

PCN Number:	20230914000.1			PCN Date:	September 14, 2023
Title:	Qualification of HFTF as an alternate Assembly site for select devices				
Customer Contact:	Change Management Team		Dept:	Quality Services	
Proposed 1st Ship Date:	Dec 15, 2023		Sample requests accepted until:	Oct 15, 2023*	
*Sample requests received after Oct 15, 2023 will not be supported.					
Change Type:					
<input checked="" type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Design	<input type="checkbox"/>	Wafer Bump Material
<input 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 type="checkbox"/>	Wafer Fab Site
<input type="checkbox"/>	Mechanical Specification	<input type="checkbox"/>	Test Site	<input type="checkbox"/>	Wafer Fab Material
<input checked="" type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process	<input type="checkbox"/>	Wafer Fab Process
PCN Details					
Description of Change:					
Texas Instruments Incorporated is announcing the qualification of HFTF as an additional Assembly site for set of devices listed below. Construction differences are as follows:					
Group 1 Device:					
	HIT	ASESH	HNA	HFTF	
Wire type	0.8 mil Au	0.8 mil Au	0.8 mil Au	1.0 mil Cu	
Mold Compound	RM500F	EN2000507	450207	R-31	
Mount Compound	RZ241C	EY1000063	400180	A-18	
Lead Finish	Matte Sn	Matte Sn	NiPdAu	Matte Sn	
Group 2 Device:					
	HNA	HFTF			
Wire type	1.0 mil Au	0.8 mil Cu			
Mold Compound	450179	R-30			
Mount Compound	400180	A-18			
Lead Finish	NiPdAu	Matte Sn			
<p>Upon expiry of this PCN, there will be a transition period where TI will combine lead free solutions in a single <u>standard part number</u>. For example; <u>TS5A22362DGSR</u> – can ship with both Matte Sn and NiPdAu.</p> <p>Example:</p> <ul style="list-style-type: none"> – Customer order for 7500 units of TS5A22362DGSR with 2500 units SPQ (Standard Pack Quantity per Reel). – TI can satisfy the above order in one of the following ways. <ul style="list-style-type: none"> I. 3 Reels of NiPdAu finish. II. 3 Reels of Matte Sn finish III. 2 Reels of Matte Sn and 1 reel of NiPdAu finish. IV. 2 Reels of NiPdAu and 1 reel of Matte Sn finish. 					
Reason for Change:					
Supply continuity					
Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):					
None					
Impact on Environmental Ratings					

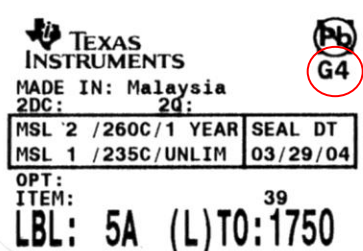
Checked boxes indicate the status of environmental ratings following implementation of this change. If below boxes are checked, there are no changes to the associated environmental ratings.

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

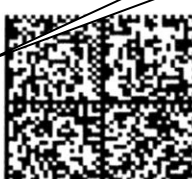
Changes to product identification resulting from this PCN:

Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (23L)	Assembly City
HIT	HTC	JPN	Kitatsugaru, Aomori
HNA	HNT	THA	Ayutthaya
ASESH	ASH	CHN	Shanghai
HFTF	HFT	CHN	Hefei

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



G4 = NiPdAu
G3 - Matte Sn

(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

Group 1 Product Affected:

SN74CB3Q3305DCUR	SN74LVC2G53DCUR	SN74LVC2G66DCUT	TS5A3357DCUT
SN74CB3Q3306ADCUR	SN74LVC2G53DCUT	TS5A2053DCUR	
SN74CB3T3306DCUR	SN74LVC2G66DCU3	TS5A2066DCUR	
SN74LVC2G53DCU3	SN74LVC2G66DCUR	TS5A3357DCUR	

Group 2 Product Affected:

TS5A22362DGSR	TS5A22364DGSR	TS5A23159DGSR
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Group 1 Qualification Report

Approve Date 13-July-2023

Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: SN74CB3Q3306ADCUR	QBS Reference: SN74LVC1G123DCUR	QBS Reference: SN74LVC2G04DCKR
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	3/231/0	3/231/0
UHAST	A3	Autoclave	121C/15psig	96 Hours	-	3/231/0	3/231/0
UHAST	A3	Unbiased HAST	130C/85%RH	96 Hours	1/77/0	-	-
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	1/77/0	3/231/0	3/231/0
HTSL	A6	High Temperature Storage Life	170C	420 Hours	-	3/231/0	3/231/0
HTOL	B1	Life Test	125C	1000 Hours	-	3/231/0	-
HTOL	B1	Life Test	150C	300 Hours	-	-	3/231/0
WBS	C1	Ball Shear	76 balls, 3 units min	Wires	-	3/228/0	-
WBP	C2	Bond Pull	76 Wires, 3 units min	Wires	-	3/228/0	-
PD	C4	Physical Dimensions	Cpk>1.67	-	1/30/0	-	-
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	-	-	3/90/0

QBS: Qual By Similarity

Qual Device SN74CB3Q3306ADCUR 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/>

Group 2 Qualification Report

Approve Date 01-Mar-2022

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: TS5A23157DGS	Qual Device: TS5A623157DGS	QBS Package Reference: TPS62842DGR
AC	Autoclave 121C	96 Hours	3/231/0	3/231/0	3/231/0
CDM	ESD - CDM	1500 V	3/9/0	3/9/0	-
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	3/231/0
HTOL	Life Test, 150C	300 Hours	-	-	3/231/0
HTSL	High Temp Storage Bake 170C	420 Hours	3/231/0	3/231/0	3/231/0
LI	Lead Fatigue	Wires	-	-	3/66/0
LI	Lead Pull	Wires	-	-	3/18/0
LU	Latch-up	Post Stress	-	-	1/3/0
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	-
MSL	Moisture Sensitivity, JEDEC	Level 1-260C	1/15/0	1/12/0	-
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	3/231/0	3/231/0
WBP	Bond Pull	Wires	3/228/0	3/228/0	-
WBS	Ball Bond Shear	Wires	3/228/0	3/228/0	-
YLD	Yield Evaluation	(per mfg. Site specification)	Pass	Pass	-

- QBS: Qual By Similarity

- Qual Device TS5A623157DGS is qualified at LEVEL1-260C

- Qual Device TS5A23157DGS is qualified at LEVEL1-260C

- 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/>

Green/Pb-free Status: Qualified Pb-Free(SMT) and Green

For questions regarding this notice, e-mails can be sent to Change Management team or your local Field Sales Representative.

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