TEXAS INSTRUMENTS **12500 TI Boulevard, MS 8640, Dallas, Texas 75243**

PCN#20250212007.2
Qualification of RFAB as an additional Fab site, Die Revision, Data sheet and new Assembly/Test (FMX) options for select devices
Change Notification / Sample Request

Date: February 13, 2025
To: MOUSER PCN

Dear Customer:

This is an announcement of a change to a device that is currently offered by Texas Instruments. The details of this change are on the following pages.

Texas Instruments requires acknowledgement of receipt of this notification within 60 days of the date of this notice. Lack of acknowledgement of this notice within 60 days constitutes acceptance and approval of this change. If samples or additional data are required, requests must be received within 60 days of this notification.

The changes discussed within this PCN will not take effect any earlier than the proposed first ship date on Page 3 of this notification, unless customer agreement has been reached on an earlier implementation of the change.

This notice does not change the end-of-life status of any product. Should product affected be on a previously issued product withdrawal/discontinuance notice, this notification does not extend the life of that product or change the life time buy offering/discontinuance plan.

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.

TI values customer engagement and feedback related to TI changes. Customers should contact TI if there are questions or concerns regarding a change notification.

Sincerely,

Change Management Team
SC Business Services

20250212007.2
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**
LMR14030SQDDARQ1	LMR14030SQDDARQ1
LMR14030SQDDAQ1	LMR14030SQDDAQ1
LMR14030SSQDDARQ1	LMR14030SSQDDARQ1
LMR14020SQDDARQ1	LMR14020SQDDARQ1
LMR14020SSQDDAQ1	LMR14020SSQDDAQ1
LMR14020SSQDDARQ1	LMR14020SSQDDARQ1
LMR14020SQDDAQ1	LMR14020SQDDAQ1
LMR14050SQDDAQ1	NULL
LMR14050SQDDARQ1	LMR14050SQDDARQ1
LMR14050SSQDDAQ1	LMR14050SSQDDAQ1
LMR14050SSQDDARQ1	LMR14050SSQDDARQ1

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

PCN Number:	20250212007.2	**PCN Date:**	February 13, 2025
Title:	Qualification of RFAB as an additional Fab site, Die Revision, Data sheet & new Assembly/Test (FMX) options for select devices		
Customer Contact:	Change Management team	**Dept:**	Quality Services
Proposed 1st Ship Date:	August 12, 2025	**Sample requests accepted until:**	April 14, 2025*

April 14, 2025 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/Test site options for the devices listed below.

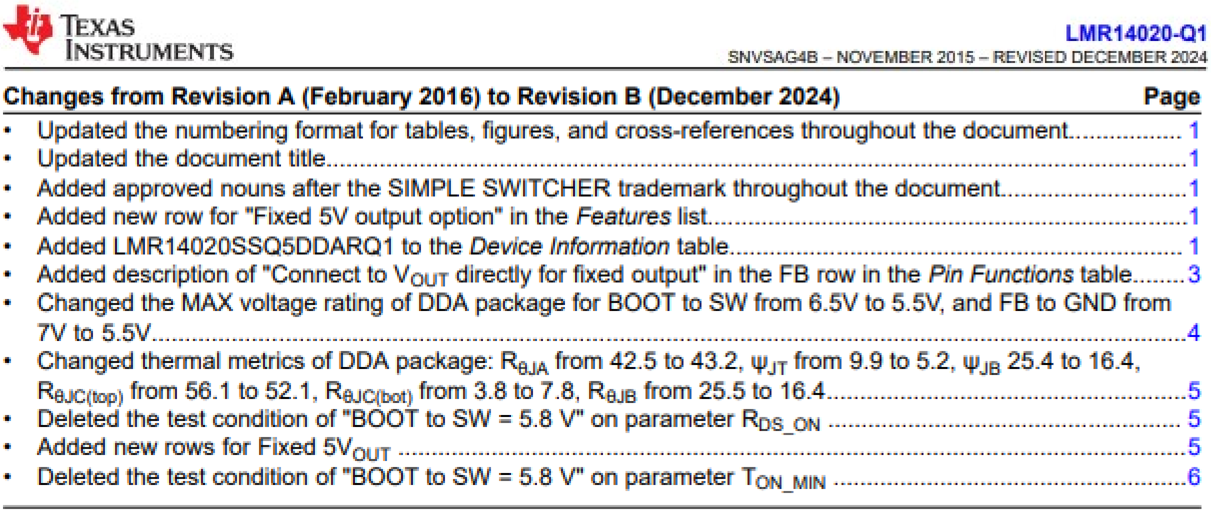
Current Fab Site			**Additional Fab Site**		
Current Fab Site	**Process**	**Wafer Diameter**	**Additional Fab Site**	**Process**	**Wafer Diameter**
DP1DM5	LBC5	200 mm	RFAB	LBC9	300 mm

