



PRODUCT/PROCESS CHANGE NOTIFICATION

PCN APM-DIS/08/3735
Notification Date 08/01/2008

APM - ASD & IPAD Division
Protection Devices and Power Rectifiers in SMA, SMB, SMC package
Assy and Test Location Transfer within Morocco

Table 1. Change Implementation Schedule

Forecasted implementation date for change	25-Jul-2008
Forecasted availability date of samples for customer	25-Jul-2008
Forecasted date for STMicroelectronics change Qualification Plan results availability	25-Jul-2008
Estimated date of changed product first shipment	31-Oct-2008

Table 2. Change Identification

Product Identification (Product Family/Commercial Product)	Protection Device, Pwr Rectifiers in SMA, SMB, SMC
Type of change	Package assembly location change
Reason for change	Use of the Bouskoura 2000 testing and packaging facility in Morocco
Description of the change	Progressing along the Restructuring Plan already communicated by ST's Letter CRP/07/2927 dated September 25, 2007 and Advanced Product Change Notification APCN APM/07/3145, please be informed that the manufacturing lines for products housed in SMA, SMB and SMC packages, currently located in Ain Sebaa, are being moved to the Bouskoura site, also situated in the neighbourhood of Casablanca, Morocco.
Product Line(s) and/or Part Number(s)	See attached
Description of the Qualification Plan	See attached
Change Product Identification	Date code, internal codification and QA number
Manufacturing Location(s)	

DOCUMENT APPROVAL

Name	Function
Paris, Eric	Division Marketing Manager
Duclos, Franck	Division Product Manager
Besson, Andre	Division Q.A. Manager



APM - ASD & IPAD Division¹

**Protection Devices and Power Rectifiers in SMA, SMB, SMC
packages:**

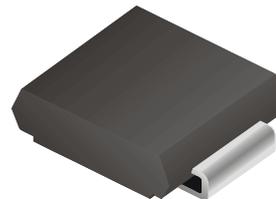
Assy and Test Location Transfer within Morocco



SMA



SMB



SMC

(1) APM: Analog, Power & MEMS Group - ASD: Application Specific Device - IPAD: Integrated Passive and Active Devices

WHY THIS CHANGE?

Progressing along the Restructuring Plan already communicated by ST's Letter CRP/07/2927 dated September 25, 2007 and Advanced Product Change Notification APCN APM/07/3145, please be informed that the manufacturing lines for products housed in **SMA**, **SMB** and **SMC** packages, currently located in Ain Sebaa, are being **moved** to Bouskoura site, also situated in the neighbourhood of Casablanca, Morocco.

This move aims at optimizing ST's assets utilization and enhancing the use of the leading-edge **Bouskoura 2000** testing and packaging facility in Morocco.

Sourcing	Current	Final
Assembly & test location	MOROCCO (Ain Sebaa)	MOROCCO (Bouskoura)

There is no change in equipment, materials in use and personnel.

The involved product series are listed in the table below:

Product Sub-Family	Product PN or Series	Package
Protection Devices	SMA6Jxxx SMAJxxx SMP30xxx SMP50xxx SMTYxxx	SMA
	LNBTVSxxx SM6HTxxx SM6Txxx SMBJxxx SMLVT3V3 SMP100xxx SMP80xxx SMTPAxxx SMP01-xxx SMP75-8	SMB
	LNBTVSxxx SM15Txxx SM6HTxxx SMCJxxx	SMC
Power Rectifiers	STPSxxxA STTHxxxA	SMA
	SMBYxxx-400 STPSxxxU STTHxxxU	SMB
	SMBYxxx-400 STPSxxxS STTHxxxS	SMC

Specific Devices in SMA, SMB, SMC packages not expressly included in the above table are included in this change.

WHAT IS THE CHANGE?

The location transfer is being achieved **by migrating current equipment, materials and personnel** to the location above mentioned.

This move does **not impact** the **electrical, dimensional and thermal** parameters of the products, maintaining unchanged current information published in the relevant datasheets.

There is as well **no change** in the **packing modes** and the standard **delivery quantities** either. All verifications are included in the qualification program.

The products will be delivered in **compliance with the RoHS** (Restriction of the use of certain Hazardous Substances).

The table provided in appendix 1 gives the detailed **qualification plan** that is implemented to qualify the new production.

