



PRODUCT/PROCESS CHANGE NOTIFICATION

PCN APM-IPC/08/3386
Notification Date 01/21/2008

**NEW EPOXY MOLDING COMPOUND FOR SO20 IPC DEVICES IN
AMKOR PHILIPPINES (U509 & U527 Lines)**

IPC - IND.& POWER CONV.

Table 1. Change Implementation Schedule

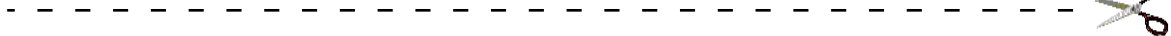
Forecasted implementation date for change	14-Jan-2008
Forecasted availability date of samples for customer	31-Jan-2008
Forecasted date for STMicroelectronics change Qualification Plan results availability	14-Jan-2008
Estimated date of changed product first shipment	21-Apr-2008

Table 2. Change Identification

Product Identification (Product Family/Commercial Product)	L4981ADxx & L4981BDxx families
Type of change	Package assembly material change
Reason for change	Amkor subcon PCN 400 as per enclosure
Description of the change	the change is made in compliance with the PCN 400 received by Amkor notifying the phase-out of the GC7450KS-2 EMC and the phase-in of the EMC Sumitomo GC600 green compound for SO package.
Product Line(s) and/or Part Number(s)	See attached
Description of the Qualification Plan	See attached
Change Product Identification	by the finished good code (see enclosure)
Manufacturing Location(s)	

Table 3. List of Attachments

Customer Part numbers list	
Qualification Plan results	



Customer Acknowledgement of Receipt		PCN APM-IPC/08/3386
Please sign and return to STMicroelectronics Sales Office		Notification Date 01/21/2008
<input type="checkbox"/> Qualification Plan Denied	Name:	
<input type="checkbox"/> Qualification Plan Approved	Title:	
	Company:	
<input type="checkbox"/> Change Denied	Date:	
<input type="checkbox"/> Change Approved	Signature:	
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DOCUMENT APPROVAL

Name	Function
Gattavari, Giuseppe	Division Marketing Manager
Montemezzo, Vincenzo	Division Product Manager
Motta, Antonino	Division Q.A. Manager



**NEW EPOXY MOLDING COMPOUND FOR SO20 IPC DEVICES
IN AMKOR PHILIPPINES (U509 & U527 Lines)**

WHAT:

In agreement with the enclosed PCN 400 received by Amkor Philippines, notifying the phase-out production of SO packages using Nitto GC7450KS-2 epoxy molding compound (EMC) and the phase-in of the new EMC Sumitomo G600 (green compound), the below devices belonging to the lines U509 & U527 will be affected by that material change:

line	mpdescr	packing type	p/n	OLD finished good	NEW finished good
U50903	SO 20	Tube	L4981AD	L4981AD-1LF/	L4981AD-2LF/
U50903	SO 20	Tape&Reel 13'	L4981AD013TR	L4981ADTR-1LF/	L4981ADTR-2LF/
U52703	SO 20	Tube	L4981BD	L4981BD-LF/	L4981BD-1LF/
U52703	SO 20	Tape&Reel 13'	L4981BD013TR	L4981BD13TR-LF/	L4981BD13TR-1LF/

WHY:

As described in the Amkor PCN 400, the change is made for quality improvement and overall production line efficiency.

HOW:

The line U509 has been used as test vehicle to qualify the involved IPC devices. See the enclosed qualification report.

WHEN:

The production of the above device will start in April 2008. The relevant samples could be available at the end of January 2008.

HOW TO IDENTIFY THE NEW PRODUCT:

The new product will be identified by the new finished good as shown on the above yellow column "New Finished Good"



Q&R Project Code: **QC001107CT6017**

Date: **20-12-2007**

QUALITY & RELIABILITY EVALUATION REPORT

Qualification of SOIC 201 PKG SUMITOMO G600 MOLDING COMPOUND PB FREE solution (Sn 100%) AMKOR ATP1/2 SUBCONTRACTOR

Abstract: EMC NITTO GC7450KS AMKOR SOIC-SSOP- ATP1/2 PHASE –OUT (PCN 400) AMKOR IS MOVING ON ABOVE MENTIONED LINE TO EMC SUMITOMO G600 (GREEN COMPOUND)

Conclusion:

On the basis of the already achieved Reliability positive results:

TSM*103 SOIC8L AMKOR ATP1

Q&R Project Code: **RR001007CT6017**

Date: **05-10-2007**

TSM*108 SOIC14L AMKOR ATP1

Q&R Project Code:

RR000507CT6017

Date: **21-03-2007**

Also an qualification exercise at Workability & Testing level was done using A5Z7*U509C product, with positive results.

