PCN Number:	20170228002-005	**PCN Date:**	April 18, 2017
Title:	Qualification of a new Die Attach Material for Select Devices		
Customer Contact:	PCN Manager	**Dept:**	Quality Services
Proposed 1st Ship Date:	Oct 11, 2017	**Estimated Sample Availability:**	Date provided at sample request

Change Type:

☐	Assembly Site	☐	Design	☐	Wafer Bump Site
☐	Assembly Process	☐	Data Sheet	☐	Wafer Bump Material
☒	Assembly Materials	☐	Part number change	☐	Wafer Bump Process
☐	Mechanical Specification	☐	Test Site	☐	Wafer Fab Site
☐	Packing/Shipping/Labeling	☐	Test Process	☐	Wafer Fab Materials
				☐	Wafer Fab Process

PCN Details

Description of Change:

This notification is to announce the qualification of a new die attach material for the devices in the product affected section below as follows:

Current	Proposed
8087417	4222215

Reason for Change:

Die Attach Supplier change no longer producing current material. No current material available after PCN expiration.

Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):

None

Anticipated impact on Material Declaration

☐	No Impact to the Material Declaration	☒	Material Declarations or Product Content reports are driven from production data and will be available following the production release. Upon production release the revised reports can be obtained from the TI ECO website.

Changes to product identification resulting from this PCN:

None

Product Affected:

TPS5450MDDAREP	TPS73601MDCQREP	V62/06626-01YE	V62/90644-01XE

Qualification Report

Qualification of 4222215 Die Attach Epoxy as Replacement of End of Life 8087417 Epoxy for Commercial Devices

Product Attributes

Attributes	Qual Device: OPA2211AIDDAR	Qual Device: OPA454AIDDAR	Qual Device: REG1117A/2K5	Qual Device: TPS72xxxQDCQR
Assembly Site	HNT	HNT	HNT	HNT
Package Family	SOIC (SO PowerPAD)	HSOIC (PowerPAD)	SOT223	SOT223
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	FR-BIP-1	DL LIN	SH-BIP-1	TSMC-WF2
Wafer Process	BICOM3-HV	LBC-SOI	BIPOLAR	0.60UM-TSMC

- QBS: Qual By Similarity
- Qual Device REG1117A/2K5 is qualified at LEVEL1-260C
- Qual Device OPA2211AIDDAR is qualified at LEVEL1-260C
- Qual Device OPA454AIDDAR is qualified at LEVEL2-260C
- Qual Device TPS7xxxxQDCQR is qualified at LEVEL2-260C

Qualification Results

Data Displayed as: Number of lots / Total sample size / Total failed

Type	Test Name / Condition	Duration	Qual Device: OPA2211AIDDAR	Qual Device: OPA454AIDDAR	Qual Device: REG1117A/2K5	Qual Device: TPS72xxxQDCQR
PC	Automotive Preconditioning	Level 2-260C	-	-	-	3/308/0
PC	Preconditioning	Level 1-260C	3/154/0	-	3/231/0	-
PC	Preconditioning	Level 2-260C	-	3/308/0	-	-
AC	Autoclave, 121C	96 Hours	3/77/0	3/77/0	3/77/0	3/77/0
DS	Die Shear	QSS 009-009	3/10/0	3/10/0	3/10/0	3/10/0
ED	Electrical Distributions	Cpk>1.67	-	-	-	3/30/0
ED	Electrical Characterization	-	3/15/0	3/15/0	-	-
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	-	3/77/0
HTOL	Life Test, 125C	1000 Hours	-	-	-	3/77/0
HTSL	High Temp. Storage Bake, 150C	1000 Hours	-	3/77/0	3/77/0	3/77/0
MQ	Manufacturability	(per mfg. Site specification)	3/0/0	3/0/0	3/0/0	-
MQ	Manufacturability (Auto Assembly)	(per automotive requirements)	-	-	-	3/0/0
MSL	Moisture Sensitivity	Level 1-260C	-	-	3/12/0	-
MSL	Thermal Integrity Sequence	Level 1-260C	3/12/0	-	-	-
MSL	Thermal Integrity Sequence	Level 2-260C	-	3/12/0	-	3/12/0
TC	Temperature Cycle, -65C/150C	500 Cycles	3/77/0	3/77/0	3/77/0	3/77/0
TC-WBP	Post Temp Cycle Bond Pull	30 ball bonds, min. 5 units	-	-	-	3/5/0
TS	Thermal Shock, -65C/+150C	500 Cycles	-	3/77/0	-	-
XRAY	X-ray	(top side only)	3/5/0	3/5/0	3/5/0	3/5/0
YLD	FTY and Bin Summary	-	3/0/0	3/0/0	3/0/0	3/0/0

- Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable.
- The following are equivalent HTSL options based on an activation energy of 0.7eV: 150C/1k Hours and 170C/420 Hours.
- The following are equivalent Temperature Cycle options per JESD47: -55C/125C/700 Cycles and -65C/150C/500 Cycles.

Quality and Environmental data is available at TI's external Web site: http://www.ti.com/

Green/Pb-free Status:

Qualified Pb-Free (SMT) and Green

For questions regarding this notice, e-mails can be sent to the regional contacts shown below or your local Field Sales Representative.

Location	E-Mail
USA	PCNAmericasContact@list.ti.com
Europe	PCNEuropeContact@list.ti.com
Asia Pacific	PCNAsiaContact@list.ti.com
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