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

Construction differences are as follows:

	ASESH	**FMX**
Wire diam/type	2.0mil Au	1.98mil Cu
Mount compound	EY1000063	4147858
Mold compound	EN2000509	4211880
Pin 1 ID	Stripe	Dimple

Qual details are provided in the Qual Data Section.
Test coverage, insertions, conditions will remain consistent with current testing.

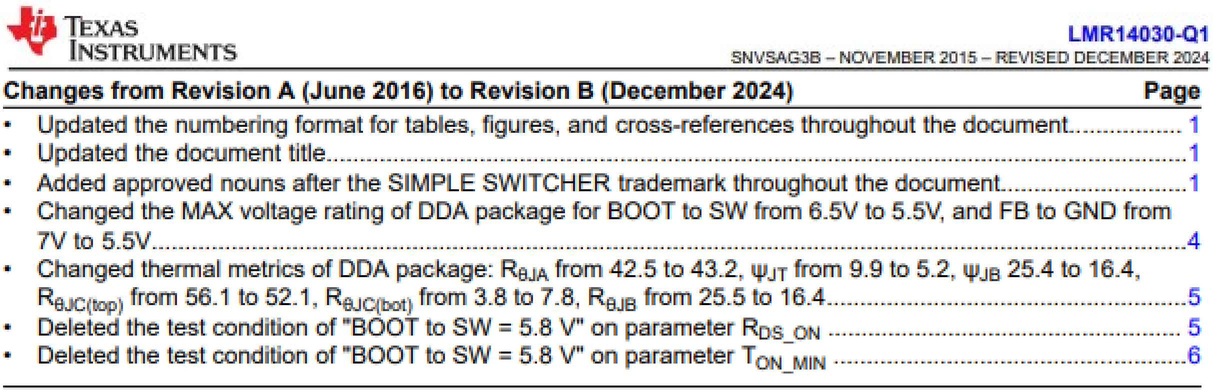


TEXAS INSTRUMENTS

LMR14020-Q1
SNVSAG4B – NOVEMBER 2015 – REVISED DECEMBER 2024

Changes from Revision A (February 2016) to Revision B (December 2024) **Page**

- Updated the numbering format for tables, figures, and cross-references throughout the document. 1
- Updated the document title. 1
- Added approved nouns after the SIMPLE SWITCHER trademark throughout the document. 1
- Added new row for "Fixed 5V output option" in the *Features* list. 1
- Added LMR14020SSQ5DDARQ1 to the *Device Information* table. 1
- Added description of "Connect to V_{OUT} directly for fixed output" in the FB row in the *Pin Functions* table. 3
- Changed the MAX voltage rating of DDA package for BOOT to SW from 6.5V to 5.5V, and FB to GND from 7V to 5.5V. 4
- Changed thermal metrics of DDA package: $R_{\theta JA}$ from 42.5 to 43.2, ψ_{JT} from 9.9 to 5.2, ψ_{JB} 25.4 to 16.4, $R_{\theta JC(top)}$ from 56.1 to 52.1, $R_{\theta JC(bot)}$ from 3.8 to 7.8, $R_{\theta JB}$ from 25.5 to 16.4. 5
- Deleted the test condition of "BOOT to SW = 5.8 V" on parameter R_{DS_ON} 5
- Added new rows for Fixed $5V_{OUT}$ 5
- Deleted the test condition of "BOOT to SW = 5.8 V" on parameter T_{ON_MIN} 6