We can issued a full qualification by extension for all the involved I&PC lines assembled in SOIC20L AMKOR ATP1/2 **subcontractor manufacturing.**

Note:

Products pass JEDEC LEV.@3 260°C

Product is without GND bonding.

Issued by
Francesco Ventura
(I&PC QA&R B-END)

Approved by
Antonino Motta
(I&PC /QA&R DIR.)



*Device construction note *A5Z7*U509CB6*

DIE FEATURES		PACKAGE FEATURES	
Die Code	: XU509CB6	Technical code(PKG)	: Z7
Diffusion process	: A4	Package name	: SOIC 20 .30
Wafer diameter	: 5"	Assembly site	: AMKOR ATP1
Diffusion site	: AMOKIO 6"	Leadframe / substrate	: SO20L 160x 200 MILS SELECTIVE Ag plating
Die size	: 2740 X 3380UM	Die attach	: GLUE ABLEBOND 8290
Die Tick.	: 375 ± 25 µm	Wire Bonding	: 1.2 mils Au
Passivation	: NITRIDE SiN	Solder balls / plating	: Sn100% (Pure Tin)
Back finishing	: Cr/Ni	Assy lot	: NA

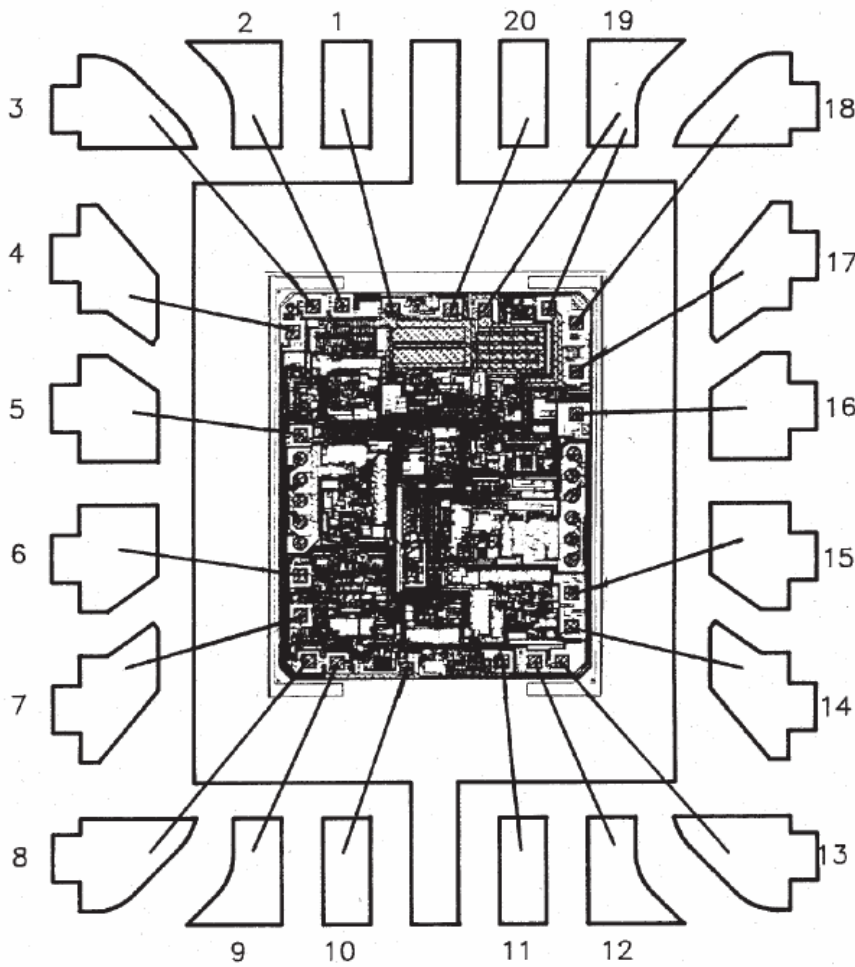
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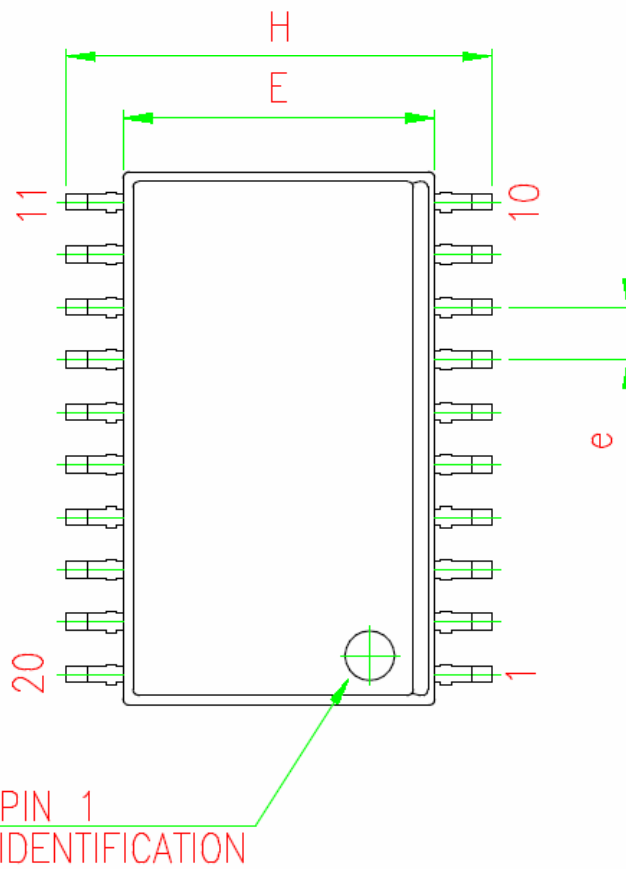
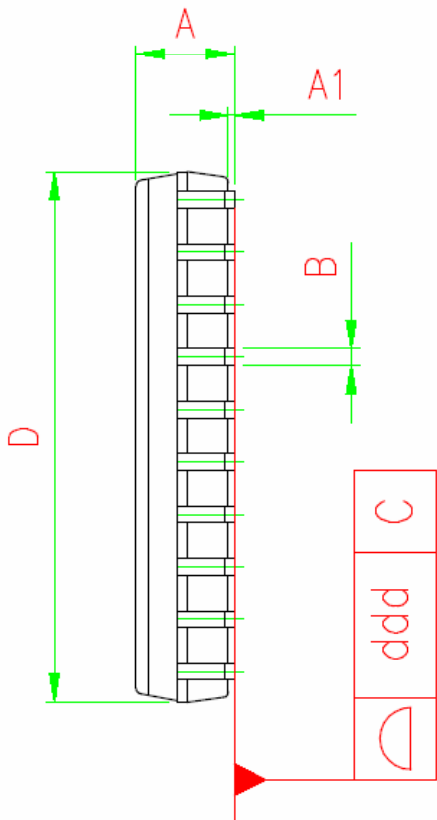
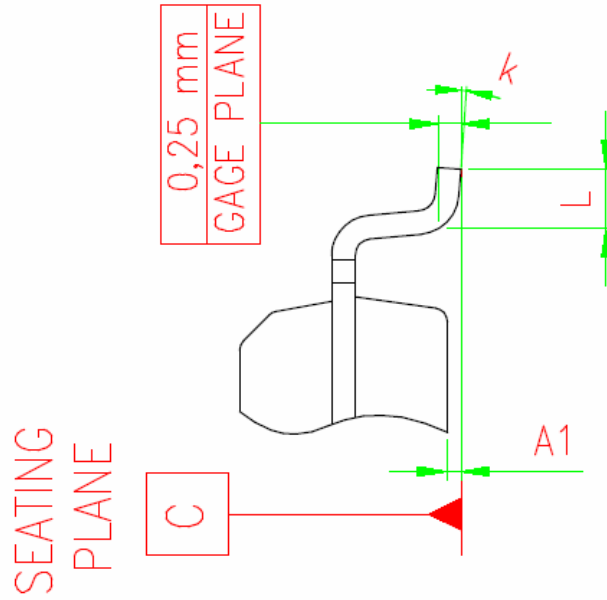
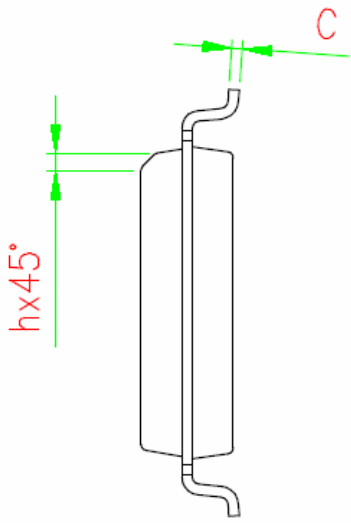
- -MBD(Mont & Bond Diagram)
- POA (Package Outline Assembly)



