



# PRODUCT/PROCESS CHANGE NOTIFICATION

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PCN APM-DIS/08/3417  
Notification Date 02/15/2008

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**APM - ASD & IPAD Division**

**Rectifiers & AC Switches in wired I2PAK/TO-220/TO-247/Max247**

**New moulding compound implementation**

**DIS - ASD & IPAD**

**Table 1. Change Implementation Schedule**

Forecasted implementation date for change	30-Apr-2008
Forecasted availability date of samples for customer	08-Feb-2008
Forecasted date for <b>STMicroelectronics</b> change Qualification Plan results availability	08-Feb-2008
Estimated date of changed product first shipment	16-May-2008

**Table 2. Change Identification**

Product Identification (Product Family/Commercial Product)	As indicated in document title
Type of change	Package assembly material change
Reason for change	Production rationalization
Description of the change	This document announces the use of the Samsung Cheil 7200DX new moulding compound for the production of our SCRs, Triacs, Ignitors & Power Rectifiers in wired I2PAK, TO-220, TO-247 & Max247 packages.
Product Line(s) and/or Part Number(s)	See attached
Description of the Qualification Plan	See attached
Change Product Identification	Traceability is ensured by date code and by Q.A. number
Manufacturing Location(s)	



## DOCUMENT APPROVAL

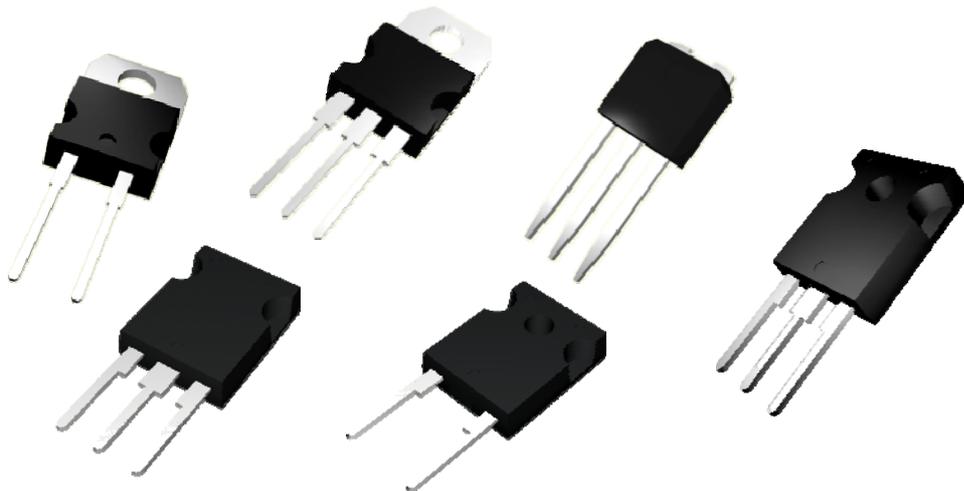
Name	Function
Paris, Eric	Division Marketing Manager
Duclos, Franck	Division Product Manager
Besson, Andre	Division Q.A. Manager



**APM - ASD & IPAD Division<sup>1</sup>**

**Rectifiers & AC Switches in wired I<sup>2</sup>PAK/TO-220/TO-247/Max247:**

**New moulding compound implementation**



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

**WHY THIS CHANGE?**

The purpose of this document is to announce the use of the **Samsung Cheil 7200DX new moulding compound** for the production of our **SCRs, Triacs, Ignitors & Power Rectifiers in I<sup>2</sup>PAK** (long leads only), **TO-220AB/AC, DO/TO-247 and Max247** packages.

The **Cheil 7200DX** moulding compound is widely used in several plants for other power ST devices and this change is one step forward towards the **standardization of our moulding compounds**.

**WHAT IS THE CHANGE?**

All P/N series involved in this change are listed below.