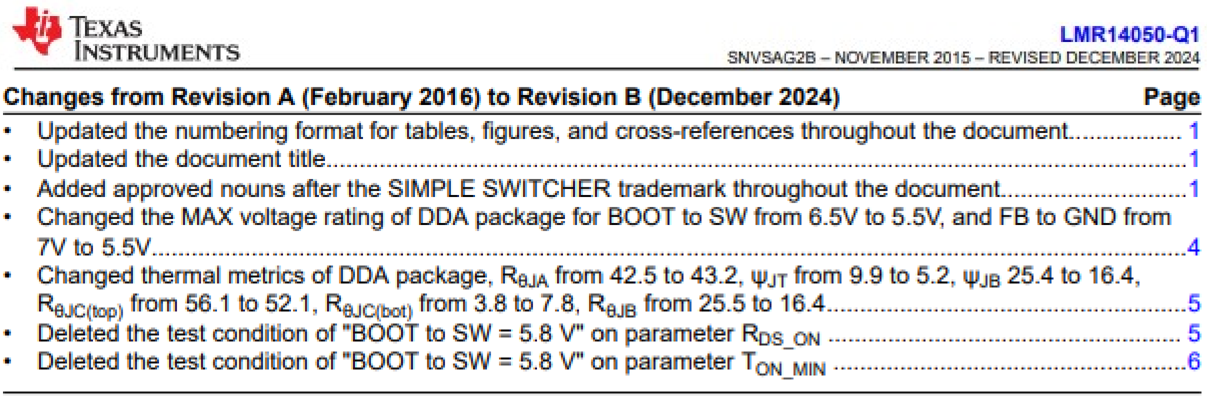

TEXAS INSTRUMENTS

LMR14030-Q1

SNVSAG3B – NOVEMBER 2015 – REVISED DECEMBER 2024

Changes from Revision A (June 2016) to Revision B (December 2024) **Page**

- Updated the numbering format for tables, figures, and cross-references throughout the document................ 1
- Updated the document title..1
- Added approved nouns after the SIMPLE SWITCHER trademark throughout the document............................1
- Changed the MAX voltage rating of DDA package for BOOT to SW from 6.5V to 5.5V, and FB to GND from 7V to 5.5V..4
- Changed thermal metrics of DDA package: $R_{\theta JA}$ from 42.5 to 43.2, ψ_{JT} from 9.9 to 5.2, ψ_{JB} 25.4 to 16.4, $R_{\theta JC(top)}$ from 56.1 to 52.1, $R_{\theta JC(bot)}$ from 3.8 to 7.8, $R_{\theta JB}$ from 25.5 to 16.4...5
- Deleted the test condition of "BOOT to SW = 5.8 V" on parameter R_{DS_ON} 5
- Deleted the test condition of "BOOT to SW = 5.8 V" on parameter T_{ON_MIN} 6


TEXAS INSTRUMENTS

LMR14050-Q1

SNVSAG2B – NOVEMBER 2015 – REVISED DECEMBER 2024

Changes from Revision A (February 2016) to Revision B (December 2024) **Page**

- Updated the numbering format for tables, figures, and cross-references throughout the document................ 1
- Updated the document title..1
- Added approved nouns after the SIMPLE SWITCHER trademark throughout the document............................1
- Changed the MAX voltage rating of DDA package for BOOT to SW from 6.5V to 5.5V, and FB to GND from 7V to 5.5V..4
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- Deleted the test condition of "BOOT to SW = 5.8 V" on parameter R_{DS_ON} 5
- Deleted the test condition of "BOOT to SW = 5.8 V" on parameter T_{ON_MIN} 6

