



12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN# 20240202005.1

**Qualification of RFAB using qualified Process Technology, Die Revision, and
additional Assembly site options
Change Notification / Sample Request**

Date: February 02, 2024

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 30 days of the date of this notice. Lack of acknowledgement of this notice within 30 days constitutes acceptance and approval of this change. If samples or additional data are required, requests must be received within 30 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 30 day sample request window, customers will still have 30-days to complete their evaluation regardless of the proposed 1st ship date.

This particular PCN is related to TI's multiyear transition plan for our two remaining factories with 150-millimeter production (DFAB in Dallas, Texas, and SFAB in Sherman, Texas). DFAB will remain open, but will focus on 200-mm production, with a smaller set of technologies. SFAB will close no earlier than 2024 and no later than 2025. As referenced in the "reason for change" below, these changes are part of our multiyear plan to transition these products to newer, more efficient manufacturing processes and technologies, underscoring our commitment to product longevity and supply continuity.

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.

Change Management Team
SC Business Services

20240202005.1
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
LM4050AEM3-2.0/NOPB	NULL
LM4050AEM3-2.5/NOPB	NULL
LM4050AEM3-5.0/NOPB	NULL
LM4050AEM3X-2.5/NOPB	NULL
LM4050AIM3-2.5/NOPB	NULL
LM4050AIM3-4.1/NOPB	NULL
LM4050AIM3-5.0/NOPB	NULL
LM4050AIM3X-2.5/NOPB	NULL
LM4050AIM3X-5.0/NOPB	NULL
LM4050BEM3-2.5/NOPB	NULL
LM4050BEM3-4.1/NOPB	NULL
LM4050BEM3-5.0/NOPB	NULL
LM4050BIM3-2.5/NOPB	NULL
LM4050BIM3-4.1/NOPB	NULL
LM4050BIM3-5.0/NOPB	NULL
LM4050BIM3X-2.5/NOPB	NULL
LM4050BIM3X-5.0/NOPB	NULL
LM4050CEM3-5.0/NOPB	NULL
LM4050CIM3-2.5/NOPB	NULL
LM4050CIM3-5.0/NOPB	NULL
LM4050CIM3X-2.5/NOPB	NULL
LM4051AIM3-1.2/NOPB	NULL
LM4051BEM3-1.2/NOPB	NULL
LM4051BIM3-1.2/NOPB	NULL
LM4051CIM3-1.2/NOPB	NULL
TL4050A25IDBZR	NULL
TL4050A25IDBZT	NULL
TL4050A25QDBZR	NULL
TL4050A25QDBZT	NULL
TL4050A41IDBZR	NULL
TL4050A41QDBZT	NULL
TL4050A50IDBZR	NULL
TL4050A50IDBZT	NULL
TL4050A50QDBZR	NULL
TL4050A50QDBZT	NULL
TL4050B25IDBZR	NULL
TL4050B25IDBZT	NULL
TL4050B25QDBZR	NULL
TL4050B50IDBZR	NULL
TL4050B50IDBZT	NULL
TL4050C25IDBZR	NULL
TL4050C25IDBZT	NULL
TL4050C25QDBZR	NULL
TL4050C50IDBZT	NULL
TL4050C50QDBZR	NULL
TL4051A12IDBZR	NULL
TL4051A12QDBZR	NULL
TL4051B12IDBZR	NULL

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

PCN Number:	20240202005.2	PCN Date:	February 02, 2024
Title:	Qualification of RFAB using qualified Process Technology, Die Revision, and additional Assembly site options		
Customer Contact:	Change Management team	Dept:	Quality Services
Proposed 1st Ship Date:	May 2, 2024	Estimated Sample Availability:	Mar 2, 2024*

***Sample requests received after March 2, 2024 will not be supported.**

Change Type:			
<input checked="" type="checkbox"/> Assembly Site	<input checked="" type="checkbox"/> Design	<input checked="" type="checkbox"/> Wafer Bump Material	
<input checked="" type="checkbox"/> Assembly Process	<input type="checkbox"/> Data Sheet	<input checked="" type="checkbox"/> Wafer Bump Process	
<input checked="" type="checkbox"/> Assembly Materials	<input type="checkbox"/> Part number change	<input checked="" type="checkbox"/> Wafer Fab Site	
<input type="checkbox"/> Mechanical Specification	<input type="checkbox"/> Test Site	<input checked="" type="checkbox"/> Wafer Fab Materials	
<input checked="" type="checkbox"/> Packing/Shipping/Labeling	<input type="checkbox"/> Test Process	<input checked="" type="checkbox"/> 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 (CDAT, TIPI) options for the device listed below.

