ON Semiconductor

FINAL PRODUCT/PROCESS CHANGE NOTIFICATION
Generic Copy

22 Jan 2010

SUBJECT: ON Semiconductor Final Product/Process Change Notification/#16331

TITLE: PBGA Mold Compound and Epoxy Change

PROPOSED FIRST SHIP DATE: 22 Apr 2010

AFFECTED CHANGE CATEGORY(S):

AFFECTED PRODUCT DIVISION(S): Industrial, Military, Aeronautics, Automotive, Wireless, Medical, VND, TND, and WRD

FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:
Contact your local ON Semiconductor Sales Office or Rhal Alolod < Rhal.Alolod@onsemi.com >

SAMPLES: Contact your local ON Semiconductor Sales Office

ADDITIONAL RELIABILITY DATA: Available
Contact your local ON Semiconductor Sales Office or Phine Guevarra <Phine.Guevarra @onsemi.com>

NOTIFICATION TYPE:

Final Product/Process Change Notification (FPCN)

Final change notification sent to customers. FPCNs are issued at least 90 days prior to implementation of the change.

ON Semiconductor will consider this change approved unless specific conditions of acceptance are provided in writing within 30 days of receipt of this notice. To do so, contact your local ON Semiconductor Sales Office.

DESCRIPTION AND PURPOSE:

The change is to convert from standard to green mold compound and die attach epoxy for all F/PBGA in AMKOR due to discontinuance of Cookson (mold compound manufacturer) in producing of SMT B1 or SMT B1RC because of low product demand. Majority of product are now going to green.

Propose Change	ckage Affected	From	To
D/A Material	FPBGA PBGA	Ablestik 8360	Ablebond 2300
Mold compound		SMT B1 or SMT B1 RC	GE100L or GE100LFCS
Plating		63Sn/37Pb	same

ON Semiconductor

Final Product/Process Change Notification #16331

RELIABILITY DATA SUMMARY:

The assembly qualification tests have concluded with passing results. ON Semiconductor releases the package and materials set under consideration for dry pack level 3 of IPC/JEDEC standard J-STD- 020 (Moisture/Reflow Sensitivity Classification for Non-Hermetic Solid State Surface Mount Devices).
This qualification covers PBGA's with maximum die size area of 44.36 mm2 and body size of 27 mm x 27 mm assembled at Amkor Philippines, Plant 3.

Reliability Test Results:

Reliability Test	Sample Size	Test Condition	Result
Moisture Preconditioning · Bake · Humidity Soak · Reflow	3 lots of 154 parts each lot	125 deg Cel 30 deg Cel/ 60% RH 225 deg Cel	Passed
Scanning Acoustic Microscopy	3 lots of 15 parts each lot	Based on Jedec spec J-STD-020	Passed
Preconditioning Temperature Cycling	3 lots of 77 parts each lot	-55°C / 125°C	Passed
Temperature Cycling	3 lots of 77 parts each lot	55°C / 125°C	Passed
Unbiased	3 lots of 77 parts each lot	HAST 130°C / 85% RH	Passed
High Temperature Bake	3 lots of 77 parts each lot	125°	Passed
Bond Pull Test	1 lot of 5 parts	Based on Mil-Std-883 Method 2001 (Bond Pull Strength)	Passed
Bond Shear Test	1 lot of 5 parts	AEC-Q100-001	Passed
Electrical Testing SW3	After each stress test	25 °C/125°C	Passed
Physical Dimension Inspection	1 lot of 30 parts	Based on JEDEC JESD22-B100 (Physical Dimension)	Passed
X-ray Inspection	3 lots of 15 parts each lot	Mil-Std-883 Method 2012	Passed
Solderability	3 lots of 15 parts each lot	Based on JEDEC JESD22-B122	Passed

CHANGED PART IDENTIFICATION:

No change on ONSEMI Part number, but new compound will be effective on date code 1016 (YYWW).

Final Product/Process Change Notification #16331

AFFECTED DEVICE LIST

PARTS	
0ASCA-003-XTD	0TSMA-001-XTD
12192-501-XTD	13505-505-XTD
13509-506-XTD	14062-501-XTD
14132-503-XTD	15022-516-XTD
15145-501-XTD	0CRIA-001-XTD
0HERA-001-XTD	0LETA-001-XTD
0PESB-001-XTD	0PESC-001-XTD
0RGLA-001-XTD	0TMTC-001-XTD
0TNIA-001-XTD	0TNIB-001-XTD
0WINA-001-XTD	0XBUA-003-XTP
11384-503-XTD	11979-501-XTD
12086-501-XTD	13520-509-XTD
13520-511-XTD	13520-513-XTD
13622-501-XTD	13704-501-XTD
13779-501-XTD	14073-501-XTD
14119-501-XTD	14150-001-XTD
14151-501-XTD	14152-502-XTD
14152-503-XTD	14174-501-XTD
14174-503-XTD	14211-502-XTD
14246-501-XTD	14257-501-XTD
14996-501-XTD	15123-501-XTD
15123-502-XTD	19275-001-XTD
19413-001-XTD	19616-002-XTD
62161-001-XTD	