12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN# 20230328008.1
Qualify New Assembly Material set for Selected Device(s)
Change Notification / Sample Request

Date: March 30, 2023
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.

Texas Instruments requires acknowledgement of 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 samples or additional data are required, requests must be received within **30 days** of this notification.

The changes discussed within this PCN will not take effect any earlier than the proposed first ship date on Page 3 of this notification, unless customer agreement has been reached on an earlier implementation of the change.

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 or to provide acknowledgement of this PCN, you may contact your local Field Sales Representative or the PCN Team (PCN_ww_admin_team@list.ti.com). For sample requests or sample related questions, contact your local Field Sales Representative.

Sincerely,

PCN Team
SC Business Services

20230328008.1
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
DAC8830ICD	null
DAC8831ICD	null

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

PCN Number:	20230328008.1	PCN Date:	March 30, 2023
Title:	Qualify New Assembly Material set for Selected Device(s)		
Customer Contact:	PCN Manager	Dept:	Quality Services
Proposed 1st Ship Date:	June 29, 2023	Sample requests accepted until:	Apr 29, 2023*

*Sample requests received after Apr 29, 2023 will not be supported.

Change Type:

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

PCN Details

Description of Change:

Texas Instruments is pleased to announce the qualification of new assembly material for devices listed in "Product affected" section below. Devices will remain in current assembly facility and piece part changes as follows:

Material	Current	Proposed
Mount compound	4042500, 4205846, 4211470	4147858
Mold compound	4209640	4211880

Reason for Change:

Continuity of supply.

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

None.

Impact on Environmental Ratings

Checked boxes indicate the status of environmental ratings following implementation of this change. If below boxes are checked, there are no changes to the associated environmental ratings.

RoHS	REACH	Green Status	IEC 62474
☒ No Change	☒ No Change	☒ No Change	☒ No Change

Changes to product identification resulting from this PCN:

None.

Product Affected:

DAC8830ICD	DAC8831ICD	TLE2027CD	TLE2027CDR
DAC8830ICDG4	SN65HVD1040HD	TLE2027CDG4	

Qualification Report commercial

Approved 14-Mar-2023

Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: DAC8830MCDEP	QBS Reference: OPA2365AQDRQ1
AC	A3	Autoclave	121C/15psig	96 Hours	-	3/231/0
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	3/231/0
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	-	3/135/0
PD	C4	Physical Dimensions	Cpk>1.67	-	-	3/30/0
FTY	E6	Final Test Yield	-	-	PASS	-

QBS: Qual By Similarity

Qual Device DAC8830MCDEP is qualified at MSL3 260C

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/1k 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/1k 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

Qualification Report commercial

Approved 13-Sept-2021

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: BQ32002DR	Qual Device: PCM1801U	Qual Device: TPS2048ADR	QBS Package Reference: CHC4851QDRQ1	QBS Package Reference: TLC5917QDRCT	QBS Package Reference: TPS5410QDRQ1	QBS Package Reference: UCC28220QDRQ1	QBS Package Reference: ULN2003ADR
AC	Autoclave 121C	96 Hours	3/231/0	3/231/0	3/231/0	3/231/0	3/231/0	3/231/0	3/231/0	-
HAST	Biased HAST, 130C/85%RH	250 Hours*	-	-	-	-	-	-	-	1/77/0
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	-	-	-	-	-	1/77/0
HTSL	High Temp Storage Bake 175C	500 Hours	-	-	-	3/135/0	3/135/0	3/135/0	3/135/0	-
LI	Lead Fatigue	Leads	1/66/0	3/66/0	3/66/0	-	-	-	-	-
LI	Lead Pull	Leads	1/72/0	3/72/0	3/72/0	1/48/0	-	-	3/144/0	-
PD	Physical Dimensions	(per mechanical drawing)	3/15/0	3/15/0	3/15/0	1/30/0	-	-	-	-
PKG	Lead Finish Adhesion	Leads	-	-	-	-	-	-	3/45/0	-
SD	Solderability	Pb Free	3/66/0	3/66/0	3/66/0	-	-	-	3/45/0	-
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	3/231/0	3/230/0	3/231/0	3/231/0	3/231/0	3/231/0	-
TC-BP	Bond Pull Post T/C 500 Cycles	Wires	-	-	-	3/90/0	3/90/0	3/90/0	3/90/0	-
VM	Visual / Mechanical	(per mfg. Site specification)	3/984/0	3/984/0	3/984/0	-	-	-	-	-
WBP	Wire Bond Pull (Cpk>1.67)	Wires	3/228/0	3/228/0	3/228/0	3/90/0	3/90/0	3/90/0	3/90/0	-
WBS	Wire Bond Shear (Cpk>1.67)	Wires	3/228/0	3/228/0	3/228/0	3/90/0	3/90/0	3/90/0	3/90/0	-

