

<b>PCN Number:</b>	20231211001.1		<b>PCN Date:</b>	December 12, 2023	
<b>Title:</b>	Qualification of RFAB as an additional Fab site option and BOM/Assembly Options for select devices				
<b>Customer Contact:</b>	Change Management Team		<b>Dept:</b>	Quality Services	
<b>Proposed 1<sup>st</sup> Ship Date:</b>	Mar 10, 2024		<b>Sample requests accepted until:</b>	Jan 11, 2024*	
<b>*Sample requests received after Jan 11, 2024 will not be supported.</b>					
<b>Change Type:</b>					
<input checked="" type="checkbox"/>	Assembly Site	<input checked="" type="checkbox"/>	Design	<input type="checkbox"/>	Wafer Bump Material
<input checked="" type="checkbox"/>	Assembly Process	<input type="checkbox"/>	Data Sheet	<input 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 Material
<input checked="" type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process	<input checked="" type="checkbox"/>	Wafer Fab Process
<b>PCN Details</b>					
<b>Description of Change:</b>					
Texas Instruments is pleased to announce the qualification of its RFAB fabrication facility as an additional Wafer Fab option in addition to BOM/Assembly site options for the devices listed below.					
<b>Current Fab Site</b>			<b>Additional Fab site</b>		
<b>Current Fab Site</b>	<b>Process</b>	<b>Wafer Diameter</b>	<b>Additional Fab site</b>	<b>Process</b>	<b>Wafer Diameter</b>
FR-BIP-1	BCB8	300mm	FFAB	LBC9	300mm
The die was also changed as a result of the process change.					
<b>Group 1 BOM Table:</b>					
		<b>Current</b>	<b>Additional</b>		
Bond wire composition, diameter diameter		Cu, 1.0 mil	Cu, 0.8 mil		
<b>Group 2 BOM Table:</b>					
	<b>ASESH</b>	<b>HNA</b>	<b>UTL2</b>	<b>HFTF</b>	
Bond wire composition, diameter diameter	Au, 1.0 mil	Au, 1.0 mil	Au, 1.0 mil	Cu, 0.8 mil	
Mount Compound	SID#EY1000063	SID#400180	SID#PZ001	SID#A-18	
Mold Compound	SID#EN2000763	SID#450179	SID#CZ0094	SID#R-30	
Lead finish	NiPdAu	NiPdAu	NiPdAu	Matte Sn	
Upon expiry of this PCN TI will combine lead free solutions in a single <b><u>standard part number</u></b> , for the device in group 2. For example; <b><u>LMV393IDGKR</u></b> – can ship with both Matte Sn and NiPdAu.					
Example:					
<ul style="list-style-type: none"> <li>– Customer order for 7500 units of LMV393IDGKR with 2500 units SPQ (Standard Pack Quantity per Reel).</li> <li>– TI can satisfy the above order in one of the following ways. <ul style="list-style-type: none"> <li>I. 3 Reels of NiPdAu finish.</li> <li>II. 3 Reels of Matte Sn finish</li> <li>III. 2 Reels of Matte Sn and 1 reel of NiPdAu finish.</li> <li>IV. 2 Reels of NiPdAu and 1 reel of Matte Sn finish.</li> </ul> </li> </ul>					

**Reason for Change:**

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.

<b>RoHS</b>	<b>REACH</b>	<b>Green Status</b>	<b>IEC 62474</b>
<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
FR-BIP-1	TID	DEU	Freising
<b>RFAB</b>	<b>RFB</b>	<b>USA</b>	<b>Richardson</b>

**Assembly Site Information:**

Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (23L)	Assembly City
HNA	HNT	THA	Ayutthaya
UTL2	NS2	THA	Bangpakong, Chachoengsao
ASESH	ASH	CHN	Shanghai
<b>HFTF</b>	<b>HFT</b>	<b>CHN</b>	<b>Hefei</b>

**Die Rev:****Current****New**

Die Rev [2P]	<b>Die Rev [2P]</b>
-	<b>A,B</b>

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:

LBL: 5A (L)T0:1750



(1P) SN74LS07NSR  
(Q) 2000 (D) 0336  
(31T) LOT: 3959047MLA  
(4W) TKY (1T) 7523483SI2  
(P)  
(2P) REV: (V) 0033317  
(20L) CS0: SHE (21L) CCO: USA  
(22L) AS0: MLA (23L) ACO: MYS

## Product Affected:

### Group 1 Device List:

LMV339IDR

### Group 2 Device List:

LMV393IDGKR

TI Information  
Selective Disclosure

## Qualification Report

LMV339IDR Design and Process Change  
Approve Date 30-AUGUST -2023

## Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: LMV339IDR	QBS Reference: TLV1805QDBVRQ1	QBS Reference: SN74HCS74QDRQ1	QBS Reference: TLV9034QDRQ1
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	-	3/231/0	1/77/0
UHAST	A3	Unbiased HAST	130C/85%RH	96 Hours	-	-	3/231/0	1/77/0
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	-	3/231/0	1/77/0
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	-	-	3/135/0	-
HTSL	A6	High Temperature Storage Life	175C	500 Hours	-	-	-	1/77/0
HTOL	B1	Life Test	125C	1000 Hours	-	3/231/0	1/77/0	-
HTOL	B1	Life Test	150C	300 Hours	-	-	-	1/77/0
ESD	E2	ESD CDM	-	1000 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 Characterization	Per Datasheet Parameters	-	1/30/0	-	-	-

ESD	E2	ESD HBM	-	2000 Volts	1/3/0	-	-	-
LU	E4	Latch-Up	Per JESD78	-	1/3/0	-	-	-
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	1/30/0	-	-	-

- QBS: Qual By Similarity
- Qual Device LMV339IDR 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-2307-053

## Qualification Report

### LMV393IDGKR Refresh to TLV9022 Die and AT site. Approve Date 07-JULY -2023

#### Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: <a href="#">LMV393IDGKR</a>	QBS Reference: <a href="#">LM5008MM/NOPB</a>	QBS Reference: <a href="#">TMP1826DGKR</a>	QBS Reference: <a href="#">TLV9032QDGKRQ1</a>	QBS Reference: <a href="#">TLV9022QDGKRQ1</a>
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	3/231/0	1/77/0	1/77/0	1/77/0
UHAST	A3	Unbiased HAST	130C/85%RH	96 Hours	-	3/231/0	1/77/0	1/77/0	1/77/0
TC	A4	Temperature Cycle	-55C/150C	700 Cycles	-	-	1/77/0	-	-
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	3/231/0	-	1/77/0	1/77/0
HTSL	A6	High Temperature Storage Life	170C	420 Hours	-	3/231/0	1/77/0	-	-
HTSL	A6	High Temperature Storage Life	175C	500 Hours	-	-	-	1/77/0	1/77/0
HTOL	B1	Life Test	150C	300 Hours	-	-	1/77/0	1/77/0	1/77/0
WBP	C2	Bond Pull	76 Wires, 3 units min	Wires	-	3/228/0	-	-	-
ESD	E2	ESD CDM	-	1500 Volts	1/3/0	-	-	-	1/3/0
ESD	E2	ESD HBM	-	2000 Volts	-	-	-	-	1/3/0
LU	E4	Latch-Up	Per JESD78	-	-	-	-	-	1/6/0
FTY	E6	Final Test Yield	-	-	1/1/0	-	-	-	-

- QBS: Qual By Similarity
- Qual Device LMV393IDGKR 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-2305-001

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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