



12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN#20150624001
Add Cu as Alternative Wire Base Metal for Selected Device(s)
Change Notification / Sample Request

Date: 7/1/2015
To: Digi-Key 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

20150624001
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
SN74AVC32T245GKER	null
SN74AVC32T245ZKER	null
SN74AVCH32T245ZKER	null

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

PCN Number:	20150624001		PCN Date:	07/01/2015													
Title:	Add Cu as Alternative Wire Base Metal for Selected Device(s)																
Customer Contact:	PCN Manager	Dept:	Quality Services														
Proposed 1st Ship Date:	10/01/2015	Estimated Sample Availability:	Date provided at sample request														
Change Type:																	
<input type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Design	<input type="checkbox"/>	Wafer Bump Site												
<input checked="" type="checkbox"/>	Assembly Process	<input type="checkbox"/>	Data Sheet	<input type="checkbox"/>	Wafer Bump Material												
<input checked="" type="checkbox"/>	Assembly Materials	<input type="checkbox"/>	Part number change	<input type="checkbox"/>	Wafer Bump Process												
<input type="checkbox"/>	Mechanical Specification	<input type="checkbox"/>	Test Site	<input type="checkbox"/>	Wafer Fab Site												
<input type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process	<input type="checkbox"/>	Wafer Fab Materials												
				<input type="checkbox"/>	Wafer Fab Process												
PCN Details																	
Description of Change:																	
<p>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 facilities and there will be no other piece part changes:</p>																	
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Group</th> <th style="width: 20%;">Pkg Family</th> <th style="width: 30%;">Current Wire</th> <th style="width: 40%;">Additional Wire</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">uBGA</td> <td style="text-align: center;">Au, 0.96 mil</td> <td style="text-align: center;">Cu, 0.80 mil</td> </tr> <tr> <td style="text-align: center;">2</td> <td style="text-align: center;">SOP</td> <td style="text-align: center;">Au, 0.96 mil</td> <td style="text-align: center;">Cu, 0.96 mil</td> </tr> </tbody> </table>						Group	Pkg Family	Current Wire	Additional Wire	1	uBGA	Au, 0.96 mil	Cu, 0.80 mil	2	SOP	Au, 0.96 mil	Cu, 0.96 mil
Group	Pkg Family	Current Wire	Additional Wire														
1	uBGA	Au, 0.96 mil	Cu, 0.80 mil														
2	SOP	Au, 0.96 mil	Cu, 0.96 mil														
Reason for Change:																	
<p>Continuity of supply.</p> <ol style="list-style-type: none"> 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 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 from the TI ECO website .														
Changes to product identification resulting from this PCN:																	
None																	

Product Affected:

Group 1 Devices

74AVC32T245ZKER-P	SN74AVC32T245GKER	SN74AVC32T245ZKER	SN74AVCH32T245ZKER
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Group 2 Devices

SN1301037NSR

Group 1 Devices Qualification Data



TI Information
Selective Disclosure

Qualification Report

SN74AVC32T245GKER / SN74AVC32T245ZKER / SN74AVCH32T245ZKER / 74AVC32T245ZKER-P -- Conversion from Au to Cu wire
Approve Date 26-May-2015

Product Attributes

Package Attributes	Qual Device: SN74AVC32T245ZKER	Qual Device: SN74AVC32T245GKER	QBS Process Reference: TXS0102QDCURQ1	QBS Process Reference: SN74AVCH4T245RSVR	QBS Package Reference: TSB43DA42GHC
Assembly Site	PHI (TIPI)	PHI (TIPI)	HNT	JCET	TIPI
Package Family	JRBGA	JRBGA	VSSOP	-	UBGA
Package Designator	ZKE	GKE	DCU	RSV	GHC
Package Size (mils)	137.79 X 334.65	137.79 X 334.65	90.65 X 78.74	70.87 X 102.36	590.55 X 590.55
Body Thickness (mils)	14.17	14.17	29.53	19.68	35.43
Pin Count	96	96	8	16	196
Bond Wire Composition	Cu	Cu	Au	-	Cu
Bond Wire Diameter(mils)	20.3 UM (0.8 MIL)	20.3 UM (0.8 MIL)	0.8	-	0.8
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 Devices qualified at LEVEL3-260C: 74AVC32T245ZKER-P, SN74AVC32T245ZKER, SN74AVCH32T245ZKER
- Qual Device SN74AVC32T245GKER is qualified at LEVEL2-235C

