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:

☒	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 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
☒ No Change	☒ No Change	☒ No Change	☒ 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, -	**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)

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(PHI)	Package/Product QBS Reference: LM4040QAIM3-5.0/NOPHI	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.

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