PCN Number:	20141001002	PCN Date:	10/07/2014
Title:	Add Cu as Alternative Wire Base Metal for Selected Device(s)		
Customer Contact:	PCN Manager	Phone: +1(214)480-6037	Dept: Quality Services
Proposed 1st Ship Date:	01/07/2015	Estimated Sample Availability:	Date provided at sample request

Change Type:

☐	Assembly Site	☒	Assembly Process	☒	Assembly Materials
☐	Design	☐	Electrical Specification	☐	Mechanical Specification
☐	Test Site	☐	Packing/Shipping/Labeling	☐	Test Process
☐	Wafer Bump Site	☐	Wafer Bump Material	☐	Wafer Bump Process
☐	Wafer Fab Site	☐	Wafer Fab Materials	☐	Wafer Fab Process

PCN Details

Description of Change:

Texas Instruments is pleased to announce the qualification of Cu as an additional bond wire option for devices listed in "Product affected" section below. Devices will remain in current assembly facility and there will be no other piece part changes.

Reason for Change:

Continuity of supply.

1) To align with world technology trends and use wiring with enhanced mechanical and electrical properties
2) Maximize flexibility within our Assembly/Test production sites.
3) Cu is easier to obtain and stock

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

None.

Changes to product identification resulting from this PCN:

None.

Product Affected: Group 1 Devices

CDCLVP2106RHAR	CDCLVP2106RHAT	TRF3762-EIRHAR	TRF3762-EIRHAT

Product Affected: Group 2 Devices

TLV1117LV12DCYR	TLV1117LV25DCYT	TLV1117LV40DCYR	TLV117125DCYR
TLV1117LV12DCYT	TLV1117LV28DCYR	TLV117112DCYR	TLV117125DCYT
TLV1117LV15DCYR	TLV1117LV28DCYT	TLV117112DCYT	TLV117133DCYR
TLV1117LV15DCYT	TLV1117LV30DCYR	TLV117115DCYR	TLV117133DCYT
TLV1117LV18DCYR	TLV1117LV30DCYT	TLV117115DCYT	
TLV1117LV18DCYT	TLV1117LV33DCYR	TLV117118DCYR	
TLV1117LV25DCYR	TLV1117LV33DCYT	TLV117118DCYT	

Group 1 : Qualification Report

UTAC (NSE): QFN, conversion to Cu-wire bond on Al-Pad devic

Approved 05/29/2014

Product Attributes

Attributes	Qual Device: DAC5682ZIRGCR	Qual Device: REG71050DRVR	Qual Device: TPS3808G25DRVR	Qual Device: TPS62560DRVR	Qual Device: TS3L500RHUR
Assembly Site	UTAC (NSE)	UTAC (NSE)	UTAC (NSE)	UTAC (NSE)	UTAC (NSE)
Package Family	VQFN	WSON	WSON	WSON	WQFN
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	RFAB	TSMC-WF2	FR-BIP-1	UMC-F8AB	FR-BIP-1
Wafer Fab Process	1833C05X5	0.60UM-TSMC	3370A12X3	LBC7X3	ASLC10
Die Revision	G	-	A	B	B
Passivation	-	-	-	-	No
Package Attributes	Qual Device: DAC5682ZIRGCR	Qual Device: REG71050DRVR	Qual Device: TPS3808G25DRVR	Qual Device: TPS62560DRVR	Qual Device: TS3L500RHUR
Assembly Site	UTAC (NSE)	UTAC (NSE)	UTAC (NSE)	UTAC (NSE)	UTAC (NSE)
Package Family	VQFN	WSON	WSON	WSON	WQFN
Package Designator	RGC	DRV	DRV	DRV	RHU
Package Size (mils)	354.33 X 354.33	78.74 X 78.74	78.74 X 78.74	78.74 X 78.74	433.07 X 196.85
Body Thickness (mils)	35.43	29.53	29.53	29.53	29.53
Pin Count	64	6	6	6	56
Lead Frame Type	CU	CU	CU	CU	CU
Lead Finish	NiPdAu	NiPdAu	NiPdAu	NiPdAu	NiPdAu
Lead Pitch (mils)	19.68	25.59	25.59	25.59	19.68
Mount Compound	PZ0031	PZ0031	PZ0031	PZ0031	PZ0031
Mold Compound	CZ0135	CZ0135	CZ0135	CZ0135	CZ0135
Bond Wire Composition	Cu	Cu	Cu	Cu	Cu
Bond Wire Diameter (mils)	1.0	1.0	1.0	1.0	1.0
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0

- QBS: Qual By Similarity
- Qual Device DAC5682ZIRGCR is qualified at LEVEL3-260C
- Qual Device REG71050DRVR is qualified at LEVEL2-260C
- Qual Devices qualified at LEVEL1-260C: TPS3808G25DRVR, TPS62560DRVR, TS3L500RHUR

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: DAC5682ZIRGCR	Qual Device: REG71050DRVR	Qual Device: TPS3808G25DRVR	Qual Device: TPS62560DRVR	Qual Device: TS3L500RHUR
PC	PreCon Level 1	Level 1-260C	-	-	-	3/693/0	3/246/0
PC	PreCon Level 3	Level 3-260C	3/495/0	-	-	-	-
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	-	-	3/215/0
AC	Autoclave 121C	96 Hours	3/256/0	-	-	3/231/0	-
UHAST	Unbiased HAST 130C/85%RH	96 Hours	3/256/0	-	-	-	-
TC	Temperature Cycle, -65/150C	500 Cycles	3/247/0	-	-	3/231/0	-
HTSL	High Temp Storage Bake 175C	350 Hours	-	-	-	3/231/0	-
HTOL	Life Test, 125C	1000 Hours	-	-	-	-	1/76/0
ED	Electrical Characterization	Per Datasheet Parameters	-	Pass	-	Pass	Pass
DPA	Destructive Physical Analysis	-	-	Pass	-	-	-
DPA	Destructive Physical Analysis	Post-96 Hours BHAST	-	-	-	-	3/6/0
DPA	Destructive Physical Analysis	Post-96 Hours Autoclave	3/6/0	-	-	3/6/0	-
DPA	Destructive Physical Analysis	Post-500 Temp-Cycles	3/6/0	-	-	3/6/0	-
MQ	Manufacturability (Assembly)	with Crater Check	Pass	-	-	-	-
MQ	Manufacturability (Assembly)	with crater-check	-	Pass	Pass	Pass	Pass
MSL	Thermal Path Integrity	Level 1-260C	-	-	1/12/0	3/36/0	-
MSL	Thermal Path Integrity	Level 3-260C	3/36/0	-	-	-	-

- 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

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

TI Qualification ID: 20130114-76041

Group 2 : Qualification Report
TLV1117LVXXDCY Qualification with 1 mil Cu wire
Approved 9/12/2014

Attributes	Qual Device: TLV1117LV33DCY
Assembly Site	NFME
Package Family	SOT223
Flammability Rating	UL 94 V-0
Wafer Fab Supplier	MH8
Wafer Fab Process	LBC7

- QBS: Qual By Similarity
- Qual Device TLV1117LV33DCY is qualified at LEVEL1-260CG

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: TLV1117LV33DCY
AC	**Autoclave 121C	121C, 2 atm (96 Hrs)	3/231/0
TC	**T/C -65C/150C	-65C/+150C (500 Cycles)	3/231/0
HTSL	High Temp. Storage Bake	170 C / 420 Hrs	3/135/0
WB	Wire Pull	76 bond pulls	3/228/0
WB	Bond Shear	76 ball shears	3/228/0

- 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

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.

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