12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN# 20240613001.1
Qualification of RFAB using qualified Process Technology, Die Revision, and additional BOM options for select devices
Change Notification / Sample Request

Date: June 13, 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

20240613001.1
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
UA78M05CDCY	NULL
UA78M05CDCYG3	NULL
UA78M05CDCYR	NULL
UA78M05CDCYRG3	NULL
UA78M05IDCY	NULL
UA78M05IDCYG3	NULL
UA78M05IDCYR	NULL
UA78M05IDCYRG3	NULL
UA78M33CDCY	NULL
UA78M33CDCYG3	NULL
UA78M33CDCYR	NULL
UA78M33CDCYRG3	NULL

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

PCN Number:	20240613001.1	**PCN Date:**	June 13, 2024
Title:	Qualification of RFAB using qualified Process Technology, Die Revision, and additional Assembly BOM options for select devices		
Customer Contact:	Change Management Team	**Dept:**	Quality Services
Proposed 1st Ship Date:	September 11, 2024	**Sample requests accepted until:**	July 13, 2024*

***Sample requests received after July 13, 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 Material
☒	Packing/Shipping/Labeling	☐	Test Process	☒	Wafer Fab Process

PCN Details

Description of Change:

Texas Instruments is pleased to announce the qualification of its RFAB fabrication facility as an additional Wafer Fab option in addition to Assembly 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	JI1	150 mm	RFAB	TIB	300 mm

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

For more information on the performance of the TIB die (new chip) and any differences with the JI1 die (legacy chip), please consult the datasheet (rev. SLVS059U). An example of that comparison is shown below:

Ripple rejection	V_I = 8V to 18V, f = 120Hz	I_O = 100mA, T_J = full range	Legacy chip	62		dB
		I_O = 100mA, T_J = –40°C to 125°C	New chip	57		
		I_O = 300mA	Legacy chip	62	80	
			New chip	56	62	

Construction differences are as follows:

	TFME	TFME (new)
Wire type/diam	1.98mil Cu	1.0mil Au

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
RFAB	**RFB**	**USA**	**Richardson**

Die Rev:

Current	**New**
Die Rev [2P]	**Die Rev [2P]**
D	**A**

Sample product shipping label (not actual product label):

Product Affected:

UA78M05CDCY	UA78M05CDCYRG3	UA78M05IDCYR	UA78M33CDCYG3
UA78M05CDCYG3	UA78M05IDCY	UA78M05IDCYRG3	UA78M33CDCYR
UA78M05CDCYR	UA78M05IDCYG3	UA78M33CDCY	UA78M33CDCYRG3

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: UA78M05CDCYR	Qual Device: UA78M33CDCYR	QBS Reference: TPS7B8350QDCYRQ1	QBS Reference: MC33063ADR	QBS Reference: MC33063ADR	QBS Reference: UA78L15ACPKM3
HAST	A2	Biased HAST	130C/85%RH	96 Hours	3/231/0	-	3/240/0	3/231/0	3/231/0	3/240/0
UHAST	A3	Unbiased HAST	130C/85%RH	96 Hours	3/231/0	-	3/240/0	3/231/0	3/231/0	3/240/0
TC	A4	Temperature Cycle	-65C/150C	1000 Cycles	-	-	-	-	-	3/240/1[1]
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	3/231/0	-	3/240/0	3/231/0	3/231/0	-
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	1/77/0	-	-	-	-	-
HTSL	A6	High Temperature Storage Life	170C	420 Hours	-	-	-	3/231/0	3/231/0	3/240/0
HTSL	A6	High Temperature Storage Life	175C	500 Hours	-	-	1/50/0	-	-	-
HTOL	B1	Life Test	125C	1000 Hours	-	-	-	2/154/0	1/77/0	3/240/0
ELFR	B2	Early Life Failure Rate	125C	48 Hours	-	-	-	1/800/0	2/1600/0	-

Type	#	Test Name	Condition	Duration	Qual Device: UA78M05CDCYR	Qual Device: UA78M33CDCYR	QBS Reference: TPS7B8350QDCYRQ1	QBS Reference: MC33063ADR	QBS Reference: MC33063ADR	QBS Reference: UA78L15ACPKM3
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	-	-	-
SD	C3	PB-Free Solderability	Precondition w.155C Dry Bake (4 hrs +/- 15 minutes); PB-Free Solder;	-	1/22/0	-	-	-	-	1/22/0
PD	C4	Physical Dimensions	Cpk>1.67	-	-	-	3/30/0	-	-	-
ESD	E2	ESD CDM	-	250 Volts	1/3/0	-	-	1/3/0	-	1/3/0
ESD	E2	ESD CDM	-	500 Volts	-	-	1/3/0	-	-	-
ESD	E2	ESD HBM	-	1000 Volts	1/3/0	-	-	1/3/0	-	1/3/0
ESD	E2	ESD HBM	-	2000 Volts	-	-	1/3/0	-	-	-
LU	E4	Latch-Up	Per JESD78	-	1/3/0	-	1/6/0	1/3/0	-	1/6/0
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	1/30/0	-	-	1/30/0	1/30/0	1/30/0
CHAR	E5	Electrical Distributions	Cpk>1.67 Room, hot, and cold	-	-	-	3/105/0	-	-	-
FTY	E6	Final Test Yield	-	-	-	-	1/1/0	-	-	3/3/0

- QBS: Qual By Similarity
- Qual Device UA78M05CDCYR is qualified at MSL2 260C
- Qual Device UA78M33CDCYR is qualified at MSL2 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-NPD-2303-037

[1]-EIPD event
refer to 4C Report

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

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.

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