



12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN#20180219000

**Qualification of an improved material set for select devices in the QFP package
Change Notification / Sample Request**

Date: February 23, 2018

To: TOKYO ELECTRON DEVICE (DSTR) PCN

Dear Customer:

This is an announcement of a change to a device that is currently offered by Texas Instruments. The details of this change are on the following pages.

We request you acknowledge receipt of this notification within **30** days of the date of this notice. Lack of acknowledgement of this notice within 30 days constitutes acceptance of the change. If you require samples or additional data to support your evaluation, please request within 30 days.

The changes discussed within this PCN will not take effect any earlier than **90** days from the date of this notification, unless customer agreement has been reached on an earlier implementation of the change. This notification period is per TI's standard process.

This notice does not change the end-of-life status of any product. Should product affected be on a previously issued product withdrawal/discontinuance notice, this notification does not extend the life of that product or change the life time buy offering/discontinuance plan.

For questions regarding this notice, contact your local Field Sales Representative or the PCN Manager (PCN_ww_admin_team@list.ti.com).

Sincerely,

PCN Team
SC Business Services

20180219000
Attachment: 1

Products Affected:

The devices listed on this page are a subset of the complete list of affected devices. According to our records, these are the devices that you have purchased within the past twenty-four (24) months. The corresponding customer part number is also listed, if available.

DEVICE	CUSTOMER PART NUMBER
ADS8556IPMR	null
CDC2586PAH	null
DS90C387AVJD/NOPB	null
DS90CR483VJD/NOPB	null
DS90CR484VJD/NOPB	null
MSP430F155IPM	null
MSP430F156IPM	null
MSP430F157IPM	null
MSP430F168IPM	null
MSP430F2617TPM	null
MSP430F447IPZ	null
MSP430F4783IPZ	null
MSP430F479IPN	null
MSP430F6721IPN	null
MSP430F6721IPZ	null
MSP430F6723IPZ	null
MSP430F6726IPZ	null
MSP430F6747IPZ	null
PCI2250PCM	null
TL16C550CIPT	null
TL16C550CPT	null
TL16C752BPT	null
TMS320F28035PNT	null
TMS320F2812PGFA	null
TMS320F28335PGFA	null
TMS320VC5502PGF200	null
TMS320VC5509APGE	null
TSB12LV32PZ	null
MSP430F2616TPM	null
TMS320VC5507PGE	null
MSP430F5438IPZR	null
ADS1672IPAG	null
DP83849IVS/NOPB	null
MSP430F5435IPN	null
TL16C550CPTG4	null
TL16C552APN	null
TL16C554APN	null
TM4C123GH6PZI7	null
TM4C1294NCPDTI3	null
TMS320F28334PGFA	null
TUSB2046BVF	null
MSP430F235TPM	null
MSP430F247TPM	null
MSP430F2481TPM	null
MSP430F2618TPN	null
MSP430F5529IPNR	null
TL16C550DPTR	null
TL16C554AIPN	null
TM4C1290NCPDTT3	null
TMS320VC5502PGF300	null
ADS8555SPM	null
MSP430F437IPN	null
MSP430F449IPZR	null
MSP430F4784IPZR	null
MSP430F478IPNR	null
MSP430F4794IPZR	null
MSP430F6433IPZR	null

