

PCN Number:	20220601001.2	PCN Date:	June 02, 2022
Title:	Qualification of new Fab Site (MIHO8), die revision, Assembly/Test site (MLA), assembly BOM option and datasheet updates		
Customer Contact:	PCN Manager	Dept:	Quality Services
Proposed 1st Ship Date:	Dec 2, 2022	Sample Requests accepted until:	July 2, 2022*

***Sample requests received after July 2, 2022 will not be supported.**

Change Type:

<input checked="" type="checkbox"/>	Assembly Site	<input checked="" 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 checked="" type="checkbox"/>	Test Site	<input 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 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 announce the qualification of a new Fab Site (MIHO8), die revision, Assembly site (MLA), assembly BOM option and datasheet updates

Current Fab Site			Additional Fab Site		
Current Fab Site	Process	Wafer Diameter	New Fab Site	Process	Wafer Diameter
D MOS5	50HPA07ISO	200 mm	MIHO8	LBC8	200 mm

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

Qual details are provided in the Qual Data Section.

BOM/Assembly options are as follows:

	TAI	MLA
Bond wire diameter composition, diameter	Au, 0.96 mil	1mil PCC Die-> LF .96mil Au Die->Die
Mold Compound	4209640	4211880

Test coverage, insertions, conditions will remain consistent with current testing and verified with test MQ

The datasheet number will be changing:

Product Family	Current Datasheet Number	New Datasheet Number
ISO1540-Q1	SLLSEX0C	SLLSEX0D

The product datasheet(s) is being updated as summarized below:

ISO1540-Q1

4 Revision History

NOTE: Page numbers for previous revisions may differ from page numbers in the current version.

Changes from Revision C (November 2021) to Revision D (May 2022)	Page
• Editorial and cosmetic changes throughout the document.....	1
• Updated electrical and switching parameters.....	5
• Updated 'DIN VDE V 0884-11:2017-01' to 'DIN EN IEC 60747-17 (VDE 0884-17)' and removed references to 'CSA/IEC 60950-1'.....	8

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
<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
DMOS5	DM5	USA	Dallas
MIHO8	MH8	JPN	Ibaraki

Die Rev:

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

Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (23L)	Assembly City
TAI	TAI	TWN	Chung Ho, New Taipei City
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) 0033317
 (20L) CSO: SHE (21L) CCG: USA
 (22L) ASO: MLA (23L) ACO: MYS

Product Affected:
Group 1 Device List (Fab site, Design, Assembly site, & BOM qualification + Datasheet Changes)
ISO1540QDRQ1
Group 2 Device List (Datasheet Change only)
ISO1540QDQ1

TI Information
Selective Disclosure



Automotive New Product Qualification Summary
(As per AEC-Q100 and JEDEC Guidelines)

ISO164x Automotive Rebadge
Approve Date 04-April-2022

Product Attributes

Attributes	Qual Device: ISO1540QDQ1	QBS Reference: ISO6721BQDRQ1	QBS Reference: ISO7741FEDWRQ1	QBS Reference: ISO1640QDRQ1
Automotive Grade Level	Grade 1	Grade 1	Grade 0	Grade 1
Operating Temp Range (C)	-40 to 125	-40 to 125	-40 to 150	-40 to 125
Product Function	Interface	Interface	Interface	Interface
Wafer Fab Supplier	MH8	MH8, MH8	MH8, MH8	MH8
Assembly Site	MLA	MLA	TAI	MLA
Package Group	SOIC	SOIC	SOIC	SOIC
Package Designator	D	D	DW	D
Pin Count	8	8	16	8

- QBS: Qual By Similarity
- Qual Device ISO1540QDQ1 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: ISO1540QDQ1	QBS Reference: ISO6721BQDRQ1	QBS Reference: ISO7741FEDWRQ1	QBS Reference: ISO1640BQDRQ1
Test Group A - Accelerated Environment Stress Tests											
PC	A1	JEDEC J-STD-020 JESD22-A113	3	77	Preconditioning	MSL1 260C	-	-	3/0/0	-	-
PC	A1	JEDEC J-STD-020 JESD22-A113	3	77	Preconditioning	MSL2 260C	-	-	3/0/0	3/0/0	3/0/0
HAST	A2	JEDEC JESD22-A110	3	77	Biased HAST	130C/85%RH	96 Hours	-	3/231/0	3/231/0	3/231/0
AC	A3	JEDEC JESD22-A102	3	77	Autoclave	121C/15psig	96 Hours	-	3/231/0	3/231/0	3/231/0
TC	A4	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle	-65C/150C	1000 Cycles	-	3/231/0	3/231/0	3/231/0
TC-BP	A4	MIL-STD883 Method 2011	1	5	Post Temp Cycle Bond Pull	-	-	-	-	1/5/0	1/5/0
HTSL	A6	JEDEC JESD22-A103	1	45	High Temperature Storage Life	150C	1000 Hours	-	-	-	1/45/0
HTSL	A6	JEDEC JESD22-A103	1	45	High Temperature Storage Life	175C	1000 Hours	-	-	3/135/0	-
Test Group B - Accelerated Lifetime Simulation Tests											
HTOL	B1	JEDEC	3	77	Life Test	125C	1000	-	3/231/0	-	-
ELFR	B2	AEC Q100-008	3	800	Early Life Failure Rate	150C	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	-	3/228/0	3/90/0	3/90/0
WBP	C2	MIL-STD883 Method 2011	1	30	Wire Bond Pull	Minimum of 5 devices, 30 wires Cpk>1.67	Wires	-	3/228/0	3/90/0	3/90/0
SD	C3	JEDEC JESD22-B102	1	15	PB Solderability	>95% Lead Coverage	-	-	1/15/0	1/15/0	-
SD	C3	JEDEC JESD22-B102	1	15	PB-Free Solderability	>95% Lead Coverage	-	-	1/15/0	1/15/0	-
PD	C4	JEDEC JESD22-B100 and B108	1	10	Physical Dimensions	Cpk>1.67	-	-	3/30/0	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	Completed Per Process Technology Requirements
TDD	D2	JESD35	-	-	Time Dependent Dielectric Breakdown	-	-	Completed Per Process Technology Requirements	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	Completed Per Process Technology Requirements

Test Group E - Electrical Verification Tests											
ESD	E2	AEC Q100-002	1	3	ESD HBM	-	8000 Volts	-	-	-	1/3/0
ESD	E3	AEC Q100-011	1	3	ESD CDM	-	1500 Volts	-	-	-	1/3/0
LU	E4	AEC Q100-004	1	6	Latch-Up	Per AEC Q100-004	-	-	1/6/0	1/6/0	1/6/0
ED	E5	AEC Q100-009	3	30	Electrical Distributions	Cpk>1.67 Room, hot, and cold	-	-	3/90/0	3/90/0	3/90/0
Type	#	Test Spec	Min Lot Qty	SS / Lot	Test Name	Condition	Duration	Qual Device	QBS Reference	QBS Reference	QBS Reference

- 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

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

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

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