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: SN74AVC32T245ZKER	Qual Device: SN74AVC32T245GKER	QBS Process Reference: TXS0102QDCURQ1	QBS Process Reference: SN74AVCH4T245RSVR	QBS Package Reference: TSB43DA42GHC
AC	Autoclave 121C	96 Hours			1/77/0	1/77/0	
ED	Auto Electrical Distributions	Cpk>1.67 Room, hot, and cold test			3/90/0		
ED	Electrical Characterization	Per Datasheet Parameters				Pass	
HAST	Biased HAST, 110C/85%RH	396 Hours	1/77/0				
HAST	Biased HAST, 130C/85%RH	96 Hours			1/77/0	1/77/0	
HBM	ESD - HBM	2000 V			1/3/0	1/3/0	
CDM	ESD - CDM	750 V			1/3/0		
HTOL	Life Test, 150C	300 Hours			1/77/0	1/77/0	
HTSL	High Temp. Storage Bake, 170C	420 Hours				1/77/0	
HTSL	High Temp. Storage Bake, 175C	500 Hours			1/50/0		
HTSL	High Temp. Storage Bake, 150C	1000 Hours					3/231/0
LU	Latch-up	(per JESD78)			1/6/0	1/6/0	
SD	Surface Mount Solderability	Pb-Free				1/23/0	
TC	Temperature Cycle, -55/125C	700 Cycles	3/231/0				3/231/0
TC	Temperature Cycle, -65/150C	500 Cycles			1/77/0	1/77/0	
UHAST	Unbiased HAST 110C/85%RH	264 hours	3/231/0				
UHAST	Unbiased HAST, 130C/85%RH	96 Hours					3/231/0
WBP	Bond Pull	Wires			1/80/0		
WBP	Bond Strength	Wires	3/228/0	3/90/0			
WBS	Bond Shear	Wires			1/80/0		

- Preconditioning was performed for Auto clave, 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

Group 2 Device Qualification Data



TI Information
Selective Disclosure

Qualification Report

SN1301037NS - QTOH **qual** with Cu wire

Product Attributes

Attributes	Qual Device: SN1301037NS	QBS Product Reference: SN1301037PW	QBS Product Reference: SN1301037NS	QBS Process Reference: TPS62110RSA	QBS Package Reference: 74ACT11245NS
Assembly Site	MLA (TIM)	MLA (TIM)	MLA (TIM)	CAR	MLA
Package Family	SOP	TSSOP	SOP	QFN	-
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V0
Wafer Fab Supplier	MIHO8	MH8	MIHO 8	MIHO8	SHE
Wafer Process	BICMOS	LBC7	BICMOS	LBC7	EPIC-1S

- QBS: Qual By Similarity

- Qual Devices qualified at LEVEL1-260C: SN1301037NS, SN1301037NS

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: SN1301037NS	QBS Product Reference: SN1301037PW	QBS Product Reference: SN1301037NS	QBS Process Reference: TPS62110RSA	QBS Package Reference: 74ACT11245NS
AC	Autoclave 121C	96 Hours	3/231/0			3/231/0	3/149/0
ED	Electrical Characterization	Per Datasheet Parameters	Pass	Pass	Pass		
ELFR	Early Life Failure Rate, 140C	48 Hours				3/1881/0	
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	Biasd HAST 130C/85%RH	96 Hours				3/231/0	3/78/0
HBM	ESD - HBM	1000 V		1/9/0		3/9/0	
CDM	ESD - CDM	250 V		1/3/0	1/3/0	3/9/0	
HTOL	Life Test, 140C	480 Hours				3/231/0	
HTOL	Life Test, 150C	500 Hours					3/120/0
HTSL	High Temp. Storage Bake, 170C	420 Hours				3/231/0	
HTSL	High Temp. Storage Bake, 150C	1000 Hours					3/231/0
LI	Lead Pull to Destruction	Leads					3/66/0
LU	Latch-up	(per JESD78)		1/6/0		3/15/0	
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	1/77/0	1/77/0	3/231/0	3/231/0
TS	Thermal Shock, -65/150C	1000 Cycles				3/231/0	3/231/0

- 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

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