- QBS: Qual By Similarity
- Qual Devices TPS2048ADR, BQ32002DR, PCM1801U are qualified at LEVEL1-260CG
- Device TPS2048ADR contains multiple dies.
- 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/1k 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/1k 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
*HAST 130C/85%RH 250 Hours QBS reference is for EP devices in PCN

Qualification Report commercial

Approved 06-May-2016

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: 1P8T245NSR	Qual Device: ADS900E	Qual Device: PCM1801U	Qual Device: SN65HVD1781DR	Qual Device: TCA9546ADR	Qual Device: TCA9546ADR_RLF	Qual Device: TL494IDR
AC	Autoclave 121C	96 Hours	3/231/0	-	3/231/0	-	3/231/0	3/231/0	-
FLAM	Flammability (UL 94V-0)	-	-	-	-	-	3/15/0	3/15/0	-
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	-	-	-	-	3/231/0
HTSL	High Temp Storage Bake 170C	420 Hours	3/231/0	-	3/231/0	-	3/231/0	3/231/0	-
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	Pass	Pass	Pass	Pass	-
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	3/222/0	3/231/0	3/231/0	3/231/0	3/231/0	-
TC-BP	Post TC Bond Pull	Wires	-	-	-	3/90/0	3/162/0	3/90/0	-

Type	Test Name / Condition	Duration	Qual Device: TLC320AD77CDBR	Qual Device: TPS2074DB	Qual Device: TPS2101D	Qual Device: TPS2214ADB	Qual Device: TSS721AD	Qual Device: UC27131D	QBS Package Reference: ULQ2003AQDRQ1_STDLF
AC	Autoclave 121C	96 Hours	3/231/0	3/231/0	-	3/231/0	-	-	3/231/0
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	-	-	-	-	3/231/0
HTOL	Life Test, 150C	408 Hours	-	-	-	-	-	-	3/231/0
HTSL	High Temp Storage Bake 150C	1000 Hours	-	-	-	-	-	-	1/45/0
HTSL	High Temp Storage Bake 170C	420 Hours	3/231/0	3/231/0	-	3/231/0	-	-	-
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	Pass	Pass	Pass	Pass	-
MQ	Manufacturability (Auto Assembly)	(per automotive requirements)	-	-	-	-	-	-	Pass
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	3/231/0	3/231/0	3/231/0	3/231/0	-	3/231/0
TC-BP	Post TC Bond Pull	Wires	-	-	-	-	-	-	1/30/0

- QBS: Qual By Similarity
- Qual Devices qualified at LEVEL1-260C: TL494IDR, TSS721AD, 1P8T245NSR, PCM1801U, TLC320AD77CDBR, TPS2074DB, TPS2101D, SN65HVD1781DR, TCA9546ADR, TPS2214ADB
- Qual Devices qualified at LEVEL2-260C: ADS900E, UC27131D
- Device TLC320AD77CDBR contains multiple dies.

- 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/1k 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/1k 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
WW PCN Team	PCN_ww_admin_team@list.ti.com

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