



12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN# 20131119002
Add Cu as Alternative Wire Base Metal for Selected Device(s)
on SOT and TSSOP packages
Change Notification / Sample Request

Date: 11/21/2013
To: MOUSER 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 changes discussed within this PCN will not take effect any earlier than **90** days from the date of this notification, unless customer agreement has been reached on an earlier implementation of the change. This notification period is per TI's standard process.

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
Phone: +1(214) 480-6037
Fax: +1(214) 480-6659

20131119002
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
TPD13S523PWR	null
TPD4E1U06DCKR	null

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

PCN Number:	20131119002			PCN Date:	11/21/2013									
Title:	Add Cu as Alternative Wire Base Metal for Selected Device(s) on SOT and TSSOP packages													
Customer Contact:	PCN Manager	Phone:	+1(214)480-6037	Dept:	Quality Services									
Proposed 1st Ship Date:	02/21/2014	Estimated Sample Availability:	Date provided at sample request											
Change Type:														
<input checked="" type="checkbox"/>	Assembly Site	<input checked="" type="checkbox"/>	Assembly Process	<input checked="" type="checkbox"/>	Assembly Materials									
<input type="checkbox"/>	Design	<input type="checkbox"/>	Electrical Specification	<input type="checkbox"/>	Mechanical Specification									
<input checked="" type="checkbox"/>	Test Site	<input type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process									
<input type="checkbox"/>	Wafer Bump Site	<input type="checkbox"/>	Wafer Bump Material	<input type="checkbox"/>	Wafer Bump Process									
<input type="checkbox"/>	Wafer Fab Site	<input type="checkbox"/>	Wafer Fab Materials	<input type="checkbox"/>	Wafer Fab Process									
<input type="checkbox"/>		<input type="checkbox"/>	Part number change	<input type="checkbox"/>										
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. Material differences are shown in the following table:</p> <ul style="list-style-type: none"> • Group 1 – Devices that will have Au wire to Cu wire change only and will remain in their current assembly facility. • Group 2 – Devices that will have the following change <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th>From</th> <th>To</th> </tr> </thead> <tbody> <tr> <td>Assembly/Test site</td> <td>NFME</td> <td>ASEWH</td> </tr> <tr> <td>Wire</td> <td>Au</td> <td>Cu</td> </tr> </tbody> </table> <p>Test coverage, insertions, conditions will remain consistent with current testing and verified with test MQ.</p>							From	To	Assembly/Test site	NFME	ASEWH	Wire	Au	Cu
	From	To												
Assembly/Test site	NFME	ASEWH												
Wire	Au	Cu												
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 Fit, Form, Function, Quality or Reliability (positive / negative):														
None.														

Changes to product identification resulting from this PCN for Group 2 devices:

Assembly Site		
NFME	Assembly Site Origin (22L)	ASO: NFM
ASEWH	Assembly Site Origin (22L)	ASO: AWH

Sample product shipping label (not actual product label)



ASSEMBLY SITE CODES: NFME = E, ASEWH = I

Product Affected: Group 1 – Devices that will have Au wire to Cu wire change only

TPD13S523PWR	TPD4E1U06DCKR
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Product Affected: Group 2 – Devices that will have wire, and Assembly site change

TPD4E1U06DCKR

Group 1 : Qualification Data

This qualification has been developed for the validation of this change. The qualification data validates that the proposed change meets the applicable released technical specifications.

Qual Vehicle 1 : TPD4E1U06DCKR (MSL 1-260C)

Package Construction Details

Assembly Site:	NFME	Mold Compound:	R-21
# Pins-Designator, Family:	6-DCK, SOT	Mount Compound:	A-16
Lead frame (Finish, Base):	NiPdAu	Bond Wire:	0.8 Mil Dia., Cu

Qualification: ☐ Plan ☒ Test Results

Reliability Test	Conditions	Sample Size/Fail		
		Lot 1	Lot 2	Lot 3
Electrical Characterization	-	Pass	Pass	Pass
** Life Test	150C (300 Hrs)	78/0	78/0	78/0
**High Temp. Storage Bake	170C (600 Hrs)	80/0	81/0	81/0
**Biased HAST	130C/85%RH (192 Hrs)	78/0	77/0	75/0
**T/C -65C/150C	-65C/+150C (1000 Cyc)	77/0	77/0	78/0
**Autoclave	121C (192 Hrs)	77/0	78/0	78/0
Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	Pass
Moisture Sensitivity	(level 1 @ 260C peak +5/-0C)	12/0	12/0	12/0
Notes ** Preconditioning sequence: Level 1-260C.				