Current Fab Site			Additional Fab Site		
Current Fab Site	Process	Wafer Diameter	Additional Fab Site	Process	Wafer Diameter
SFAB	LFAST/JI2	150/200 mm	RFAB	LBC9	300 mm
GFAB6/8	LFAST	150/200 mm			

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

Additionally, there will be a BOM options introduced for these devices (**C2312071**):

	UTL2	TIEM	CDAT	TIPI
Bond wire diam/type	1.0mil Au	1.0mil Au	0.8mil Cu	0.8mil Cu
Mount compound	PZ0001	4213245	4207123	4207123
Mold compound	CZ0096	8097131	4222198	4222198
Lead finish	NiPdAu	Matte Sn	Matte Sn	NiPdAu
Pin 1 Marking	Notch	Stripe	Dot	Dot

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
<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> No Change

Changes to product identification resulting from this PCN:

Fab Site Information:

Chip Site	Chip Site Origin	Chip Site Country Code (21L)	Chip Site City
-----------	------------------	------------------------------	----------------

	Code (20L)		
GFAB6	GF6	GBR	Greenock
GFAB8	GF8	GBR	Greenock
SH-BIP-1	SHE	USA	Sherman
RFAB	RFB	USA	Richardson

Die Rev:

Current

New

Die Rev [2P]	Die Rev [2P]
C _r -	A

Assembly/Test Site Information:

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

Sample product shipping label (not actual product label)



MADE IN: Malaysia
2DC: 20:

MSL 2 / 260C / 1 YEAR	SEAL DT
MSL 1 / 235C / UNLIM	03/29/04

OPT:
ITEM: 39
LBL: 5A (L)T0:1750



(1P) SN74LS07NSR
(Q) 2000 (D) 0336
(31T) LOT: 3959047MLA
(4W) TKY (1T) 7523483S12
(P)
(2P) REV: (V) 0033317
(20L) CS0: SHE (21L) CC0: USA
(22L) AS0: MLA (23L) AC0: MYS

Product Affected:

LM4050AEM3-2.0/NOPB	LM4050BIM3X-4.1/NOPB	TL4050A25IDBZT	TL4050C25IDBZR
LM4050AEM3-2.5/NOPB	LM4050BIM3X-5.0/NOPB	TL4050A25QDBZR	TL4050C25IDBZT
LM4050AEM3-5.0/NOPB	LM4050CEM3-2.5/NOPB	TL4050A25QDBZT	TL4050C25QDBZR
LM4050AEM3X-2.5/NOPB	LM4050CEM3-5.0/NOPB	TL4050A41IDBZR	TL4050C41IDBZR
LM4050AEM3X-5.0/NOPB	LM4050CEM3X-2.5/NOPB	TL4050A41IDBZT	TL4050C41IDBZT
LM4050AIM3-2.5/NOPB	LM4050CEM3X-5.0/NOPB	TL4050A41QDBZR	TL4050C41QDBZR
LM4050AIM3-4.1/NOPB	LM4050CIM3-2.5/NOPB	TL4050A41QDBZT	TL4050C50IDBZR
LM4050AIM3-5.0/NOPB	LM4050CIM3-4.1/NOPB	TL4050A50IDBZR	TL4050C50IDBZT
LM4050AIM3X-2.5/NOPB	LM4050CIM3-5.0/NOPB	TL4050A50IDBZT	TL4050C50QDBZR
LM4050AIM3X-4.1/NOPB	LM4050CIM3X-2.0/NOPB	TL4050A50QDBZR	TL4051A12IDBZR
LM4050AIM3X-5.0/NOPB	LM4050CIM3X-2.5/NOPB	TL4050A50QDBZT	TL4051A12IDBZT
LM4050BEM3-2.5/NOPB	LM4050CIM3X-4.1/NOPB	TL4050B25IDBZR	TL4051A12QDBZR
LM4050BEM3-4.1/NOPB	LM4050CIM3X-5.0/NOPB	TL4050B25IDBZT	TL4051A12QDBZT
LM4050BEM3-5.0/NOPB	LM4051AIM3-1.2/NOPB	TL4050B25QDBZR	TL4051B12IDBZR
LM4050BEM3X-2.5/NOPB	LM4051AIM3X-1.2/NOPB	TL4050B41IDBZR	TL4051B12IDBZT
LM4050BEM3X-5.0/NOPB	LM4051BEM3-1.2/NOPB	TL4050B41IDBZT	TL4051B12QDBZR
LM4050BIM3-2.5/NOPB	LM4051BIM3-1.2/NOPB	TL4050B41QDBZR	TL4051C12IDBZR
LM4050BIM3-4.1/NOPB	LM4051BIM3X-1.2/NOPB	TL4050B41QDBZT	TL4051C12IDBZT
LM4050BIM3-5.0/NOPB	LM4051CIM3-1.2/NOPB	TL4050B50IDBZR	TL4051C12QDBZR
LM4050BIM3X-2.0/NOPB	LM4051CIM3X-1.2/NOPB	TL4050B50IDBZT	TL4051C12QDBZT

