



PRODUCT/PROCESS CHANGE NOTIFICATION

PCN APM-DIS/07/2472
Notification Date 05/11/2007

APM - ASD & IPAD Division
SCRs and TRIACs in SOT-223
Additional assembly and test location in China
DIS - ASD & IPAD

Table 1. Change Identification

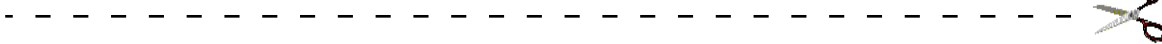
Product Identification (Product Family/Commercial Product)	SCRs & TRIACs in SOT-223 package
Type of change	Package assembly location change
Reason for change	Capacity extension
Description of the change	In order to better meet the growing demand for the SCRs and TRIACs in SOT-223 package, we have decided to expand the assembly and test of these devices currently produced in Malaysia and Philippines, to a new plant in China.
Product Line(s) and/or Part Number(s)	See attached
Description of the Qualification Plan	See attached
Change Product Identification	Marking, internal codification & QA number
Manufacturing Location(s)	

Table 2. Change Implementation Schedule

Forecasted implementation date for change	18-May-2007
Forecasted availability date of samples for customer	04-May-2007
Forecasted date for STMicroelectronics change Qualification Plan results availability	04-May-2007
Estimated date of changed product first shipment	10-Aug-2007

Table 3. List of Attachments

Customer Part numbers list	
Qualification Plan results	



Customer Acknowledgement of Receipt		PCN APM-DIS/07/2472
Please sign and return to STMicroelectronics Sales Office		Notification Date 05/11/2007
<input type="checkbox"/> Qualification Plan Denied <input type="checkbox"/> Qualification Plan Approved <input type="checkbox"/> Change Denied <input type="checkbox"/> Change Approved	Name:	
	Title:	
	Company:	
	Date:	
	Signature:	
Remark		

DOCUMENT APPROVAL

Name	Function
Moreau, Jean Benoit	Division Marketing Manager
Duclos, Franck	Division Product Manager
Besson, Andre	Division Q.A. Manager



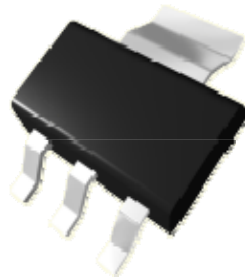
**PRODUCT/PROCESS
CHANGE NOTIFICATION**

PCN APM-DIS/07/2472

APM - ASD & IPAD Division¹

SCRs and TRIACs in SOT-223:

Additional assembly and test location in China



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

WHY THIS CHANGE?

In order to better meet the growing demand for the **SCRs and TRIACs in SOT-223 package**, we have decided to expand the **assembly and test** of these devices currently produced in Malaysia and Philippines, to a new plant in **China**.

Multi-sourcing	Current	New
Assembly & test location	MALAYSIA PHILIPPINES	CHINA MALAYSIA PHILIPPINES

This multi-sourcing will increase our **manufacturing capacity** for a better service on the involved products.

WHAT IS THE CHANGE?

This China plant is located in the Shanghai area. The assembly Bill Of Material status is summarized in the table below.

Material	Malaysia/Philippines	China
Lead Frame	Copper	Copper
Die Attach	Soft solder (PbSn2Ag2.5)	Soft solder (PbSn2Ag2.5)
Wire Bonding	Au	Au
Moulding Compound	Sumitomo EME6710	Sumitomo EMEG600F (green)
Lead Finish	Matte Sn	Matte Sn

There will be **no impact** on the **electrical, dimensional and thermal parameters** of the products with respect to the product datasheet. This was verified in the qualification program. The footprint recommended by ST for the SCRs and Triacs in SOT-223 remains the same.

The moulding compound will be of the green type, meaning with restricted content of Halogenated compounds and Antimony. There will be **no change** in the **packing modes** and the standard **delivery quantities**. The products will be delivered in compliance with the RoHS*, with no change in the MSL (Moisture Sensitivity Level 1).

The **products series** involved in this production extension are listed below.

Product Family	SOT-223 families
SCRs	P01xxx
	X02xxx
TRIACs	Z01xxx

(*) *Restriction of the use of certain Hazardous Substances*

HOW AND WHEN?Qualification and test results:

The **reliability tests plan** supporting the qualification program for the China assembly line is provided in **appendix 1** of the present document. The production ramp-up will be monitored with a **pre-launch control plan** implemented on selected parameters.

The **reliability test report** of the qualification program will be available on request from **week 19-2007**.

Sampling:

Qualification samples of the devices produced in China will be **available** on request as indicated below:

Product Family	Salestypes	Availability
SCRs	P0102MN X0202MN	From Week 26-2007
TRIACs	Z0103MN Z0107SN Z0109MN	From Week 22-2007

Other samples are available on request for delivery within notice period if ordered within 30 days.

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:

Salestypes	Production Start	1st Shipments
ALL	From Week 20-2007	From Week 32-2007

Lack of acknowledgement of the PCN within **30 days** will constitute acceptance of the change. After acknowledgement, lack of additional response within the **90 day** period 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:

Parts assembled in the new plant will have a **differentiated marking** as indicated below:

Assembly location	Assy plant	3 last digits
China (new)	F	YWW
Malaysia (current)	Y	Y = 1 digit indicating the year
Philippines (current)	S	WW = 2 digits indicating the week number

The **traceability** for the new assembly plant will also be ensured by the **country of origin**, by an **internal codification**, and by the **Q.A. number**.

Appendix 1: Reliability tests for qualification program of SCRs and TRIACs in SOT-223



SCRs and TRIACs in SOT-223: Additional assembly and test location in China

Reliability tests plan for QUALIFICATION PROGRAM

Product Family	Test Vehicle Salestypes
SCRs	P0102MN
TRIACs	Z0109MN

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 Hours	3	77 pcs / lot	0 failure
Temperature Cycling JESD22 A104	-55°C/+150°C - Air/Air	1000 cycles	3	77 pcs / lot	0 failure
Temperature Humidity Bias JESD22 A101	Tamb = 85°C RH = 85% V = 100V max	1000 hours	3	77 pcs / lot	0 failure
High Temperature Reverse Bias JESD22-A108	V = V _{ac peak} Tj = 125°C	1000 hours	2	77 pcs / lot	0 failure
Construction analysis	Random samples	Not applicable	1	5pcs	Assembly rules
Physical dimension JESD22 B100	As per package dimensions & tolerances	Not applicable	1	30pcs	0/30
Resistance to Solder Heat Jedec JESD22-B106-B	2 oil dipping at 260°C	10s on / 15 s off	3	30 pcs / lot min	0 failure
Wire pull test MIL750-1037	Bond breaking force measurement	Not applicable	3	10 bonds from 5 devices	0 failure
Die shear MIL750-2037	Die shear resistance	Not applicable	3	5 pcs	0/5
Solderability 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	10 pcs / lot	0/30
IR reflow	3 Reflow Profile Lead Free at 260°C	8mn	2	500 pcs / lot	0 failure

(*) Lots selected among test vehicles indicated above.

NOTE : A preconditioning sequence is performed before TC and THB reliability tests according to JESD22-A113.

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