MSP430F6633IPZR	null
MSP430F6726IPZR	null
TMDS361BPAGR	null
ADS5421Y/T	null
ADS8528SPMR	null
ADS8556IPM	null
MSP430F149IPMR	null
MSP430F2417TPM	null
MSP430F425IPMR	null
MSP430F6720IPNR	null
MSP430F6779AIPZ	null
TL16C550DPT	null
TL16C754BPN	null
TM4C1231E6PZI7	null
TM4C1231E6PZI7R	null
TM4C129ENCPDTI3	null
TMDS251PAGR	null
TMS320VC5506PGE	null
TUSB2046BVFR	null
TVP5150AM1IPBSR	null
ADS8558IPM	null
DS90C387RVJDX/NOPB	null
DS90C387VJD/NOPB	null
LM98519VHB/NOPB	null
MSP430F4794IPZ	null
TSB43AB21APDT	null
TUSB3410IVF	null
TL16C554APNG4	null
TM4C123GE6PZI7	null
TMS320F28062PNT	null
TMS320F28069PNT	null
SN88080A4PFBR	null
ADS1299IPAG	null
MSP430FG439IPNR	null
MSP430FG479IPNR	null
ADS8555SPMR	null
MSP430F425IPM	null
TL16C550CIPTTR	null
TL16C550DIPTTR	null
MSP430F2416TPMR	null
MSP430F2471TPMR	null
MSP430F249TPMR	null
MSP430V174IPM	null
TMS320F28034PNT	null
TPS5140PAGR	null
TVP5150AM1PBSR	null
TMDS361APAGR	null
ADS131E08IPAG	null
ADS131E08IPAGR	null
TL16CP754CPM	null
MSP430F477IPN	null
TM4C1292NCPDTI3	null
MSP430F5438IPZ	null
TMS320F2812PGFS	null
TM4C1233H6PZI	null
MSP430F1611IPM	null
MSP430F5310IPTTR	null
MSP430FR5887IPM	null
PCI1510PGE	null
TMS320F28234PGFA	null
DAC7718SPAG	null
MSP430F5309IPT	null
ADS130E08IPAGR	null
MSP430F427IPMR	null
MSP430F6721IPZR	null
MSP430F6726IPN	null
MSP430FG4618IPZR	null
TM4C123GH6PGEI7	null
ADS1299IPAGR	null
PCI2250PCMG4	null

MSP430FR6889IPN	null
PCM4220PFBR	null
TM4C123GH6PZT	null
TM4C123GH6PZT7	null
TAS5508BPAGRG4	null
TMS320VC5501PGF300	null
LM98620VHB/NOPB	null
TUSB2077APT	null
SN88080A2PFBR	null
TAS5508BPAGR	null

Technical details of this Product Change follow on the next page(s).

PCN Number:	20180219000		PCN Date:	Feb 23 2018	
Title:	Qualification of an improved material set for select devices in the QFP package				
Customer Contact:	PCN Manager		Dept:	Quality Services	
Proposed 1st Ship Date:	May 23 2018		Estimated Sample Availability:	Provided upon Request	
Change Type:					
☐	Assembly Site	☐	Assembly Process	☒	Assembly Materials
☐	Design	☐	Electrical Specification	☐	Mechanical Specification
☐	Test Site	☐	Packing/Shipping/Labeling	☐	Test Process
☐	Wafer Bump Site	☐	Wafer Bump Material	☐	Wafer Bump Process
☐	Wafer Fab Site	☐	Wafer Fab Materials	☐	Wafer Fab Process
	☐	Part number change			
PCN Details					
Description of Change:					
Texas Instruments is pleased to announce the qualification of a new material set for the devices listed in pg 2 of this notification as follows:					
		Current		New	
Mount Compound		4042504 or 4208458		4211470	
Mold Compound		4205442 or 4211649 or 4210842 or 4207207 or 4205444		4222198	
Reason for Change:					
Continuity of Supply					
Anticipated impact on Fit, Form, 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:					
Not Applicable					
Product Affected					
See Page 2					



Qualification Report

UniBOM Qualification for QFP packages in TIPI Approve Date 21-Dec-2017

Product Attributes

Attributes	Qual Device: <u>PCI2250PGE</u>	Qual Device: <u>TL16CP554APM</u>	Qual Device: <u>TMS320F28062PZT</u>	Qual Device: <u>TMS320VC5509APGE</u>
Assembly Site	PHI	PHI	PHI	PHI
Package Family	-	LQFP	LQFP	LQFP
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	TSMC-TA1	DL-LIN	DP1-DM5	DMOS6
Wafer Process	0.35UM-TSMC	50C21	18F05	1533C035

- QBS: Qual By Similarity
- Qual Devices qualified at LEVEL3-260C: PCI2250PGE, TMS320F28062PZT, TL16CP554APM
- Qual Device TMS320VC5509APGE is qualified at LEVEL4-260C