Product Folder	**Current Datasheet Number**	**New Datasheet Number**	**Link to full datasheet**
LMR14020-Q1	SNVSAG4A	**SNVSAG4B**	http://www.ti.com/product/LMR14020-Q1
LMR14030-Q1	SNVSAG3A	**SNVSAG3B**	http://www.ti.com/product/LMR14030-Q1
LMR14050-Q1	SNVSAG2A	**SNVSAG2B**	http://www.ti.com/product/LMR14050-Q1

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.

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
DP1DM5	DM5	USA	Dallas
RFAB	**RFB**	**USA**	**Richardson**

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

Sample product shipping label (not actual product label)

TEXAS INSTRUMENTS
G4
MADE IN: Malaysia
2DC: 2Q:

MSL 2 /260C/1 YEAR	SEAL DT
MSL 1 /235C/UNLIM	03/29/04

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

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

Product Affected:

LMR14020SQDDAQ1	LMR14020SSQDDARQ1	LMR14050SQDDAQ1
LMR14020SQDDARQ1	LMR14030SSQDDARQ1	LMR14050SQDDARQ1
LMR14020SSQ5DDARQ1	LMR14030SQDDAQ1	LMR14050SSQDDAQ1
LMR14020SSQDDAQ1	LMR14030SQDDARQ1	LMR14050SSQDDARQ1
LMR14030SSQDDAQ1		

Qualification Report

Automotive Qualification Summary

(As per AEC-Q100 Rev. H and JEDEC Guidelines)

