Payoh production.



HEPTAWATT – ASSEMBLY TRANSFER QUALIFICATION PLAN

Reliability test conditions and qualification plan

TEST	CONDITIONS	TV1	TV2	TV3
Thermal cycles (*)	-40/+150°C*, 1000 cy	43	43	43
Pressure Pot	121°C, 2 atm	43	43	43
High Temperature Storage	175°C, 1000h	76	76	76

(*) SAM (top + through) at time 0 and after 500 TC on 10 parts per lot

Construction analysis

Line	Lab	Particular points
L079	Toa Payoh	Complete package construction analysis.

Solderability tests

Line	Lab	Particular points
L559	Toa Payoh	Dry and steam aging
L079	Toa Payoh	Dry and steam aging
L368	Toa Payoh	Dry and steam aging



CMG B/E Quality Assurance

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