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: <u>PCI2250PGE</u>	Qual Device: <u>TL16CP554APM</u>	Qual Device: <u>TMS320F28062PZT</u>	Qual Device: <u>TMS320VC5509APGE</u>
AC	Autoclave, 121C	96 Hours	3/231/0	3/231/0	3/231/0	3/231/0
HTSL	High Temp. Storage Bake, 150C	500 Hours	3/231/0	3/231/0	3/231/0	3/231/0
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	Pass	Pass
MSL	Moisture Sensitivity	Level 3-260C	3/36/0	3/36/0	3/36/0	3/36/0
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	3/231/0	3/231/0	3/231/0
VM	Post Autoclave Visual Quality Reliability Inspection	--	3/6/0	3/6/0	-	-
VM	Post Temp. Cycle Visual Quality Reliability Inspection	--	3/6/0	3/6/0	-	-
YLD	FTY and Bin Summary	--	Pass	Pass	Pass	Pass

- Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable.
- The following are equivalent HTOL options based on an activation energy of 0.7eV: 125C/1000 Hours, 140C/480 Hours, 150C/300 Hours, and 155C/240 Hours.
- The following are equivalent HTSL options based on an activation energy of 0.7eV: 150C/1000 Hours, and 170C/420 Hours.
- The following are equivalent Temp Cycle options per JESD47: -65C/125C/700 Cycles and -65C/150C/500 Cycles.

Quality and Environmental data is available at TI's external Website: <http://www.ti.com/>

Green/Pb-free Status:

Qualified Pb-Free(SMT) and Green



Qualification Report

UniBOM Qualification for QFP packages in TITL Approve Date 21-Dec-2017

Product Attributes

Attributes	Qual Device: ADS1675IPAG	Qual Device: MSP430FR6989IPZR	Qual Device: TL16C554AIPNR	Qual Device: TPS2383APMR
Assembly Site	TAI	TAI	TAI	TAI
Package Family	TQFP	LQFP	LQFP	LQFP
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	DP1DM5	DMOS6	DL-LIN	DL-LIN
Wafer Process	50HPA07	HPE035	C21	LBC4

- Qual Device ADS1675IPAG_ is qualified at LEVEL4-260C

- Qual Devices qualified at LEVEL3-260C: TPS2383APMR, TL16C554AIPNR, MSP430FR6989IPZR

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: ADS1675IPAG	Qual Device: MSP430FR6989IPZR	Qual Device: TL16C554AIPNR	Qual Device: TPS2383APMR
AC	Autoclave, 121C	96 Hours	3/231/0	3/231/0	3/231/0	3/231/0
HAST	Biased HAST, 130C, Vddmax	96 Hours	-	3/231/0	-	-
HTSL	High Temp. Storage Bake, 150C	1000 Hours	3/231/0	3/231/0	3/231/0	3/231/0
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	Pass	Pass
MSL	Moisture Sensitivity	Level 3-260C	-	3/36/0	3/36/0	3/36/0
MSL	Moisture Sensitivity	Level 4-260C	3/36/0	-	-	-
TC	Temperature Cycle, -6C/150C	500 Cycles	3/231/0	3/231/0	3/231/0	3/231/0
VM	Post Autoclave Visual Quality Reliability Inspection	--	-	-	3/6/0	3/6/0
VM	Post HAST/THB Visual Quality Reliability Inspection	--	-	1/2/0	-	-
VM	Post Temp. Cycle Visual Quality Reliability Inspection	--	-	-	3/6/0	3/6/0
YLD	FTY and Bin Summary	--	Pass	Pass	Pass	Pass

- Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable.

- The following are equivalent HTOL options based on an activation energy of 0.7eV: 125C/1000 Hours, 140C/480 Hours, 150C/300 Hours, and 155C/240 Hours.

- The following are equivalent HTSL options based on an activation energy of 0.7eV: 150C/1000 Hours, and 170C/420 Hours.

- The following are equivalent Temp 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
Japan	PCNJapanContact@list.ti.com