ON Semiconductor

FINAL PRODUCT/PROCESS CHANGE NOTIFICATION
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12 Feb 2010

SUBJECT: ON Semiconductor Final Product/Process Change Notification #16401

TITLE: LQFP/PQFP Mold Compound and Epoxy Change

PROPOSED FIRST SHIP DATE: 12 May 2010

AFFECTED CHANGE CATEGORY(S): Assembly – Die attach and Mold process

AFFECTED PRODUCT DIVISION(S): Automotive, Digital, Foundry, Industrial

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 Josephine 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 LQFP/PQFP in ASEK due to worldwide GREEN policy.

Propose Change	Package Affected	From	To
D/A Material	LQFP	**ABL 8360 / 8361H**	**2288A**
Mold compound		**EME-7320A**	**CEL-9200THF**
D/A Material	PQFP	**ABL 8360**	**2288A**
Mold compound		**EME-6600CS**	**EME-G700A**

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RELIABILITY DATA SUMMARY:

The green packaging material qualification tests have concluded with positive results. No failures were incurred on all tests. ONSEMI released the package and green material 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 cover the LQFP's with body size not greater than 24 mm x 24 mm and maximum die size of 8616 mm2 and PQFP's with body size not greater than 28mm x 28mm and maximum die size of 75.84 mm2.

Reliability Test Results:

Reliability Test	Sample Size	Test Condition	Result
Moisture Preconditioning - Bake - Humidity Soak - Reflow	3 lots of 154 parts each lot	125°C 85°C / 60% RH 260°C	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	-65°C / 150°C	Passed
Temperature Cycling	3 lots of 77 parts each lot	-65°C / 150°C	Passed
Autoclave	3 lots of 77 parts each lot	121°C / 100% 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	After each stress test	SW3, 25 °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 1018 (YYWW)

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AFFECTED DEVICE LIST

15007-518-XTD
0FHOA-001-XTD
11133-504-XTD
06805-016-XTD
62145-001-XTD
62146-001-XTD
06809-504-XTD
14287-501-XTD
08853-001-XTD
61787-001-XTD
61788-001-XTD
06809-019-XTD
11311-503-XTD
13873-501-XTD
15007-020-XTD
06713-069-XTD
0I278-001-XTD
13915-001-XTD
13916-001-XTD
12197-501-XTD
11717-001-XTD
13879-001-XTD