12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN# 20250326009.1
Qualification of RFAB using qualified Process Technology, Die Revision, Datasheet and additional Assembly Site & BOM options for select devices
Change Notification / Sample Request

Date: March 27, 2025
To: MOUSER PCN

Dear Customer:

This is an announcement of a change to a device that is currently offered by Texas Instruments (TI). The details of this change are on the following pages, and are in alignment with our standard product change notification (PCN) process.

TI requires acknowledgement of receipt of this notification within 60 days of the date of this notice. Lack of acknowledgement of this notice within 60 days constitutes acceptance and approval of this change. If samples or additional data are required, requests must be received within 60 days of this notification, given that samples are not built ahead of the change.

The Proposed First Ship date in this PCN letter is the earliest possible date that customers could receive the changed material. It is our commitment that the changed device will not ship before that date. If samples are requested within the 60 day sample request window, customers will still have 30-days to complete their evaluation regardless of the proposed 1st ship date.

Changes outlined in this notification underscore our commitment to product longevity and supply continuity, as well as our continued efforts to transition to newer, more efficient manufacturing processes and technologies. Specifically, this particular notification is related to TI's multiyear transition plan for our two remaining 150-millimeter production lines (DFAB in Dallas, Texas, and SFAB in Sherman, Texas). SFAB closure activities are expected to begin by the end of 2025. DFAB will remain open with a smaller set of 200mm technologies and GaN.

For questions regarding this notice or to provide acknowledgement of this PCN, you may contact your local Field Sales Representative or the Change Management team. For sample requests or sample related questions, contact your local Field Sales Representative. As always, we thank you for your continued business.

TI values customer engagement and feedback related to TI changes. Customers should contact TI if there are questions or concerns regarding a change notification.

Change Management Team
SC Business Services

20250326009.1
Attachment: 1

Products Affected:

The devices listed on this page are a subset of the complete list of affected devices. According to our records, you have recently purchased these devices. The corresponding customer part number is also listed, if available.

DEVICE	CUSTOMER PART NUMBER
LM4041DQDBZT	NULL
LM4040CIM3-8.2/NOPB	LM4040CIM3-8.2/NO
LM4041DIDBZR	NULL
TL4051AQDBZR	NULL
LM4040BIM3-10.0/NOPB	NULL
LM4040A10IDBZR	LM4040A10IDBZR
LM4040DIM3X-10/NOPB	LM4040DIM3X-10/NO
LM4041CIM3X-ADJ/NOPB	NULL
TL4050B10IDBZR	NULL
LM4040DIM3-10.0/NOPB	LM4040DIM3-10.0/NO
LM4041BIDBZR	NULL
LM4050AEM3-10/NOPB	LM4050AEM3-10/NOPB
LM4051AIM3-ADJ/NOPB	LM4051AIM3-ADJ/NO
LM4040A10IDBZT	NULL
TL4050A10IDBZR	NULL
LM4041DEM3-ADJ/NOPB	LM4041DEM3-ADJ/NO
LM4041CIM3-ADJ/NOPB	LM4041CIM3-ADJ/NO
LM4050BEM3-10/NOPB	LM4050BEM3-10/NOPB
LM4050CIM3-10/NOPB	LM4050CIM3-10/NOPB
LM4040BIM3X-10/NOPB	NULL
LM4040DIM3-8.2/NOPB	LM4040DIM3-8.2/NO
LM4041DQDBZR	NULL
LM4040AIM3-10.0/NOPB	NULL
LM4051CIM3X-ADJ/NOPB	LM4051CIM3X-ADJ/NO
LM4041CIDBZT	NULL
LM4040D10IDBZT	NULL
LM4041CEM3-ADJ/NOPB	LM4041CEM3-ADJ/NO
LM4041CEM3X-ADJ/NOPB	LM4041CEM3X-ADJ/NO
LM4051CIM3-ADJ/NOPB	LM4051CIM3-ADJ/NO
LM4050AIM3-10/NOPB	NULL
LM4040C82IDBZR	NULL
LM4041CIDBZR	NULL
TL4051BQDBZR	NULL
LM4041DIM3X-ADJ/NOPB	LM4041DIM3X-ADJ/NO
LM4050AEM3-8.2/NOPB	LM4050AEM3-8.2/NO
LM4040A82IDBZR	NULL
LM4040C10IDBZR	NULL
LM4040CIM3-10.0/NOPB	LM4040CIM3-10.0/NO
LM4041DIDBZT	NULL
LM4040D10IDBZR	NULL
TL4051AIDBZT	NULL
LM4041DEM3X-ADJ/NOPB	NULL
LM4040BIM3-8.2/NOPB	NULL
LM4041BIDBZT	NULL
LM4051BIM3-ADJ/NOPB	LM4051BIM3-ADJ/NO
LM4041DIM3-ADJ/NOPB	LM4041DIM3-ADJ/NO