Qual Vehicle 2 : TPD13S523PWR (MSL 1-260C)				
Package Construction Details				
Assembly Site:	MLA	Mold Compound:	4206193	
# Pins-Designator, Family:	16-PW, TSSOP	Mount Compound:	4042500	
Lead frame (Finish, Base):	NiPdAu	Bond Wire:	0.96 Mil Dia., Cu	
Qualification: <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results				
Reliability Test	Conditions	Sample Size/Fail		
Electrical Characterization	-	Pass		
**Autoclave	121C (96 Hrs)	80/0		
**T/C -65C/150C	-65C/+150C (500 Cyc)	80/0		
Manufacturability (Assembly)	(per mfg. Site specification)	Pass		
Notes ** Preconditioning sequence: Level 1-260C.				
Reference Qualification Data:				
Qual Vehicle 1 : CDCVF2505PW (MSL 1-260C)				
Package Construction Details				
Assembly Site:	MLA	Mold Compound:	4206193	
# Pins-Designator, Family:	8-PW, TSSOP	Mount Compound:	4042500	
Lead frame (Finish, Base):	NiPdAu	Bond Wire:	0.96 Mil Dia., Cu	
Qualification: <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results				
Reliability Test	Conditions	Sample Size/Fail		
		Lot 1	Lot 2	Lot 3
**Autoclave	121C (192 Hrs)	77/0	77/0	77/0
**High Temp. Storage Bake	170C (420 Hrs)	77/0	77/0	77/0
**T/C -65C/150C	-65C/+150C (1000 Cyc)	77/0	77/0	78/0
**Thermal Shock	-65C/+150C (500 Cyc)	77/0	77/0	77/0
Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	Pass
Moisture Sensitivity	(level 1 @ 260C peak +5/-0C)	12/0	12/0	12/0
Notes ** Preconditioning sequence: Level 1-260C.				
Qual Vehicle 2 : THS7303PW (MSL 2-260C)				
Package Construction Details				
Assembly Site:	TAI	Mold Compound:	4206193	
# Pins-Designator, Family:	20-PW, TSSOP	Mount Compound:	4042500	
Lead frame (Finish, Base):	NiPdAu	Bond Wire:	0.96 Mil Dia., Cu	
Qualification: <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results				
Reliability Test	Conditions	Sample Size/Fail		
		Lot 1	Lot 2	Lot 3
**Autoclave	121C (384 Hrs)	77/0	77/0	77/0
**High Temp. Storage Bake	170C (1000 Hrs)	77/0	77/0	77/0
**T/C -65C/150C	-65C/+150C (1000 Cyc)	77/0	77/0	78/0
**Thermal Shock	-65C/+150C (1000 Cyc)	77/0	77/0	77/0
Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	Pass
Moisture Sensitivity	(level 2 @ 260C peak +5/-0C)	12/0	12/0	12/0
Notes ** Preconditioning sequence: Level 2-260C.				

Qual Vehicle 3 : ADS1230IPW (MSL 2-260C)				
Package Construction Details				
Assembly Site:	TAI	Mold Compound:	4206193	
# Pins-Designator, Family:	16-PW, TSSOP	Mount Compound:	4042500	
Lead frame (Finish, Base):	NiPdAu	Bond Wire:	0.96 Mil Dia., Cu	
Qualification: <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results				
Reliability Test	Conditions	Sample Size/Fail		
		Lot 1	Lot 2	Lot 3
**Autoclave	121C (384 Hrs)	77/0	77/0	77/0
**High Temp. Storage Bake	170C (420 Hrs)	77/0	77/0	77/0
**T/C -65C/150C	-65C/+150C (1000 Cyc)	77/0	77/0	78/0
**Thermal Shock	-65C/+150C (1000 Cyc)	77/0	77/0	77/0
Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	Pass
Moisture Sensitivity	(level 2 @ 260C peak +5/-0C)	12/0	12/0	12/0
Notes ** Preconditioning sequence: Level 2-260C.				
Group 2 : Qualification Data				
Qual Vehicle 1 : TPD4E1U06DCK (MSL 1-260C)				
Package Construction Details				
Assembly Site:	ASEWH	Mold Compound:	4020039A1	
# Pins-Designator, Family:	6-DCK, SOT	Mount Compound:	1120999A2	
Lead frame (Finish, Base):	NiPdAu, Cu	Bond Wire:	0.8Mil Dia., Cu	
Qualification: <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results				
Reliability Test	Conditions	Sample Size/Fail		
		Lot 1	Lot 2	Lot 3
Electrical Characterization	-	Pass	-	-
**High Temp. Storage Bake	170C (600 Hrs)	76/0	80/0	78/0
**Biased HAST	130C/85%RH/33.3 psia (192 Hrs)	77/0	77/0	77/0
**T/C -65C/150C	-65C/+150C (1000 Cyc)	77/0	77/0	77/0
**Thermal Shock	-65C/+150C (500 Cyc)	77/0	77/0	77/0
**Autoclave	121C (192 Hrs)	77/0	77/0	77/0
** Life Test	150C (300Hrs)	77/0	77/0	77/0
Flammability (UL 94V-0)	(UL 94V-0)	5/0	5/0	5/0
Flammability (UL 94V-0)	(UL 94V-0)	5/0	5/0	5/0
Flammability (IEC 695-2-2)	(IEC 695-2-2)	5/0	5/0	5/0
Solderability	Steam age, 8 hours; PB-Free solder	22/0	22/0	22/0
Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	Pass
Moisture Sensitivity	(level 1 @ 260C peak +5/-0C)	12/0	12/0	12/0
Notes ** Preconditioning sequence: Level 1-260C.				

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