Approve Date 23-October-2024

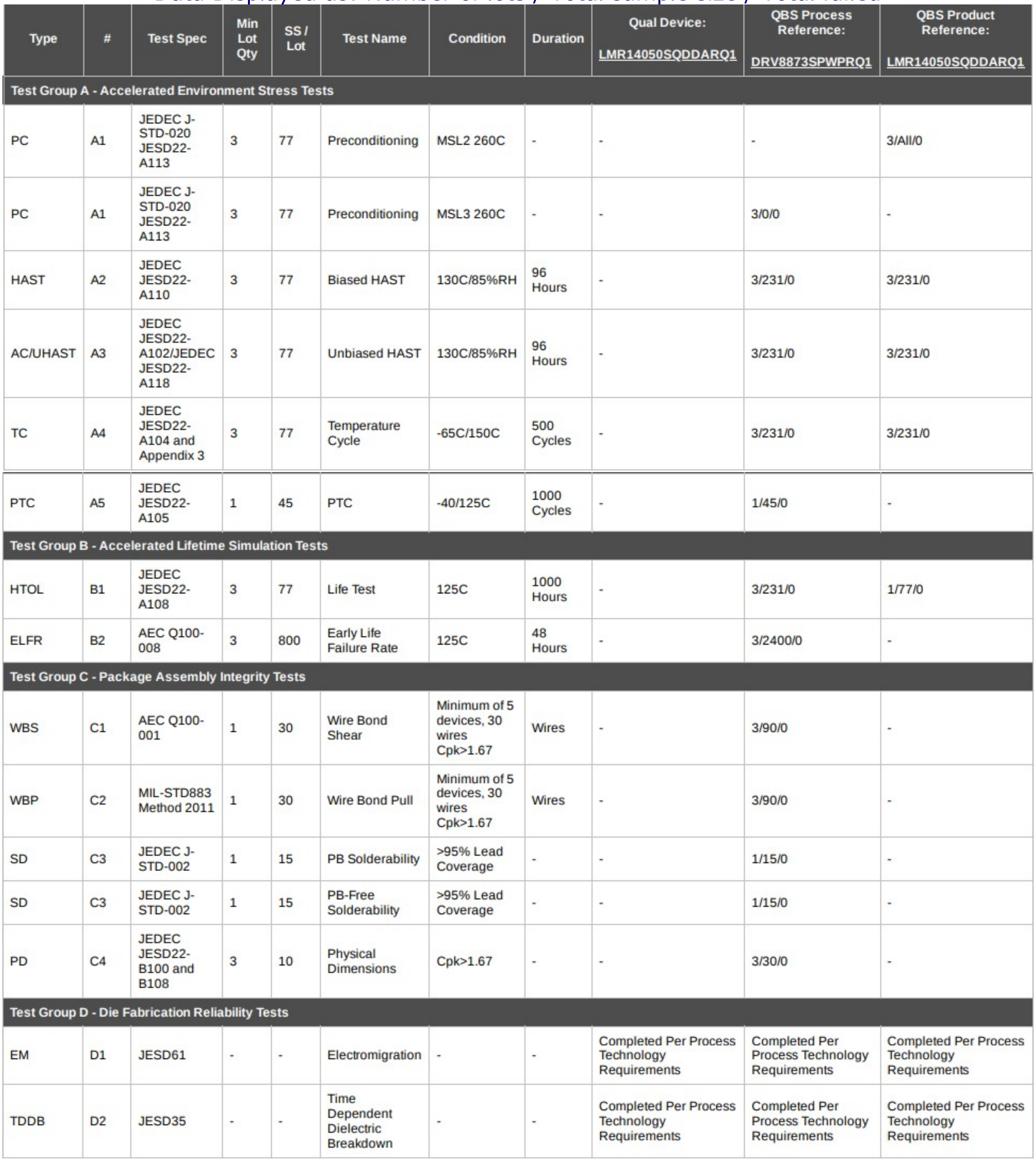
Product Attributes

Attributes	Qual Device: LMR14050SQDDARQ1	QBS Process Reference: DRV8873SPWPRQ1	QBS Product Reference: LMR14050SQDDARQ1
Automotive Grade Level	Grade 1	Grade 1	Grade 1
Operating Temp Range (C)	-40 to 125	-40 to 125	-40 to 125
Product Function	Power Management	Power Management	Power Management
Wafer Fab Supplier	RFAB	RFAB	RFAB
Assembly Site	FMX	TAI	FMX
Package Group	SOIC	TSSOP	SOIC
Package Designator	DDA	PWP	DDA
Pin Count	8	24	8

QBS: Qual By Similarity, also known as Generic Data
Qual Device LMR14050SQDDARQ1 is qualified at MSL2 260C
Qual Device LMR14030SSQDDARQ1 is qualified at MSL2 260C
Qual Device LV14340SQDDARQ1 is qualified at MSL2 260C
Qual Device LMR14050SSQDDARQ1 is qualified at MSL2 260C
Qual Device LMR14020HSQDDARQ1 is qualified at MSL2 260C
Qual Device LMR14020HSSQDDARQ1 is qualified at MSL2 260C
Qual Device LMR14020SQDDARQ1 is qualified at MSL2 260C
Qual Device LMR14020SSQ5DDARQ1 is qualified at MSL2 260C
Qual Device LMR14020SSQDDARQ1 is qualified at MSL2 260C
Qual Device LMR14030HSSQDDARQ1 is qualified at MSL2 260C
Qual Device LMR14030SQDDARQ1 is qualified at MSL2 260C

