TEXAS INSTRUMENTS 12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN# 20211001000.2
Qualify New Assembly Material set for Selected Device(s)
Change Notification / Sample Request

Date: December 17, 2021
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

20211001000.2
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 sixty (60) months. The corresponding customer part number is also listed, if available.

DEVICE	CUSTOMER PART NUMBER
SN65LVDS31MDREP	null
TL074QDREP	null

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

PCN Number:	20211001000.2	**PCN Date:**	December 17, 2021
Title:	Qualify New Assembly Material set for Selected Device(s)		
Customer Contact:	PCN Manager	**Dept:**	Quality Services
Proposed 1st Ship Date:	June 17, 2022	**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:

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

Material	Current	Proposed
Leadframe type	Non-rough	Rough
Mold compound	4205694	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:

CD74HC4051MM96EP	TLC2274AMDREP	UCC2818MDREP	V62/05611-01YE
LM239AMDREP	TLC2274MDREP	V62/03606-01XE	V62/06607-03YE
LM239AQDREP	TLV2254AQDREP	V62/03618-02YE	V62/06607-04YE
SN65HVD33MDREP	TLV2374MDREP	V62/03618-04YE	V62/06634-04YE
SN65LVDS31MDREP	TLV2464AMDREP	V62/03619-07YE	V62/07609-01XE
SN74LV4051ATDREP	TLV2464AMDREPG4	V62/03664-01YE	V62/07627-01XE
TL074MDEP	TLV2774AMDREP	V62/03672-01XE	V62/09617-01XE
TL074MDREP	TLV2774MDREP	V62/03672-02XE	V62/11621-01XE
TL074QDREP	UC2901MDREP	V62/04651-04XE	V62/11621-02XE
TLC2254AQDREP	UC2901MDREPG4	V62/04682-04YE	V62/11621-02XE-T

Qualification Report

Automotive New Product Qualification Summary
(As per AEC-Q100 and JEDEC Guidelines)

Approved 13-Sep-2021

Qualification Results

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

	Type	#	Test Spec	Min Lot Qty	SS/Lot	Test Name / Condition	Duration	Qual Device: CD4093BQM96Q1	Qual Device: K3HVD1781QDRQ1	Qual Device: SE555DR	Qual Device: SN103592DR	Qual Device: SN74HCS08QDRQ1	Qual Device: TCAN1043GDRQ1	Qual Device: TCAN1044VDRQ1	Qual Device: TLC5916QDRQ1	Qual Device: TMS3705DDRQ1
Test Group A – Accelerated Environment Stress Tests																
	AC	A3	JEDEC JESD22-A102	3	77	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	3/231/0	3/231/0
	TC	A4	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle, -65/150C	500 Cycles	3/231/0	3/231/0	3/231/0	3/231/0	3/231/0	3/231/0	3/231/0	3/231/0	3/231/0
	PTC	A5	JEDEC JESD22-A105	1	45	Power Temperature Cycle	1000 Cycles	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Test Group B – Accelerated Lifetime Simulation Tests																
	EDR	B3	AEC Q100-005	3	77	NVM Endurance, Data Retention, and Operational Life	-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Test Group C – Package Assembly Integrity Tests																
	WBS	C1	AEC Q100-001	1	30	Wire Bond Shear (Cpk>1.67)	-	3/90/0	3/90/0	3/90/0	3/90/0	3/90/0	3/90/0	3/90/0	3/90/0	3/90/0
	WBP	C2	MIL-STD883 Metho	1	30	Wire Bond Pull (Cpk>1.67)	-	3/90/0	3/90/0	3/90/0	3/90/0	3/90/0	3/90/0	3/90/0	3/90/0	3/90/0

Type	#	Test Spec	Min Lot Qty	SS/Lot	Test Name / Condition	Duration	Qual Device: CD4093BQM96Q1	Qual Device: K3HVD1781QDRQ1	Qual Device: SE555DR	Qual Device: SN103592DR	Qual Device: SN74HCS08QDRQ1	Qual Device: TCAN1043GDRQ1	Qual Device: TCAN1044VDRQ1	Qual Device: TLC5916QDRQ1	Qual Device: TMS3705DDRQ1
		d 2011													
SD	C3	JEDEC JESD 22-B102	1	15	Surface Mount Solderability >95% Lead Coverage	PB-Free Solder	3/45/0	3/45/0	3/45/0	3/45/0	3/45/0	3/45/0	3/45/0	3/45/0	3/45/0
PD	C4	JEDEC JESD 22-B100 and B108	3	10	Physical Dimensions (Cpk>1.67)	-	3/30/0	3/30/0	3/30/0	3/30/0	3/30/0	3/30/0	3/30/0	3/30/0	3/30/0
SBS	C5	AEC Q100-010	3	50	Solder Ball Shear (Cpk>1.67)	Solder Balls	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LI	C6	JEDEC JESD 22-B105	1	50	Lead Fatigue	Leads	3/66/0	3/66/0	3/66/0	3/66/0	3/66/0	3/66/0	3/66/0	3/66/0	3/66/0
LI	C6	JEDEC JESD 22-B105	1	50	Lead Pull	Leads	3/72/0	3/72/0	3/72/0	3/72/0	3/72/0	3/72/0	3/72/0	3/72/0	3/72/0
Test Group D – Die Fabrication Reliability Tests															
EM	D1	JESD 61	-	-	Electromigration	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements
TDDB	D2	JESD 35	-	-	Time Dependent Dielectric Breakdown	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements
HCI	D3	JESD 60 & 28	-	-	Hot Injection Carrier	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements
NBTI	D4	-	-	-	Negative Bias Temperature Instability	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements
SM	D5	-	-	-	Stress Migration	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements

- QBS: Qual By Similarity
- Qual Devices CD4093BQM96Q1, K3HVD1781QDRQ1, SE555DR, SN103592DR, SN74HCS08QDRQ1, TCAN1043GDRQ1, TCAN1044VDRQ1,TLC5916QDRQ1 are qualified at LEVEL1-260CG
- Qual Device TMS3705DDRQ1 is qualified at LEVEL3-260CG

A1 (PC): Preconditioning:
Performed for THB, Biased HAST, AC, uHAST, TC & PTC samples, as applicable.

Ambient Operating Temperature by Automotive Grade Level:
Grade 0 (or E): -40°C to +150°C
Grade 1 (or Q): -40°C to +125°C
Grade 2 (or T): -40°C to +105°C
Grade 3 (or I) : -40°C to +85°C

E1 (TEST): Electrical test temperatures of Qual samples (High temperature according to Grade level):
Room/Hot/Cold : HTOL, ED
Room/Hot : THB / HAST, TC / PTC, HTSL, ELFR, ESD & LU
Room : AC/uHAST

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

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