

PCN Number:	20240221009.1	PCN Date:	February 21, 2024																			
Title:	Qualification of RFAB using qualified Process Technology, Die Revision, Datasheet and additional Assembly site options for select devices																					
Customer Contact:	Change Management Team	Dept:	Quality Services																			
Proposed 1st Ship Date:	May 21, 2024	Sample requests accepted until:	March 22, 2024*																			
*Sample requests received after March 22, 2024 will not be supported.																						
Change Type:																						
<input checked="" type="checkbox"/> Assembly Site	<input checked="" type="checkbox"/> Design	<input type="checkbox"/> Wafer Bump Material																				
<input checked="" type="checkbox"/> Assembly Process	<input checked="" 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																				
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 an Assembly site options for the devices listed below.																						
<table border="1"> <thead> <tr> <th colspan="3">Current Fab Site</th> <th colspan="3">Additional Fab Site</th> </tr> <tr> <th>Fab Site</th> <th>Process</th> <th>Wafer Diameter</th> <th>Fab Site</th> <th>Process</th> <th>Wafer Diameter</th> </tr> </thead> <tbody> <tr> <td rowspan="2">SFAB</td> <td>74HC-Std</td> <td rowspan="2">150 mm</td> <td rowspan="2">RFAB</td> <td rowspan="2">LBC7</td> <td rowspan="2">300 mm</td> </tr> <tr> <td>EPIC1S2</td> </tr> </tbody> </table>			Current Fab Site			Additional Fab Site			Fab Site	Process	Wafer Diameter	Fab Site	Process	Wafer Diameter	SFAB	74HC-Std	150 mm	RFAB	LBC7	300 mm	EPIC1S2	
Current Fab Site			Additional Fab Site																			
Fab Site	Process	Wafer Diameter	Fab Site	Process	Wafer Diameter																	
SFAB	74HC-Std	150 mm	RFAB	LBC7	300 mm																	
	EPIC1S2																					
The die was also changed as a result of the process change.																						
Group 1 BOM Table (RFAB/Process migration, Die Change & CDAT as additional Assembly site):																						
There are no construction differences for the devices in Group 1.																						
Group 2 BOM Table (RFAB/Process migration, Die Change & CDAT as additional Assembly site):																						
<table border="1"> <thead> <tr> <th>What</th> <th>MLA</th> <th>CRS</th> <th>CDAT</th> </tr> </thead> <tbody> <tr> <td>Bond Wire composition, diameter</td> <td>Cu, 0.96 mil</td> <td>Cu, 1.0 mil</td> <td>Cu, 1.0 or 0.80 mil</td> </tr> <tr> <td>Mold Compound</td> <td>4208625</td> <td>SID#435370</td> <td>4222198</td> </tr> <tr> <td>Mount Compound</td> <td>4205846</td> <td>SID#435143</td> <td>4207123</td> </tr> </tbody> </table>				What	MLA	CRS	CDAT	Bond Wire composition, diameter	Cu, 0.96 mil	Cu, 1.0 mil	Cu, 1.0 or 0.80 mil	Mold Compound	4208625	SID#435370	4222198	Mount Compound	4205846	SID#435143	4207123			
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Group 3 BOM Table (RFAB/Process migration, Die Change & MLA as additional Assembly site):																						
<table border="1"> <thead> <tr> <th>What</th> <th>FMX</th> <th>MLA</th> </tr> </thead> <tbody> <tr> <td>Bond Wire composition, diameter</td> <td>Au, 0.8 mil</td> <td>Cu, 0.8 mil</td> </tr> <tr> <td>Mold Compound</td> <td>4205694</td> <td>4211880</td> </tr> </tbody> </table>				What	FMX	MLA	Bond Wire composition, diameter	Au, 0.8 mil	Cu, 0.8 mil	Mold Compound	4205694	4211880										
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Bond Wire composition, diameter	Au, 0.8 mil	Cu, 0.8 mil																				
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The datasheets will be changing as a result of the above mentioned changes. The datasheet change details can be reviewed in the datasheet revision history. The link to the revised datasheet is available in the table below.																						