		GRAPHIC TITLE : BONDING DIAGRAM FOR <u>U5.Ø9</u>				
		UDCS NUMBER : _____ ECN: _____				
		ALTERNATE NUMBER : _____				
FRAME PAD	.160 x .200 4,064 x 5,080	inch mm	DIE SIZE	2,740 x 3,380	inch mm	Scale : 20/1

FIGURE 1







Check latest version

PACKAGE OUTLINE ASSEMBLY

TITLE: PLASTIC SMALL OUTLINE PACKAGE 20L WIDE

PACKAGE CODE: Z7

JEDEC/EIAJ REFERENCE NUMBER: JEDEC MS-013-AC

DIMENSIONS							
REF.	DATABOOK (mm)			DRAWING (mm)			NOTES
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	
A	2.35		2.65	2.36		2.55	
A1	0.10		0.30	0.10		0.30	
B	0.33		0.51	0.375		0.48	
C	0.23		0.32			0.292	
D	12.60		13.00	12.65		12.95	(1)
E	7.40		7.60	7.45		7.58	
e		1.27			1.27		
H	10.00		10.65	10.25		10.40	
h	0.25		0.75		0.35		
L	0.40		1.27		0.70		
k	0		8	0	5	8	DEGREES
ddd			0.10			0.06	

NOTES:

- (1) – Dimension “D” does not include mold flash, protrusions or gate burrs.
 Mold flash, protrusions or gate burrs shall not exceed 0.15mm per side.
- (2) – Drawing dimensions includes Single & Matrix versions.

AMKOR TECHNOLOGY, INC.

PRODUCT/PROCESS CHANGE NOTIFICATION

March 15, 2007

PCN 400

PHASE-OUT OF GC7450KS-2 EMC FOR
SOIC/SSOP/PSOP/SOJ

Phase-Out of GC7450KS-2 EMC for SOIC/SSOP/PSOP/SOJ

Change Classification: Major (Customer Approval Required)

Impacted Facilities: Amkor Technology Philippines (ATP1 and ATP2)

1.0 Scope:

This PCN serves as notice to all affected customers that Amkor Technology plans to eliminate the use of Nitto GC7450KS-2 epoxy molding compound (EMC) for the SOIC / SSOP / PSOP / SOJ package families.

2.0 Implementation Date:

Amkor plans to phase-out production of SOIC / SSOP / PSOP / SOJ products using Nitto GC7450KS-2 mold compound by June 30, 2007. Final timing will be determined by customer's schedules for last time builds or after converting to an alternate standard EMC, such as Sumitomo G600 (green).

3.0 Sales Action:

Distribute this PCN to all affected customers and work with them to plan for phase out of Nitto GC7450KS-2 EMC. Where possible, production should be converted to a standard EMC, like Sumitomo G600. If conversion to another EMC is not feasible, plans should be made for last time builds. Please contact the Product Group for assistance.

4.0 Customer Action:

Acknowledge receipt of this PCN, and after review, respond to your Amkor Technology account team with a formal plan for eliminating use of Nitto GC7450KS-2 EMC for production of SOIC / SSOP / PSOP / SOJ products.

5.0 Purpose of Change:

GC7450KS-2 EMC has ongoing manufacturability issues that negatively affects quality and results in significant equipment down time. In order to improve quality and overall production line efficiency, we are eliminating use of Nitto GC7450KS-2 EMC and suggest conversion to Amkor standard EMC materials.

6.0 Description of Change:

Amkor Technology Philippines plans to eliminate the use of Nitto GC7450KS-2 EMC, currently used for production of some SOIC / SSOP / PSOP / SOJ packages. Where possible, we are suggesting conversion to one of the Amkor standard EMC materials, such as Sumitomo G600.

7.0 Conclusion:

This PCN serves as notice to all affected customers that Amkor Technology plans to eliminate use of Nitto GC7450KS-2 EMC material by June 30, 2007. Customers should take appropriate action to assure continue production of affected SOIC / SSOP / PSOP / SOJ packages.

Please contact your Amkor Technology Account Manager if you have any additional questions.

8.0 Addenda:

A. Qualification data of Amkor standard Green molding compound, Sumitomo G600.

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