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

PCN Number:	20250326009.1	PCN Date:	March 27, 2025
Title:	Qualification of RFAB using qualified Process Technology, Die Revision, Datasheet and additional Assembly Site & BOM options for select devices		
Customer Contact:	Change Management Team	Dept:	Quality Services
Proposed 1st Ship Date:	June 25, 2025	Sample requests accepted until:	May 26, 2025*

***Sample requests received after May 26, 2025 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 Material
☒	Packing/Shipping/Labeling	☐	Test Process	☒	Wafer Fab Process

PCN Details

Description of Change:

Texas Instruments is pleased to announce the addition of RFAB using the LBC9 qualified process technology and additional Assembly Site/BOM options for the devices listed below.

Current Fab Site			Additional Fab Site		
Current Fab Site	**Process**	**Wafer Diameter**	**Additional Fab Site**	**Process**	**Wafer Diameter**
SFAB	Ji2	150 mm	RFAB	LBC9	300 mm
GFAB	Ji2	150 mm			

The die was also changed as a result of the process change.

Construction differences are as follows:

	Current Assembly Site			Additional Assembly Site	
	TIEMA	**UTL2**	**ASEWH**	**CDAT**	**TIPI**
Wire diam/type	1.0mil Au	1.0mil Au	1.0mil Au	0.8mil Cu	0.8mil Cu
Mount compound	8075531	PZ0001	1120999A2	4207123	4207123
Mold compound	8097131	CZ0096	4020039A1	4222198	4222198
Lead finish	Matte Sn	NiPdAu	NiPdAu	Matte Sn	NiPdAu
ECAT	G3	G4	G4	G3	G4

Upon expiry of this PCN, TI will combine lead finish solutions in a single standard part number. For example, a customer order for 7500 units of a specific TI part number with 2500 units SPQ (Standard Pack Quantity per reel) may be fulfilled in the following ways:

- 3 reels of NiPdAu finish.
- 3 reels of Matte Sn finish
- 2 reels of Matte Sn and 1 reel of NiPdAu finish
- 2 reels of NiPdAu and 1 reel of Matte Sn finish

The datasheets will be changing as a result of the above mentioned changes. The datasheet change details can be reviewed in the datasheet revision history. The links to the revised datasheets are available in the table below.

Changes from Revision L (October 2018) to Revision M (March 2025) **Page**

- Updated pinout diagrams ... 3
- Updated CDM ESD rating ... 5
- Updated reverse breakdown voltage change with operating current change specification ... 33
- Updated reverse breakdown voltage change with operating current change specification. ... 34
- Added information on part numbers. ... 52

Changes from Revision G (January 2016) to Revision H (March 2025) **Page**

- Updated the numbering format for tables, figures, and cross-references throughout the document ... 1
- Updated *Applications* links ... 1
- Updated LP pin numbering ... 3
- Added electromagnetic interference note and updated LP pinout numbering ... 3
- Removed machine model (MM) ESD specification, updated CDM ESD specification ... 5
- Updated reverse current specification ... 5
- Changed minimum operating current test conditions from: LM4041EEM3, LM4041QEEM3 to: $T_A = T_J = T_{MIN}$ to T_{MAX} ... 10
- Changed VR temperature coefficient test conditions from: LM4041EEM3, LM4041QEEM3 to: I_R = 10mA ... 10
- Changed VR temperature coefficient test conditions from: LM4041EEM3, LM4041QEEM3 to: I_R = 100µA ... 10
- Added ΔVREF/ΔVKA information for adjustable versions ... 22
- Added ordering information for part numbers which include "X" ... 31

Changes from Revision D (September 2018) to Revision E (June 2024) **Page**

- Updated *Applications* links ... 1
- Added information about device behavior in high EMI environments ... 3
- Added information about device behavior in high EMI environments ... 3
- Removed machine model (MM) ESD specification and added CDM ESD specification ... 4
- Corrected Equation 7 and Equation 8, added information about device behavior with output voltage less than 2.5V ... 15
- Added part number clarification for part numbers including "X" ... 21

Changes from Revision O (June 2024) to Revision P (March 2025) **Page**

- Updated pinout diagrams ... 4
- Updated CDM ESD ratings ... 5
- Updated reverse breakdown voltage change with cathode current change ... 22
- Updated reverse breakdown voltage change with cathode current change ... 23

Changes from Revision G (July 2024) to Revision H (March 2025) **Page**

- Updated LP pin numbering ... 3
- Added electromagnetic interference note and updated LP pinout numbering ... 3
- Added ESD ratings ... 5
- Added reference voltage change with output voltage change details ... 17

