12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN#20191104000.1
Qualification of Hefei Tongfu Microelectronic Co. Ltd (HFTF) as additional Assembly Site for Select Devices
Change Notification / Sample Request

Date: December 13, 2019
To: TOKYO ELECTRON DEVICE (DSTR) 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.

We request you acknowledge receipt of this notification within **30** days of the date of this notice. Lack of acknowledgement of this notice within 30 days constitutes acceptance of the change. If you require samples or additional data to support your evaluation, please request within 30 days.

The proposed first ship date is indicated 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, contact your local Field Sales Representative or the PCN Manager (PCN_ww_admin_team@list.ti.com).

Sincerely,

PCN Team
SC Business Services

20191104000
Attachment: 1

Products Affected:

The devices listed on this page are a subset of the complete list of affected devices. According to our records, these are the devices that you have purchased within the past twenty-four (24) months. The corresponding customer part number is also listed, if available.

DEVICE	CUSTOMER PART NUMBER
PCA9306DCUR	null
PCA9306DCUT	null
SN74LVC2G157DCUR	null
SN74LVC2G241DCUR	null
SN74LVC2G32DCUR	null
SN74LVC2G74DCUR	null
SN74LVC2G79DCUR	null
SN74LVC2T45DCUR	null
SN74LVC3G04DCUR	null
SN74LVC3G07DCUR	null
SN74LVC3G14DCUR	null
SN74LVC3G14DCUT	null
LSF0102DCUR	null
SN74LVC2G126DCUT	null
SN74LVC1G74DCUR	null
SN74LVC2G00DCUT	null
SN74LVC2G08DCUR	null
LM20BIM7/NOPB	null
SN74LVC1G123DCUT	null
SN74LVC1G74DCUT	null
SN74LVC2G00DCUR	null
SN74LVC2G157DCUT	null
SN74LVC3G17DCUR	null
SN74LVC3GU04DCUR	null
SN74LVC1G139DCUR	null
SN74LVC3G34DCUR	null
LM20BIM7X/NOPB	null
SN74LVC2G74DCUT	null
SN74LVC3G34DCUT	null
SN74LVC3G06DCUR	null
SN74LVC2G132DCUT	null
SN74LVC2G126DCUR	null
LPV521MG/NOPB	null
SN74LVC2G86DCUR	null
LM20CIM7/NOPB	null
SN74LVC3G04DCUT	null
SN74LVC2G02DCUR	null
SN74LVC1G29DCUR	null

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

PCN Number:	20191104000.1	**PCN Date:**	Dec 13, 2019
Title:	Qualification of Hefei Tongfu Microelectronic Co. Ltd (HFTF) as additional Assembly Site for Select Devices		
Customer Contact:	PCN Manager	**Dept:**	Quality Services
Proposed 1st Ship Date:	Mar 13, 2020	**Estimated Sample Availability:**	Date provided at sample request

Change Type:

☒	Assembly Site	☐	Design	☐	Wafer Bump Site
☐	Assembly Process	☐	Data Sheet	☐	Wafer Bump Material
☒	Assembly Materials	☐	Part number change	☐	Wafer Bump Process
☐	Mechanical Specification	☐	Test Site	☐	Wafer Fab Site
☐	Packing/Shipping/Labeling	☐	Test Process	☐	Wafer Fab Materials
				☐	Wafer Fab Process

PCN Details

Description of Change:

Texas Instruments is pleased to announce the Qualification of Hefei Tongfu Microelectronic Co. Ltd (HFTF) as additional Assembly Site for Select Devices listed in the "Product Affected" Section. Current assembly sites and Material differences are as follows.

Material Differences:

Group 1 Device:

	Hana Semiconductor	**HFTF**
Mount Compound	EY1000063	A-18
Mold compound	EN2000507	R-31
Wire type	Au	Cu

Group 2 Device:

	Hitachi Semiconductor	**HFTF**
Mount Compound	RZ241C	A-18
Mold compound	RM500F	R-31
Wire type	Au	Cu

Group 3 Device:

	TIEM	**HFTF**
Mount Compound	4213245	A-03
Mold compound	8095181	R-27
Wire type	Au	Cu

Note: Wire type change for devices highlighted in yellow only.

Reason for Change:

Continuity of supply.

Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):

None

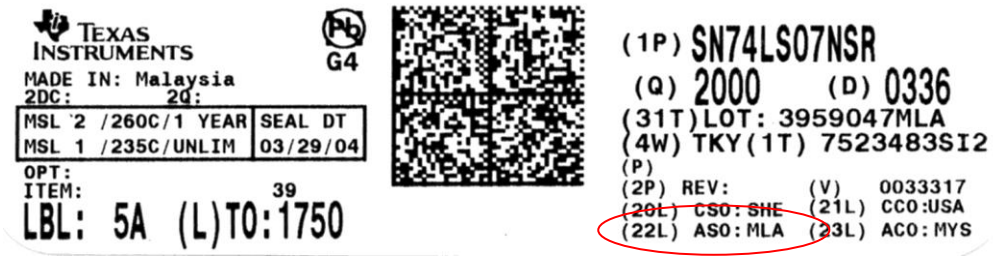
Anticipated impact on Material Declaration

☐	No Impact to the Material Declaration	☒	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 from the TI Eco-Info website. There is no impact to the material meeting current regulatory compliance requirements with this PCN change.

Changes to product identification resulting from this PCN:

Assembly Site		
Hana Semiconductor	Assembly Site Origin (22L)	ASO: HNT
Hitachi Semiconductor	Assembly Site Origin (22L)	ASO: HTC
TIEM	Assembly Site Origin (22L)	ASO: CU6
HFTF	Assembly Site Origin (22L)	ASO: HFT

Sample product shipping label (not actual product label)



Product Affected Group 1:

PCA9306DCUR	SN74LVC1G74DCUT	SN74LVC2G240DCUR	SN74LVC3G04DCUT
PCA9306DCURG3	SN74LVC1G99DCUR	SN74LVC2G241DCUR	SN74LVC3G06DCUR
PCA9306DCUT	SN74LVC1G99DCUT	SN74LVC2G241DCUT	SN74LVC3G06DCUT
PCA9306DCUTG3	SN74LVC2G00DCUR	SN74LVC2G32DCUR	SN74LVC3G07DCUR
PPCA9306DCUR	SN74LVC2G00DCUT	SN74LVC2G32DCUT	SN74LVC3G07DCUT
SN74GTL2002DCUR	SN74LVC2G02DCUR	SN74LVC2G38DCUR	SN74LVC3G14DCUT
SN74LVC1404DCUR	SN74LVC2G02DCUT	SN74LVC2G38DCUT	SN74LVC3G34DCUT
SN74LVC1G123DCUT	SN74LVC2G08DCUT	SN74LVC2G74DCUT	SN74LVC3GU04DCUR
SN74LVC1G139DCUR	SN74LVC2G126DCUR	SN74LVC2G79DCUR	SN74TVC3306DCUR
SN74LVC1G139DCUT	SN74LVC2G126DCUT	SN74LVC2G80DCUR	
SN74LVC1G29DCUR	SN74LVC2G132DCUT	SN74LVC2G86DCUR	
SN74LVC1G29DCUT	SN74LVC2G157DCUR	SN74LVC2G86DCUT	
SN74LVC1G74DCUR	SN74LVC2G157DCUT	SN74LVC3G04DCUR	

Product Affected Group 2:

LSF0102DCUR	SN74LVC2G74DCUR	SN74LVC3G14DCUR	SN74LVC3G34DCUR
SN74LVC2G08DCUR	SN74LVC2T45DCUR	SN74LVC3G17DCUR	

Product Affected Group 3:

LM20BIM7/NOPB	LM20BIM7X/NOPB	LM20CIM7X/NOPB	LPV521MGE/NOPB
LM20BIM7X/E7001066	LM20CIM7/NOPB	LPV521MG/NOPB	LPV521MGX/NOPB

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: LSF0102DCUR	Qual Device: SN74LVC1G123DCUR
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
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 12-Sept-2019

