

PCN Number:	20200904000.1		PCN Date:	Sept 09, 2020
Title:	Qualification of HFTF as an additional assembly site for select Devices			
Customer Contact:	PCN Manager	Dept:	Quality Services	
Proposed 1st Ship Date:	Dec 09, 2020	Estimated Sample Availability:	Date provided at sample request	
Change Type:				
<input checked="" type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Design	<input type="checkbox"/>
<input type="checkbox"/>	Assembly Process	<input type="checkbox"/>	Data Sheet	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Assembly Materials	<input type="checkbox"/>	Part number change	<input type="checkbox"/>
<input type="checkbox"/>	Mechanical Specification	<input type="checkbox"/>	Test Site	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process	<input type="checkbox"/>
				<input type="checkbox"/>
				Wafer Bump Site
				Wafer Bump Material
				Wafer Bump Process
				Wafer Fab Site
				Wafer Fab Materials
				Wafer Fab Process
PCN Details				
Description of Change:				
<p>Texas Instruments Incorporated is announcing the qualification of HFTF as an alternate Assembly site for devices listed below in the product affected section. Construction differences and current assembly sites are as follows:</p>				
Material Differences:				
	ASEWH	HIT	HNA	HFTF
Mount Compound	1120999A2	RZ241C	400180	SID# A-18
Mold Compound	4020039A1	RM500F	450179	SID#R-31
Lead Finish	NiPdAu	Matte Sn	NiPdAu	Matte Sn
Wire type	Au	Au	Au	Cu
<p>Upon expiry of this PCN TI will combine lead free solutions in a single standard part number, for the devices in group 2. For example; SN74LVC1G04DCKR – can ship with both Matte Sn and NiPdAu. When available customers may specify NiPdAu finish by ordering the part with the G4 suffix, e.g. SN74LVC1G04DCKRG4.”</p>				
<p>Example:</p> <ul style="list-style-type: none"> - Customer order for 7500 units of SN74LVC1G04DCKR 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				
Anticipated impact on Material Declaration				
<input type="checkbox"/>	No Impact to the Material Declaration	<input checked="" type="checkbox"/>	Material Declarations or Product Content reports are driven from production data and will be available following the production release. Upon production release the revised reports can be obtained at the site link below http://www.ti.com/quality/docs/materialcontentsearch.tsp	

Changes to product identification resulting from this PCN:

Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (23L)	Assembly City
ASEWH	AWH	CHN	Weihai
HIT	HTC	JPN	Kitatsugaru
HNA	HNT	THA	Ayutthaya
HFTF	HFT	CHN	Hefei

Sample product shipping label (not actual product label)

Product Affected:

SN74LVC1G04DCKR	SN74LVC1G123DCUR	SN74LVC2G125DCUR
SN74LVC1G06DCKR	SN74LVC1G125DBVR	SN74LVC2G125DCUT
SN74LVC1G07DCKR	SN74LVC1G125DBVT	SN74LVC2G132DCUR

Qualification Report

Approve Date 30-Oct-2019

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: <u>LSF0102DCUR</u>	Qual Device: <u>SN74LVC1G123DCUR</u>
PC	PreCon Level 1	Level 1-260C	3/231/0	3/231/0
HAST	Biased HAST, 130C/85%RH	96 Hours	3/231/0	3/231/0
AC	Autoclave 121C	96 Hours	3/231/0	3/231/0
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	3/231/0
HTSL	High Temp Storage Bake 170C	420 Hours	3/231/0	3/231/0
HTOL	Life Test, 125C	1000 Hours	3/231/0	3/231/0
LI	Lead Fatigue	Leads	3/66/0	-
LI	Lead Pull	Leads	3/18/0	-
MISC	Salt Atmosphere	24 Hours	3/66/0	-
SD	Surface Mount Solderability	PB	3/66/0	-
SD	Surface Mount Solderability	PB-Free	3/66/0	-
DS	Die Shear	--	3/30/0	3/30/0
PKG	Lead Finish Adhesion	Leads	3/45/0	-
WBP	Bond Pull	Wires	3/228/0	3/228/0

Type	Test Name / Condition	Duration	Qual Device: LSF0102DCUR	Qual Device: SN74LVC1G123DCUR
WBS	Bond Shear	Wires	3/228/0	3/228/0
FLAM	Flammability (IEC 695-2-2)	--	3/15/0	-
FLAM	Flammability (UL 94V-0)	--	3/15/0	-
FLAM	Flammability (UL-1694)	--	3/15/0	-

- QBS: Qual By Similarity

- Qual Device SN74LVC1G123DCUR is qualified at LEVEL1-260CG

- Qual Device LSF0102DCUR is qualified at LEVEL1-260CG

- 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

Qualification Report

Approve Date 09-Jun-2017

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: SN74AHC1G14DBV R	Qual Device: SN74CBTLV1G125DBV R	Qual Device: SN74LVC1G17DBV R	Qual Device: TL431AIDBV R	Qual Device: TLVH431AIDBV R
AC	Autoclave 121C	96 Hours	3/231/0	3/231/0	3/231/0	2/154/0	1/77/0
AC	Autoclave 121C	144 Hours	3/231/0	3/231/0	3/231/0	2/154/0	1/77/0
FLAM	Flammability (IEC 695-2-2)	--	3/15/0	-	-	-	-
FLAM	Flammability (UL 94V-0)	--	3/15/0	-	-	-	-
FLAM	Flammability (UL-1694)	--	3/15/0	-	-	-	-
HAST	Biased HAST, 130C/85%RH	96 Hours	3/231/0	3/231/0	3/231/0	2/154/0	1/77/0
HAST	Biased HAST, 130C/85%RH	192 Hours	3/231/0	3/231/0	3/231/0	2/154/0	1/77/0
HTOL	Life Test, 150C	300 Hours	3/231/0	3/231/0	3/231/0	2/154/0	1/77/0
HTSL	High Temp. Storage Bake, 170C	400 Hours	3/231/0	3/231/0	3/231/0	2/154/0	1/77/0

HTSL	High Temp. Storage Bake, 170C	600 Hours	3/231/0	3/231/0	3/231/0	2/154/0	1/77/0
LI	Lead Fatigue	Leads	3/66/0	-	-	2/44/0	1/22/0
LFA	Lead Finish Adhesion	Leads	3/45/0	-	-	2/30/0	1/15/0
LI	Lead Pull to Destruction	Leads	3/66/0	-	-	2/44/0	1/22/0
PD	Physical Dimensions	--	3/15/0	-	-	2/10/0	1/5/0
SD	Solderability	Pb	3/66/0	-	-	2/44/0	1/22/0
SD	Solderability	Pb Free	3/66/0	-	-	2/44/0	1/22/0
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	3/231/0	3/231/0	2/154/0	1/77/0
TC	Temperature Cycle, -65/150C	750 Cycles	3/231/0	3/231/0	3/231/0	2/154/0	1/77/0
DSS	Die Shear	Die	3/30/0	3/30/0	3/30/0	2/20/0	1/10/0
WBP	Bond Pull	Wires	3/228/0	3/228/0	3/228/0	2/152/0	1/76/0
WBS	Ball Bond Shear	Wires	3/228/0	3/228/0	3/228/0	2/152/0	1/76/0
MSL	Moisture Sensitivity Level	1-260C	3/36/0	-	-	2/24/0	1/12/0
SA	Salt Atmosphere	24 Hours	3/66/0	-	-	-	-
XR	X-Ray	(top side only)	3/15/0	3/15/0	3/15/0	2/10/0	1/5/0

- QBS: Qual By Similarity

- Qual Device SN74AHC1G14DBVR 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

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