Product Sub-Family	Product Series	Package
AC Switches	ACSTxxxT	TO-220AB
Ignitors	TN22-1500R	I <sup>2</sup> PAK
	TN22-1500T	TO-220AB
SCRs	TS4xx-xxxT	TO-220AB
	TS8xx-xxxT	TO-220AB
	TYN612MRG	TO-220AB
Triacs	BTB04-600SL	TO-220AB
Power Schottky Rectifiers	STPSxxxCR	I <sup>2</sup> PAK
	STPSxxxCT	TO-220AB
	STPSxxxCW	TO-247
	STTHxxxCY	Max247
	STPSxxxD	TO-220AC
	STPSxxxR	I <sup>2</sup> PAK
	STPSxxxST	TO-220AB
	STTHxxxCR	I <sup>2</sup> PAK
	STTHxxxCT	TO-220AB

The use of the **Cheil 7200DX** new moulding compound will **not impact** the **electrical, dimensional and thermal** parameters, maintaining unchanged current information published on the relevant datasheets. The verification is included in the qualification program.

The devices produced with the new moulding compound fully comply with the ST RoHS\* **ECOPACK** specification and the UL 94 V-0 standard.

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

**HOW AND WHEN?****Qualification and test results:**

The **reliability test plan** supporting the **qualification program** for the new molding compound is provided in **appendix 1**.

The qualification report is available on request **now**.

**Sampling:**

For all the concerned Products Families, **samples of selected devices**, including the test vehicles, are available **on request as indicated below**.

Salestypes	Package	Availability
ACST6-7ST	TO-220AB	Now
BTB04-600SL	TO-220AB	Now
STPS20150CT	TO-220AB	Now
STPS2045CT	TO-220AB	Now
STPS20H100CT	TO-220AB	Now
STPS20S100CT	TO-220AB	Now
STPS30120CT	TO-220AB	Now
STPS30175CW	TO-247	Wk10-08
STPS3045CT	TO-220AB	Now
STPS3045CW	TO-247	Wk10-08
STPS30H100CT	TO-220AB	Now
STPS30H60CT	TO-220AB	Now
STPS30L30CT	TO-220AB	Now
STPS30L45CT	TO-220AB	Now
STPS30L60CR	I <sup>2</sup> PAK	Wk10-08
STPS30L60CT	TO-220AB	Now
STPS30S45CW	TO-247	Wk10-08
STPS40H100CW	TO-247	Wk10-08
STPS41H100CR	I <sup>2</sup> PAK	Wk10-08
STPS41H100CT	TO-220AB	Now
STPS60H100CT	TO-220AB	Wk10-08
STPS80L60CY	Max247	Wk10-08
STTH1602CT	TO-220AC	Now
STTH20P03SW	TO-247	Wk10-08
STTH3012D	TO-220AC	Now
STTH8R06D	TO-220AC	Now
STTH8S06D	TO-220AC	Now
TN22-1500T	TO-220AB	Now
TYN612MRG	TO-220AB	Now

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

**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 18-2008	From Week 20-2008

Lack of acknowledgement of the PCN within **30 days** will constitute acceptance of the change. After acknowledgement, lack of additional response within the **90 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 with the new moulding compound have the same marking as currently produced parts. The **traceability** is ensured by the **date code** and by the **Q.A. number**.

Appendix 1: Reliability tests for qualification program of change



Rectifiers & AC Switches in wired I<sup>2</sup>PAK/TO-220/TO-247/Max247: New moulding compound implementation

Reliability tests plan for QUALIFICATION PROGRAM

Product Sub-family	Test Vehicle Salestypes	Package
AC Switch	ACST6-7ST	TO-220AB
Ignitors	TN22-1500T	TO-220AB
Power Schottky	STPS41H100CT	TO-220AB
	STPS80170CW	TO-247
Ultrafast	STTH8R06D	TO-220AC
	STTH3012D	

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	4	77 pcs / lot	0 failure
Temperature Cycling JESD22 A104	-65°C/+150°C Air/Air 2 cy / Hr	500 cycles	3	25 pcs / lot	0 failure
High Temperature Reverse Bias JESD22 A-108	V = 0.8 V <sub>RRM</sub> Tamb = 150°C	1,000 hours	5	77 pcs / lot	0 failure
Temperature Humidity Bias JESD22-A101	Tamb = 85°C RH = 85% V = 0.8 V <sub>RRM</sub> (limited to 100V max)	1,000 hours	4	77 pcs / lot	0 failure
Resistance to Solder Heat JESD22-B106-B	2 dipping 260°C	2 x 10s	3	30 pcs / lot	0 failure

(\*) Lots selected among test vehicles indicated above.

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