

PCN Number:	20230112002.1	PCN Date:	January 12, 2023
Title:	Qualification of new Fab site (RFAB) using qualified Process Technology, Die Revision, Datasheet update and additional Assembly site/BOM options for select devices		
Customer Contact:	PCN Manager	Dept:	Quality Services
Proposed 1st Ship Date:	Apr 12, 2023	Sample requests accepted until:	February 12, 2023*

***Sample requests received after February 12, 2023 will not be supported.**

Change Type:

<input checked="" type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Assembly Process	<input checked="" type="checkbox"/>	Assembly Materials
<input checked="" type="checkbox"/>	Design	<input checked="" type="checkbox"/>	Electrical Specification	<input type="checkbox"/>	Mechanical Specification
<input type="checkbox"/>	Test Site	<input checked="" type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process
<input type="checkbox"/>	Wafer Bump Site	<input type="checkbox"/>	Wafer Bump Material	<input type="checkbox"/>	Wafer Bump Process
<input checked="" type="checkbox"/>	Wafer Fab Site	<input checked="" type="checkbox"/>	Wafer Fab Materials	<input checked="" type="checkbox"/>	Wafer Fab Process
		<input type="checkbox"/>	Part number change		

PCN Details

Description of Change:

Texas Instruments is pleased to announce the qualification of a new fab & process technology (RFAB, LBC9) and assembly (MLA) site/BOM options for selected devices as listed below in the product affected section.

Current Fab Site			New Fab Site		
Fab Site	Process	Wafer Diameter	Fab Site	Process	Wafer Diameter
SFAB	IMP-PWR2	150 mm	RFAB	LBC9	300 mm

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

Construction Differences are as follows:

What	ASESH	MLA
Mold Compound	SID#EN2000763	4211880
Mount Compound	SID#EY1000063	4147858
Bond wire composition/diameter	Cu/1.0 mil	Cu/0.8 mil
Pin one symbolization	dot	dimple

The associated datasheet changes were notified in a separate Datasheet change notification on 11/18/2022 (Notification# 2022117000.0) as shown below:



[UCC28C40](#), [UCC28C41](#), [UCC28C42](#), [UCC28C43](#), [UCC28C44](#), [UCC28C45](#), [UCC38C40](#), [UCC38C41](#), [UCC38C42](#), [UCC38C43](#), [UCC38C44](#), [UCC38C45](#)
SLUS458H – JULY 2000 – REVISED NOVEMBER 2022

Changes from Revision G (January 2017) to Revision H (September 2022)

	Page
• Changed -40°C to 105°C to -40°C to 125°C, and 0°C to 70°C to 0°C to 85°C.....	1
• Removed <i>PDIP</i> package from Device Information.....	1
• Updated T_j range in Device Comparison Table.....	3
• Removed <i>PDIP</i> package from Pin Configuration.....	4
• Removed <i>PDIP</i> package from Absolute Maximum Table.....	5
• Updated <i>Total Power Dissipation</i> values in Absolute Maximum Table.....	5
• Added V_{REF} maximum continuous voltage from external circuitry in Recommended Operating Conditions.....	5
• Updated T_j max values in Recommended Operating Conditions Table.....	5
• Updated all <i>Thermal Resistance Numbers</i> in Thermal Information.....	6
• Updated Electrical Characteristics section	6
• Corrected a <i>drawing error</i> of OUT pin high-side FET connection.....	13

These changes may be reviewed at: <http://www.ti.com/product/UCC28C40>

Tube versions of the devices are included in EOL notice PDN# 20230112005.3.

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 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]
A	A

Assembly Site Information:

Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (23L)	Assembly City
ASESH	ASH	CHN	Shanghai
MLA	MLA	MYS	Kuala Lumpur

Sample product shipping label (not actual product label):

TEXAS INSTRUMENTS
 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) 7523483SI2
 (P)
 (2P) REV: (V) 0000017
 (20L) CSO: SHE (21L) CCO:USA
 (22L) ASO: MLA (23L) ACO: MYS

Product Affected:

UCC28C40DGKR	UCC28C42DGKR	UCC28C44DGKR	UCC38C43DGKR
UCC28C41DGKR	UCC28C43DGKR	UCC28C45DGKR	

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

Qualification Report
Approve Date 10-January-2023

Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: UCC28C41DGKR	Qual Device: UCC28C43DGKR	Qual Device: UCC28C44DGKR	Qual Device: UCC28C44DGKR	QBS Reference: OPA2205ADGKR	QBS Reference: OPA2206ADGKR	QBS Reference: UCC28C44QDRQ1	QBS Reference: LM74700QDBVRQ1	QBS Reference: LM74700QDBVRQ1
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	-	-	-	1/77/0	2/154/0	-	-	3/231/0
UHAST	A3	Autoclave	121C/15psig	96 Hours	-	-	1/77/0	-	-	-	-	-	3/231/0
UHAST	A3	Unbiased HAST	130C	96 Hours	-	-	-	1/77/0	2/154/0	-	-	-	-
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	-	1/77/0	-	1/77/0	2/154/0	-	-	2/154/0
HTSL	A6	High Temperature Storage Life	170C	420 Hours	-	-	-	-	1/77/0	2/154/0	-	-	-
HTSL	A6	High Temperature Storage Life	175C	500 Hours	-	-	-	-	-	-	-	-	1/45/0
HTOL	B1	Life Test	150C	300 Hours	-	-	-	-	1/77/0	2/154/0	-	-	-
HTOL	B1	Life Test	150C	408 Hours	-	-	-	-	-	-	-	1/77/0	2/154/0
ELFR	B2	Early Life Failure Rate	150C	24 Hours	-	-	-	-	1/800/0	2/2000/0	-	-	3/2400/0
ESD	E2	ESD CDM	-	250 Volts	-	-	1/3/0	-	1/3/0	2/6/0	1/3/0	1/3/0	-
ESD	E2	ESD HBM	-	1000 Volts	-	-	-	-	1/3/0	2/6/0	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 Characterization	Min, Typ, Max Temp	-	-	-	-	-	1/30/0	2/60/0	-	1/30/0	-

- QBS: Qual By Similarity
- Qual Device UCC28C41DGKR is qualified at MSL2 280C
- Qual Device UCC28C43DGKR is qualified at MSL2 280C
- Qual Device UCC28C44DGKR is qualified at MSL2 280C
- Qual Device UCC28C44DGKR is qualified at MSL2 280C
- 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/>

Green/Pb-free Status:

Qualified Pb-Free(SMT) and Green

For questions regarding this notice, e-mails can be sent to the contact shown below or your local Field Sales Representative.

Location	E-Mail
WW Change Management Team	PCN_ww_admin_team@list.ti.com

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 disdaims 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.