Changes from Revision J (November 2021) to Revision K (February 2024)	Page
• Updated the <i>Package Information</i> table to include package lead size.....	1
• Updated data sheet to only include <i>D</i> (SOIC, 14) or <i>PW</i> (TSSOP, 14) packages.....	1
• Updated <i>Thermal Information</i> section.....	5
• Updated V_{CC} operation from: 2V - 6V to: 1V - 6V.....	5

Changes from Revision * (June 2003) to Revision A (February 2024)	Page
• Updated the data sheet to only include the <i>D</i> , <i>PW</i> , or <i>RGY</i> packages.....	1
• Updated the numbering format for tables, figures, and cross-references throughout the document.....	1
• Updated the <i>Thermal Information</i>	3
• Updated V_{CC} operation from: 2V - 5.5V to: 1V - 5.5V.....	4

Changes from Revision I (April 2006) to Revision J (February 2024)	Page
• Updated the numbering format for tables, figures, and cross-references throughout the document.....	1
• Removed the SN54LV4066A information from the data sheet.....	1
• Increased V_{CC} operation from: 2V to 5.5V to: 1.65V to 5.5V, and updated specifications such as r_{ON} , $r_{ON(p)}$, Δr_{ON} accordingly.....	1
• Changed RL value from: 600 Ω to: 50 Ω for frequency response, crosstalk, and feed-through attenuation, and their associated figures.....	10

Product Folder	Current Datasheet Number	New Datasheet Number	Link to full datasheet
SN74LV4066A	SCLS427I	SCLS427J	http://www.ti.com/product/SN74LV4066A
SN74HC4066	SCLS325J	SCLS325K	http://www.ti.com/product/SN74HC4066
SN74AHC4066	SCLS511	SCLS511A	http://www.ti.com/product/SN74AHC4066

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
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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
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SH-BIP-1	SHE	USA	Sherman
RFAB	RFB	USA	Richardson

Die Rev:

Current


New

Die Rev [2P]	Die Rev [2P]
H, -	-


Assembly Site Information:

Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (23L)	Assembly City
MLA	MLA	MYS	KUALA LUMPUR
CRS	CRS	MRS	Jelapang, Ipoh
TI Mexico	MEX	MEX	Aguascalientes
MLA	MLA	MYS	Kuala Lumpur
CDAT	CDA	CHN	Chengdu

Sample product shipping label (not actual product label):


TEXAS INSTRUMENTS
MADE IN: Malaysia
2DC: 20:


G4



(1P) **SN74LS07NSR**
(Q) **2000** (D) **0336**
(31T) LOT: 3959047MLA
(4W) TKY (1T) 7523483SI2
(P)
(2P) REV: (V) **0033317**
(20L) CS0: SHE (21L) CC0: USA
(22L) AS0: MLA (23L) AC0: MYS

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

Product Affected:

Group 1 Device Table (RFAB/Process migration only):

SN74AHC4066DR	SN74HC4066PWR	SN74LV4066APWR	SN74LV4066APWRG4
SN74AHC4066PWR	SN74LV4066ADR		

Group 2 Device Table (RFAB/Process migration plus CDAT as additional Assembly site):

SN74AHC4066RGYR	SN74LV4066ARGYR	SN74LV4066ARGYRG4
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Group 3 Device Table (RFAB/Process migration plus TI Malaysia as additional Assembly site):

SN74HC4066DR

For alternate parts with similar or improved performance, please visit the product page on [TI.com](https://www.ti.com)

TI Information
Selective Disclosure

Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: <u>SN74LV4066APWR</u>	QBS Reference (Process, Product, Package): <u>SN3257QPWRQ1</u>	QBS Reference (Process): <u>SN3257QDYRQ1</u>	QBS Reference (Package): <u>SN74HCS74QPWRQ1</u>
HAST	A2	Biased HAST	130C/85%RH	192 Hours	-	3/210/0	-	3/231/0
UHAST	A3	Autoclave	121C/15psig	96 Hours	-	3/231/0	-	3/231/0
TC	A4	Temperature Cycle	-55/150C	1000 Cycles	-	3/231/0	-	-
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	-	-	3/231/0
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	-	-	-	3/135/0
HTSL	A6	High Temperature Storage Life	175C	500 Hours	-	3/135/0	-	-
HTOL	B1	Life Test	125C	1000 Hours	-	-	-	3/231/0
HTOL	B1	Life Test	150C	300 Hours	-	3/231/0	3/231/0	-
ELFR	B2	Early Life Failure Rate	150C	24 Hours	-	-	3/2400/0	-
WBS	C1	Ball Shear	76 balls, 3 units min	Wires	1/76/0	-	-	-
WBP	C2	Bond Pull	76 Wires, 3 units min	Wires	1/76/0	-	-	-