Qualification Results

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



Type	#	Test Spec	Min Lot Qty	SS / Lot	Test Name	Condition	Duration	Qual Device: LMR14050SQDDARQ1	QBS Process Reference: DRV8873SPWPRQ1	QBS Product Reference: LMR14050SQDDARQ1
Test Group A - Accelerated Environment Stress Tests										
PC	A1	JEDEC J-STD-020 JESD22-A113	3	77	Preconditioning	MSL2 260C	-	-	-	3/All/0
PC	A1	JEDEC J-STD-020 JESD22-A113	3	77	Preconditioning	MSL3 260C	-	-	3/0/0	-
HAST	A2	JEDEC JESD22-A110	3	77	Biased HAST	130C/85%RH	96 Hours	-	3/231/0	3/231/0
AC/UHAST	A3	JEDEC JESD22-A102/JEDEC JESD22-A118	3	77	Unbiased HAST	130C/85%RH	96 Hours	-	3/231/0	3/231/0
TC	A4	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle	-65C/150C	500 Cycles	-	3/231/0	3/231/0
PTC	A5	JEDEC JESD22-A105	1	45	PTC	-40/125C	1000 Cycles	-	1/45/0	-
Test Group B - Accelerated Lifetime Simulation Tests										
HTOL	B1	JEDEC JESD22-A108	3	77	Life Test	125C	1000 Hours	-	3/231/0	1/77/0
ELFR	B2	AEC Q100-008	3	800	Early Life Failure Rate	125C	48 Hours	-	3/2400/0	-
Test Group C - Package Assembly Integrity Tests										
WBS	C1	AEC Q100-001	1	30	Wire Bond Shear	Minimum of 5 devices, 30 wires Cpk>1.67	Wires	-	3/90/0	-
WBP	C2	MIL-STD883 Method 2011	1	30	Wire Bond Pull	Minimum of 5 devices, 30 wires Cpk>1.67	Wires	-	3/90/0	-
SD	C3	JEDEC J-STD-002	1	15	PB Solderability	>95% Lead Coverage	-	-	1/15/0	-
SD	C3	JEDEC J-STD-002	1	15	PB-Free Solderability	>95% Lead Coverage	-	-	1/15/0	-
PD	C4	JEDEC JESD22-B100 and B108	3	10	Physical Dimensions	Cpk>1.67	-	-	3/30/0	-
Test Group D - Die Fabrication Reliability Tests										
EM	D1	JESD61	-	-	Electromigration	-	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements
TDDB	D2	JESD35	-	-	Time Dependent Dielectric Breakdown	-	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements

HCI	D3	JESD60 & 28	-	-	Hot Carrier Injection	-	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements
BTI	D4	-	-	-	Bias Temperature Instability	-	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements
SM	D5	-	-	-	Stress Migration	-	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements
Test Group E - Electrical Verification Tests										
ESD	E2	AEC Q100-002	1	3	ESD HBM	-	2000 Volts	1/3/0	1/3/0	1/3/0
ESD	E3	AEC Q100-011	1	3	ESD CDM	-	500 Volts	1/3/0	1/3/0	1/3/0
LU	E4	AEC Q100-004	1	3	Latch-Up	Per AEC Q100-004	-	1/3/0	1/6/0	1/3/0
ED	E5	AEC Q100-009	3	30	Electrical Distributions	Cpk>1.67 Room, hot, and cold	-	1/30/0	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
Ambient Operating Temperature by Automotive Grade Level:
Grade 0 (or E): -40C to +150C
Grade 1 (or Q): -40C to +125C
Grade 2 (or T): -40C to +105C
Grade 3 (or I) : -40C to +85C
E1 (TEST): Electrical test temperatures of Qual samples (High temperature according to Grade level):
Room/Hot/Cold : HTOL, ED
Room/Hot : THB / HAST, TC / PTC, HTSL, ELFR, ESD & LU
Room : AC/uHAST
Quality and Environmental data is available at TI's external Web site: http://www.ti.com/

Qualification Report
Automotive Qualification Summary
(As per AEC and JEDEC Guidelines)
Q006 HSOIC at FMX