TEXAS INSTRUMENTS

TL4050
SLOS486B – JUNE 2007 – REVISED MARCH 2025

Changes from Revision A (June 2007) to Revision B (March 2025) **Page**

- Updated the numbering format for tables, figures, and cross-references throughout the document..... 1
- Updated pinout information for high EMI applications..... 1
- Added ESD ratings..... 4
- Updated reverse breakdown voltage change with cathode current change..... 11
- Updated reverse breakdown voltage change with operating current change..... 12

TEXAS INSTRUMENTS

TL4051
SLOS487A – JUNE 2007 – REVISED MARCH 2025

Changes from Revision * (June 2007) to Revision A (March 2025) **Page**

- Updated the numbering format for tables, figures, and cross-references throughout the document..... 1
- Added information about device behavior in high EMI environments..... 1
- Added ESD ratings..... 4
- Added information about device behavior with cathode voltage <2.5V..... 14

TEXAS INSTRUMENTS

LM4050-N, LM4050-N-Q1
SNOS455H – MAY 2000 – REVISED MARCH 2025

Changes from Revision G (September 2015) to Revision H (March 2025) **Page**

- Updated the numbering format for tables, figures, and cross-references throughout the document..... 1
- Updated *Applications* links..... 1
- Added information about high EMI applications..... 3
- Removed machine model (MM) ESD specification and revised the CDM ESD specification..... 4
- Removed industrial temperature range part numbers from extended temperature range row and corrected typos..... 6
- Updated reverse breakdown voltage change with operating current change..... 11
- Clarified orderable part number information. 24

Product Folder	Current Datasheet Number	New Datasheet Number	Link to full datasheet
LM4040-N/-Q1	SNOS633L	**SNOS633M**	http://www.ti.com/product/LM4040-N
LM4041-N LM4041-N-Q1	SNOS641G	**SNOS641H**	http://www.ti.com/product/LM4041-N
LM4051-N	SNOS491D	**SNOS491E**	http://www.ti.com/product/LM4051-N
LM4040	SLOS456O	**SLOS456P**	http://www.ti.com/product/LM4040
LM4041	SLCS146G	**SLCS146H**	http://www.ti.com/product/LM4041
TL4050	SLOS486A	**SLOS486B**	http://www.ti.com/product/TL4050
TL4051	SLOS487	**SLOS487A**	http://www.ti.com/product/TL4051
LM4050-N/-Q1	SNOS455G	**SNOS455H**	http://www.ti.com/product/LM4050-N

Qual details are provided in the Qual Data Section.

Reason for Change:

These changes are part of our multiyear plan to transition products from our 150-millimeter factories to newer, more efficient manufacturing processes and technologies, underscoring our commitment to product longevity and supply continuity.

Anticipated impact on Form, Fit, 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:

Fab Site Information:

Chip Site	Chip Site Origin Code (20L)	Chip Site Country Code (21L)	Chip Site City
SH-BIP-1	SHE	USA	Sherman
GFAB6	GF6	GBR	Greenock
RFAB	**RFB**	**USA**	**Richardson**

Die Rev:

Current	New
Die Rev [2P]	**Die Rev [2P]**
A, B, C, -	**A**

Assembly Site Information:

Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (23L)	Assembly City
ASEWH	AWH	CHN	Weihai
TIEMA	CU6	MYS	Melaka
UTL2	NS2	THA	Bangpakong, Chachoengsao
TIPI	**PHI**	**PHL**	**Baguio City**
CDAT	**CDA**	**CHN**	**Chengdu**

Sample product shipping label (not actual product label):

Product Affected:

LM4040A10IDBZR	LM4040D10IDBZT	LM4041DIDBZT	TL4050A10IDBZT
LM4040A10IDBZT	LM4040D82IDBZR	LM4041DIM3-ADJ/NOPB	TL4050A10QDBZR
LM4040A82IDBZR	LM4040D82IDBZT	LM4041DIM3X-ADJ/NOPB	TL4050B10IDBZR
LM4040A82IDBZT	LM4040DIM3-10.0/NOPB	LM4041DQDBZR	TL4050B10IDBZT
LM4040AIM3-10.0/NOPB	LM4040DIM3-8.2/NOPB	LM4041DQDBZT	TL4050B10QDBZR
LM4040AIM3X-10/NOPB	LM4040DIM3X-10/NOPB	LM4050AEM3-10/NOPB	TL4050B10QDBZT
LM4040B10IDBZR	LM4041BIDBZR	LM4050AEM3-8.2/NOPB	TL4050C10IDBZR
LM4040B10IDBZT	LM4041BIDBZT	LM4050AEM3X-10/NOPB	TL4050C10IDBZT
LM4040B82IDBZR	LM4041CEM3-ADJ/NOPB	LM4050AIM3-10/NOPB	TL4050C10QDBZR
LM4040BIM3-10.0/NOPB	LM4041CEM3X-ADJ/NOPB	LM4050BEM3-10/NOPB	TL4051AIDBZR
LM4040BIM3-8.2/NOPB	LM4041CIDBZR	LM4050BEM3X-10/NOPB	TL4051AIDBZT
LM4040BIM3X-10/NOPB	LM4041CIDBZT	LM4050CIM3-10/NOPB	TL4051AQDBZR
LM4040C10IDBZR	LM4041CIM3-ADJ/NOPB	LM4051AIM3-ADJ/NOPB	TL4051BIDBZR
LM4040C10IDBZT	LM4041CIM3X-ADJ/NOPB	LM4051AIM3X-ADJ/NOPB	TL4051BIDBZT
LM4040C82IDBZR	LM4041CQDBZR	LM4051BIM3-ADJ/NOPB	TL4051BQDBZR
LM4040CIM3-10.0/NOPB	LM4041CQDBZT	LM4051BIM3X-ADJ/NOPB	TL4051CIDBZR