Type	#	Test Name	Condition	Duration	Qual Device: <u>SN74LV4066APWR</u>	QBS Reference (Process, Product, Package): <u>SN3257QPWRQ1</u>	QBS Reference (Process): <u>SN3257QDYRQ1</u>	QBS Reference (Package): <u>SN74HCS74QPWRQ1</u>
SD	C3	PB Solderability	Precondition w.155C Dry Bake (4 hrs +/- 15 minutes)	-	-	1/15/0	-	1/15/0
SD	C3	PB-Free Solderability	Precondition w.155C Dry Bake (4 hrs +/- 15 minutes)	-	-	1/15/0	-	1/15/0
PD	C4	Physical Dimensions	Cpk>1.67	-	-	3/30/0	-	3/30/0
ESD	E2	ESD CDM	-	1000 Volts	1/3/0	1/3/0	-	-
ESD	E2	ESD HBM	-	2000 Volts	1/3/0	1/3/0	-	-
LU	E4	Latch-Up	Per JESD78	-	1/3/0	1/6/0	-	-
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	1/30/0	-	-	-
CHAR	E5	Electrical Distributions	Cpk>1.67 Room, hot, and cold	-	-	3/90/0	-	-
FTY	E6	Final Test Yield	-	-	1/1/0	-	-	-

- QBS: Qual By Similarity
- Qual Device SN74LV4066APWR 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-2212-045

Qualification Report

RedBull SW_LV_6 Grp 2
Approve Date 13-February-2024

Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: <u>SN74LV4066ARGYR</u>	QBS Reference (Process): <u>SN3257QDYRQ1</u>	QBS Reference (Package): <u>TS3A5017QRGYRQ1</u>	QBS Reference (Product): <u>SN74LV4066APWR</u>
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	-	3/231/0	-
UHAST	A3	Autoclave	121C/15psig	96 Hours	-	-	3/231/0	-
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	-	3/231/0	-
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	-	-	3/135/0	-
HTOL	B1	Life Test	150C	300 Hours	-	3/231/0	-	-
ELFR	B2	Early Life Failure Rate	150C	24 Hours	-	3/2400/0	-	-
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	-
PD	C4	Physical Dimensions	Cpk>1.67	-	-	-	3/30/0	-

Type	#	Test Name	Condition	Duration	Qual Device: <u>SN74LV4066ARGYR</u>	QBS Reference (Process): <u>SN3257QDYRQ1</u>	QBS Reference (Package): <u>TS3A5017QRGYRQ1</u>	QBS Reference (Product): <u>SN74LV4066APWR</u>
ESD	E2	ESD CDM	-	250 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	-	-	1/30/0
FTY	E6	Final Test Yield	-	-	-	-	-	1/1/0

- QBS: Qual By Similarity
- Qual Device SN74LV4066ARGYR 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-CHG-2402-024

Qualification Report

RedBull SW_LV_Wave5-6(-Q) (SN74LV4066ADR)

Approve Date 13-February-2024

Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: SN74LV4066ADR	QBS Reference (Process): SN3257QDYRQ1	QBS Reference (Package): TLV9022QDRQ1	QBS Reference (Package): LM339LVQDRQ1	QBS Reference (Product): SN74LV4066APWR
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	-	3/231/0	1/77/0 ¹	-
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	150C	300 Hours	-	3/231/0	-	-	-
ELFR	B2	Early Life Failure Rate	150C	24 Hours	-	3/2400/0	-	-	-
WBS	C1	Ball Shear	76 balls, 3 units min	Wires	1/76/0	-	-	-	-
WBP	C2	Bond Pull	76 Wires, 3 units min	Wires	1/76/0	-	-	-	-

Type	#	Test Name	Condition	Duration	Qual Device: SN74LV4066ADR	QBS Reference (Process): SN3257QDYRQ1	QBS Reference (Package): TLV9022QDRQ1	QBS Reference (Package): LM339LVQDRQ1	QBS Reference (Product): SN74LV4066APWR
SD	C3	PB Solderability	Precondition w.155C Dry Bake (4 hrs +/- 15 minutes)	-	-	1/15/0	1/15/0	1/15/0	-
SD	C3	PB-Free Solderability	Precondition w.155C Dry Bake (4 hrs +/- 15 minutes)	-	-	1/15/0	1/15/0	1/15/0	-
PD	C4	Physical Dimensions	Cpk>1.67	-	-	3/30/0	3/30/0	1/10/0	-
ESD	E2	ESD CDM	-	1000 Volts	1/3/0	-	-	-	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	-	-	-	1/30/0
FTY	E6	Final Test Yield	-	-	-	-	-	-	1/1/0

- QBS: Qual By Similarity
- Qual Device SN74LV4066ADR 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-2306-006

[1]-Repop with brand new assembly lot
0 failures.[3]-2x population size re-pop
unable to recreate failure[2]-2x population size re-pop
unable to recreate failure

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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