Approve Date 23-October-2024

Product Attributes

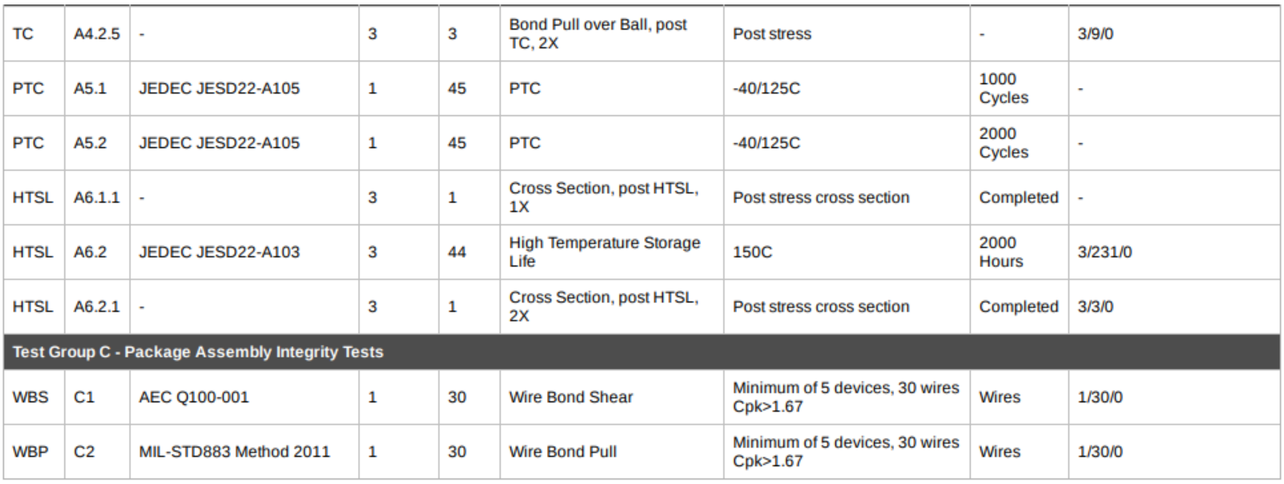
Attributes	Qual Device: LMR14050SQDDARQ1
Die Attributes	
Wafer Fab Supplier	RFAB
Wafer Process	LBC9
Die Size (L,W) (um)	1240 x 1680
Package Attributes	
Assembly Site	FMX
Package Group	SOIC
Package Designator	DDA
Package Size (mm)	4.89 x 3.9
Body Thickness (mm)	1.48
Pin Count	8
Lead Finish	NIPDAU

QBS: Qual By Similarity, also known as Generic Data
Qual Device LMR14050SQDDARQ1 is qualified at MSL2 260C