LM4050BIM3X-2.5/NOPB	TL4050A25IDBZR	TL4050B50QDBZR
----------------------	----------------	----------------

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: PLM405X25DBZRQ1	Qual Device: PLM405X25DBZRQ1	Process QBS Reference: BQ79616HPAPRQ1	Package QBS Reference: PTPS3840PHXXDBVR(PH)	Package/Product QBS Reference: LM4040QAIM3- 5.0NO(PH)	Package QBS Reference: TL431BQDBZRQ1(CDAT)	Package/Product QBS Reference: PLM40XX25DBZRQ1(CDAT)
UHASt	A3	Autoclave	121C/15psig	96 Hours	-	-	3/231/0	-	-	-	-
UHASt	A3	Unbiased HAST	130C/85%RH	96 Hours	-	-	-	3/231/0	1/77/0	3/231/0	1/77/0
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	-	3/231/0	3/231/0	1/77/0	3/231/0	1/77/0
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	-	-	3/135/0	3/135/0	1/45/0	3/231/0	1/45/0
HTSL	A6	High Temperature Storage Life	175C	500 Hours	-	-	3/135/0	-	-	-	-
HTOL	B1	Life Test	125C	1000 Hours	-	-	3/231/0	3/231/0	3/231/0	-	1/77/0
ELFR	B2	Early Life Failure Rate	125C	48 Hours	-	-	3/2400/0	-	-	-	-
PD	C4	Physical Dimensions	Cpk>1.67	-	-	-	3/30/0	3/30/0	1/10/0	3/30/0	-
ESD	E2	ESD CDM	-	500 Volts	-	-	1/3/0	1/3/0	1/3/0	-	1/3/0
ESD	E2	ESD HBM	-	2000 Volts	-	-	1/3/0	1/3/0	1/3/0	-	1/3/0
LU	E4	Latch-Up	Per JESD78	-	-	-	1/6/0	1/6/0	1/6/0	-	1/6/0
CHAR	E5	Electrical Distributions	Cpk>1.67 Room, hot, and cold	-	-	-	3/90/0	3/90/0	3/90/0	3/90/0	3/90/0

- 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-2312-065

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

IMPORTANT NOTICE AND DISCLAIMER

TI PROVIDES TECHNICAL AND RELIABILITY DATA (INCLUDING DATASHEETS), DESIGN RESOURCES (INCLUDING REFERENCE DESIGNS), APPLICATION OR OTHER DESIGN ADVICE, WEB TOOLS, SAFETY INFORMATION, AND OTHER RESOURCES "AS IS" AND WITH ALL FAULTS, AND DISCLAIMS ALL WARRANTIES, EXPRESS AND IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

These resources are intended for skilled developers designing with TI products. You are solely responsible for (1) selecting the appropriate TI products for your application, (2) designing, validating and testing your application, and (3) ensuring your application meets applicable standards, and any other safety, security, or other requirements. These resources are subject to change without notice. TI grants you permission to use these resources only for development of an application that uses the TI products described in the resource. Other reproduction and display of these resources is prohibited. No license is granted to any other TI intellectual property right or to any third party intellectual property right. TI disclaims responsibility for, and you will fully indemnify TI and its representatives against, any claims, damages, costs, losses, and liabilities arising out of your use of these resources.

TI's products are provided subject to TI's Terms of Sale (www.ti.com/legal/termsofsale.html) or other applicable terms available either on ti.com or provided in conjunction with such TI products. TI's provision of these resources does not expand or otherwise alter TI's applicable warranties or warranty disclaimers for TI products.