LM4040CIM3-8.2/NOPB	LM4041DEM3-ADJ/NOPB	LM4051CIM3-ADJ/NOPB	TL4051CIDBZT
LM4040CIM3X-10/NOPB	LM4041DEM3X-ADJ/NOPB	LM4051CIM3X-ADJ/NOPB	TL4051CQDBZR
LM4040D10IDBZR	LM4041DIDBZR	TL4050A10IDBZR	

For alternate parts with similar or improved performance, please visit the product page on TI.com

Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: LM4040AIM3-10.0/NOPB	Qual Device: LM4040A10IDCKR	Qual Device: LM4041CIM7-ADJ/NOPB	Qual Device: LM4041CIDBZR	QBS Reference: LM4050QAEM3-10/NOPB
PD	C4	Physical Dimensions	Cpk>1.67	-	-	-	-	-	1/10/0
ESD	E2	ESD CDM	-	250 Volts	-	1/3/0	1/3/0	-	-
ESD	E2	ESD CDM	-	500 Volts	-	-	-	-	1/3/0
ESD	E2	ESD HBM	-	2000 Volts	-	-	-	-	1/3/0
LU	E4	Latch-Up	Per JESD78	-	-	-	-	-	1/3/0
CHAR	E5	Electrical Distributions	Cpk>1.67 Room, hot, and cold	-	-	-	-	-	1/30/0

- QBS: Qual By Similarity, also known as Generic Data
- Qual Device LM4040AIM3-10.0/NOPB is qualified at MSL1 260C
- Qual Device LM4040A10IDCKR is qualified at MSL1 260C
- Qual Device LM4041CIM7-ADJ/NOPB is qualified at MSL1 260C
- Qual Device LM4041CIDBZR is qualified at MSL1 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/

TI Qualification ID: R-CHG-2311-090

Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: LM4040A10IDBZR	Qual Device: LM4041BIDBZR	QBS Reference: PTPS3840PHXXDBVR	QBS Reference: LM4050QAEM3-10/NOPB	QBS Reference: TL4050C10QDBZR	QBS Reference: LM4041QCEM3-ADJ/NO
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	-	3/231/0	-	-	-
UHAST	A3	Unbiased HAST	130C/85%RH	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	-	-	-
HTOL	B1	Life Test	125C	1000 Hours	-	-	3/231/0	-	-	-
SD	C3	PB Solderability	Precondition w.155C Dry Bake (4 hrs +/- 15 minutes)	-	-	-	1/15/0	-	-	-
SD	C3	PB-Free Solderability	Precondition w.155C Dry Bake (4 hrs +/- 15 minutes)	-	-	-	1/15/0	-	-	-

Type	#	Test Name	Condition	Duration	Qual Device: LM4040A10IDBZR	Qual Device: LM4041BIDBZR	QBS Reference: PTPS3840PHXXDBVR	QBS Reference: LM4050QAEM3-10/NOPB	QBS Reference: TL4050C10QDBZR	QBS Reference: LM4041QCEM3-ADJ/NO
PD	C4	Physical Dimensions	Cpk>1.67	-	-	-	3/30/0	1/10/0	1/10/0	1/10/0
ESD	E2	ESD CDM	-	500 Volts	-	-	1/3/0	1/3/0	-	-
ESD	E2	ESD HBM	-	2000 Volts	-	-	1/3/0	1/3/0	-	-
LU	E4	Latch-Up	Per JESD78	-	-	-	1/6/0	1/3/0	-	-
CHAR	E5	Electrical Distributions	Cpk>1.67 Room, hot, and cold	-	-	-	3/90/0	1/30/0	-	-

- QBS: Qual By Similarity, also known as Generic Data
- Qual Device LM4040A10IDBZR is qualified at MSL1 260C
- Qual Device LM4041BIDBZR is qualified at MSL1 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/

TI Qualification ID: R-CHG-2502-067

For questions regarding this notice, e-mails can be sent to the Change Management team or your local Field Sales Representative.