Qualification Results

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

Type	#	Test Spec	Min Lot Qty	SS / Lot	Test Name	Condition	Duration	Qual Device: LMR14050SQDDARQ1
Test Group A - Accelerated Environment Stress Tests								
PC	A1	JEDEC J-STD-020 JESD22-A113	3	77	Preconditioning	MSL2 260C	-	3/0/0
PC	A1	JEDEC J-STD-020 JESD22-A113	3	77	Preconditioning	MSL3 260C	-	-
PC	A1.1	-	3	22	SAM Precon Pre	Review for delamination	-	3/66/0
PC	A1.2	-	3	22	SAM Precon Post	Review for delamination	-	3/66/0
HAST	A2.1	JEDEC JESD22-A110	3	77	Biased HAST	130C/85%RH	96 Hours	3/231/0
HAST	A2.1.2	-	3	1	Cross Section, post bHAST, 1X	Post stress cross section	Completed	-
HAST	A2.1.3	-	3	3	Wire Bond Shear, post bHAST, 1X	Post stress	-	-
HAST	A2.1.4	-	3	3	Bond Pull over Stitch, post bHAST, 1X	Post stress	-	-
HAST	A2.1.5	-	3	3	Bond Pull over Ball, post bHAST, 1X	Post stress	-	-
HAST	A2.2	JEDEC JESD22-A110	3	70	Biased HAST	130C/85%RH	192 Hours	3/231/0
HAST	A2.2.1	-	3	22	SAM Analysis, post bHAST 2X	Review for delamination	Completed	3/66/0
HAST	A2.2.2	-	3	1	Cross Section, post bHAST, 2X	Post stress cross section	Completed	3/3/0
HAST	A2.2.3	-	3	3	Wire Bond Shear, post bHAST, 2X	Post stress	-	3/9/0
HAST	A2.2.4	-	3	3	Bond Pull over Stitch, post bHAST, 2X	Post stress	-	3/9/0
HAST	A2.2.5	-	3	3	Bond Pull over Ball, post bHAST, 2X	Post stress	-	3/9/0
TC	A4.1	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle	-65C/150C	500 Cycles	3/231/0
TC	A4.1.1	-	3	22	SAM Analysis, post TC 1X	Review for delamination	Completed	-
TC	A4.1.2	-	3	1	Cross Section, post TC, 1X	Post stress cross section	Completed	-
TC	A4.1.3	-	3	3	Wire Bond Shear, post TC, 1X	Post stress	-	-
TC	A4.1.4	-	3	3	Bond Pull over Stitch, post TC, 1X	Post stress	-	-
TC	A4.1.5	-	3	3	Bond Pull over Ball, post TC, 1X	Post stress	-	-
TC	A4.2	JEDEC JESD22-A104 and Appendix 3	3	70	Temperature Cycle	-65C/150C	1000 Cycles	3/231/0
TC	A4.2.1	-	3	22	SAM Analysis, post TC, 2X	Review for delamination	Completed	3/66/0
TC	A4.2.2	-	3	1	Cross Section, post TC, 2X	Post stress cross section	Completed	3/3/0
TC	A4.2.3	-	3	3	Wire Bond Shear, post TC, 2X	Post stress	-	3/9/0
TC	A4.2.4	-	3	3	Bond Pull over Stitch, post TC, 2X	Post stress	-	3/9/0



TC	A4.2.5	-	3	3	Bond Pull over Ball, post TC, 2X	Post stress	-	3/9/0
PTC	A5.1	JEDEC JESD22-A105	1	45	PTC	-40/125C	1000 Cycles	-
PTC	A5.2	JEDEC JESD22-A105	1	45	PTC	-40/125C	2000 Cycles	-
HTSL	A6.1.1	-	3	1	Cross Section, post HTSL, 1X	Post stress cross section	Completed	-
HTSL	A6.2	JEDEC JESD22-A103	3	44	High Temperature Storage Life	150C	2000 Hours	3/231/0
HTSL	A6.2.1	-	3	1	Cross Section, post HTSL, 2X	Post stress cross section	Completed	3/3/0
Test Group C - Package Assembly Integrity Tests								
WBS	C1	AEC Q100-001	1	30	Wire Bond Shear	Minimum of 5 devices, 30 wires Cpk>1.67	Wires	1/30/0
WBP	C2	MIL-STD883 Method 2011	1	30	Wire Bond Pull	Minimum of 5 devices, 30 wires Cpk>1.67	Wires	1/30/0

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
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Grade 2 (or T): -40C to +105C
Grade 3 (or I) : -40C to +85C
E1 (TEST): Electrical test temperatures of Qual samples (High temperature according to Grade level):
Room/Hot/Cold : HTOL, ED
Room/Hot : THB / HAST, TC / PTC, HTSL, ELFR, ESD & LU
Room : AC/uHAST
Quality and Environmental data is available at TI's external Web site: http://www.ti.com/

ZVEI ID’s: SEM-DE-01, SEM-DE-03, SEM-PW-02, SEM-PW-09, SEM-PW-13, SEM-PA-07, SEM-PA-08, SEM-PA-11, SEM-PS-04

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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