HOW AND WHEN?Qualification program and results availability:

The **qualification program** mainly consists of **comparative electrical characterizations and reliability tests** (see appendix 1).

The **reliability test report** of the qualification program is available on request **now**. Final qualification report will be available on request from wk 32-2008.

Samples availability:

For the concerned Product Families, **samples of selected devices**, including the **test vehicles**, are available on request from **now**.

Change implementation schedule:

The **production start** and **first shipments** will be implemented according to our work in progress and materials availability as indicated in the schedule below.

Package	Production Start	1st Shipments
SMA	From Week 30-2008	From Week 44-2008
SMB	From Week 30-2008	
SMC	From Week 30-2008	

Lack of acknowledgement of the PCN within **30 days** will constitute acceptance of the change. After acknowledgement, lack of additional response within the **90 days** period following notification will constitute acceptance of the change (Jedec Standard No. 46-C). In any case, **first shipments** may start earlier with customer's **written agreement**.

Marking and traceability:

Unless otherwise stated by customer specific requirement, parts assembled in the new plant will have a **differentiated marking** as indicated below:

Assembly location	Assy plant	Date Code (3 digits)
Morocco (new)	Z	YWW Y = 1 digit indicating the year
Morocco (current)	C	WW = 2 digits indicating the week number

The **traceability** of the parts assembled in the new plant will be ensured by an **internal codification** and by the **Q.A. number**.

Appendix 1: Reliability tests for qualification program.



**Protection Devices and Power Rectifiers in SMA, SMB, SMC package:
Assy and Test Location Transfer within Morocco**

Reliability tests of QUALIFICATION PROGRAM

Test vehicles	Description	Package
ASTPS1H100A\$%1	Rectifier	SMA
ASTTH102A/1 (BOS)	Rectifier	SMA
SMP30-240	Protection	SMA
SMAJ33CA	Protection	SMA
ASTPS340U%1	Rectifier	SMB
SM6T36A	Protection	SMB
SM6HT24A	Protection	SMB
SM6T220CA	Protection	SMB
SMP100LC-35A	Protection	SMB
SMP100LC-35A	Protection	SMB
ASTPS3L60S%11	Rectifier	SMC
SM15T36A	Protection	SMC
SM15T220CA	Protection	SMC
LNBTVS6-221S	Protection	SMC

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QUALIFICATION TESTS					
TEST	CONDITIONS	DURATION	NBR OF LOTS (*)	SAMPLE SIZE	ACCEPTANCE CRITERIA
Parametric verification	Data sheet specification	Not applicable	3	30 pcs / lot	Datasheet
Pressure Cooker Test JESD22-A102	121°C 2 atm. 100%RH	96 Hrs	3	77 pcs / lot	0 failure
Temperature Cycling JESD22 A104	-65°C/+150°C - Air/Air	1000 cycles	3	77 pcs / lot	0 failure
Temperature Humidity Bias JESD22 A101	Tamb = 85°C RH = 85% Vac = VDRM	1000 hours	3	77 pcs / lot	0 failure
High Temperature Reverse Bias JESD22-A108	Vac = VDRM Tj = 125°C	1000 hours	4	77 pcs / lot	0 failure
Construction analysis	Random samples, 1 lot per package	Not applicable	3	5 pcs	Assembly rules
Physical dimension JESD22 B100	As per package dimensions & tolerances	Not applicable	3	30 pcs	0 failure
Destructive Physical Analysis	Performed on 2 random good samples after TC & THB	Not applicable	6	2pcs / test	Assembly rules
Repetitive surge	Wave form 10/1000µs	1000 cycles	4	20pcs	0 failure
whiskers	Storage : 30°C / 60RH Storage : 55°C / 85RH Thermal Cycling : -55°C / 85°C	1500 hours 1500 hours 1500 cycles	1	36 56 36	Compliance with JESD201
I-Operating live test	Delta Tj = 100°C	15000	3	77pcs	0 failure
Solderability SnPb & SnAgCu JESD22-B102D	Dry ageing 16hrs / 220°C & 245°C – 5 sec dip. Steam aging 8hrs / 220°C & 245°C – 5 sec dip.	Not applicable	3	60 pcs / lot	0 failure

(*) Lots selected among test vehicles of the list above.

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