Qualification Results

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

Type	Test Name / Condition	Duration	QBS Device: SN74AHC1G126DCKR	QBS Device: SN74CBT1G384DCKR	QBS Device: SN74LVC1G17DCKR	QBS Device: SN74LVC2G04DCKR
AC	Autoclave 121C	96 Hours	1/77/0	1/77/0	3/231/0	3/231/0
BHAST	Biased HAST, 130C/85%RH	96 Hours	-	-	3/231/0	3/231/0
ED	Electrical Characterization	Per Datasheet Parameters	1/30/0	1/30/0	3/90/0	3/90/0
ELFR	Early Life Failure Rate, 125C	48 Hours	-	-	-	-
HTOL	Life Test, 150C	300 Hours	-	-	3/231/0	3/231/0
HTOL	Life Test, 125C	1000 Hours	-	-	-	-
HTSL	High Temp. Storage Bake 170C	420 Hours	1/77/0	1/77/0	3/231/0	3/231/0
TC	Temperature Cycle, -65C/150C	500 Cycles	1/77/0	1/77/0	3/231/0	3/231/0
UHAST	Unbiased HAST, 130C/85%RH	96 Hours	-	-	-	-
FLAM	Flammability (UL 94V-0)	Method A/UL 94V-0	-	-	3/15/0	3/15/0
LI	Lead Fatigue	Leads	-	-	3/66/0	3/66/0
LI	Lead Pull to Destruction	Leads	-	-	3/27/0	3/27/0
MQ	Manufacturability (Assembly)	(per mfg. site specification)	1/PASS	1/PASS	3/PASS	3/PASS
PD	Physical Dimensions	Per Mechanical Drawing	-	-	-	-
SD	Solderability	Steam Age, 8 Hours, Pb	-	-	3/66/0	3/66/0
SD	Solderability	Steam Age, 8 Hours, Pb Free	-	-	3/66/0	3/66/0
WBP	Bond Pull	76 Wires, 3 units min	1/76/0	1/76/0	3/228/0	3/228/0
WBS	Ball Bond Shear	76 Balls, 3 units min	1/76/0	1/76/0	3/228/0	3/228/0
XRAY	X-ray	(top side only)	-	-	-	-

Type	Test Name / Condition	Duration	QBS Device: TLV9001IDCKR	QBS Device: OPA1671IDCK	QBS Device: LM66100DCK	Qual Device: TPS22948DCK
AC	Autoclave 121C	96 Hours	-	-	-	1/77/0
BHAST	Biased HAST, 130C/85%RH	96 Hours	6/262/0	3/231/0	-	1/77/0
ED	Electrical Characterization	Per Datasheet Parameters	1/30/0	3/90/0	1/30/0	1/30/0
ELFR	Early Life Failure Rate, 125C	48 Hours	-	3/2397/0	-	-
HTOL	Life Test, 150C	300 Hours	-	3/231/0	3/231/0	-
HTOL	Life Test, 125C	1000 Hours	-	-	-	3/231/0
HTSL	High Temp. Storage Bake 170C	420 Hours	3/231/0	3/231/0	-	1/77/0
TC	Temperature Cycle, -65C/150C	500 Cycles	3/231/0	3/231/0	-	1/77/0
UHAST	Unbiased HAST, 130C/85%RH	96 Hours	3/231/0	3/231/0	-	-
FLAM	Flammability (UL 94V-0)	Method A/UL 94V-0	-	-	-	-

LI	Lead Fatigue	Leads	-	-	-	-
LI	Lead Pull to Destruction	Leads	-	-	-	-
MQ	Manufacturability (Assembly)	(per mfg. site specification)	3/PASS	3/PASS	1/PASS	1/PASS
PD	Physical Dimensions	Per Mechanical Drawing	-	3/15/0	-	-
SD	Solderability	Steam Age, 8 Hours, Pb	-	-	-	-
SD	Solderability	Steam Age, 8 Hours, Pb Free	-	-	-	-
WBP	Bond Pull	76 Wires, 3 units min	-	-	1/76/0	1/76/0
WBS	Ball Bond Shear	76 Balls, 3 units min	-	-	1/76/0	1/76/0
XRAY	X-ray	(top side only)	-	-	-	1/5/0

- QBS: Qual By Similarity
- Qual Device SN74AHC1G126DCKR is qualified at LEVEL1-260C
- Qual Device SN74CBT1G384DCKR is qualified at LEVEL1-260C
- Qual Device SN74LVC1G17DCKR is qualified at LEVEL1-260C
- Qual Device SN74LVC2G04DCKR is qualified at LEVEL1-260C
- Qual Device TLV9001IDCKR is qualified at LEVEL2-260C
- Qual Device OPA1671IDCK is qualified at LEVEL2-260C
- Qual Device LM66100DCK is qualified at LEVEL1-260C
- Qual Device TPS22948DCK is qualified at LEVEL1-260C
- Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, and HTSL, as applicable
- The following are equivalent HTOL options based on an activation energy of 0.7eV: 125C/1000 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/1000 Hours, and 170C/420 Hours
- The following are equivalent Temperature 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 the regional contacts shown below or your local Field Sales Representative.

Location	E-Mail
USA	PCNAmericasContact@list.ti.com
Europe	PCNEuropeContact@list.ti.com
Asia Pacific	PCNAsiaContact@list.ti.com
Japan	PCNJapanContact@list.ti.com

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