



12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN#20211222000.1

**Qualification of alternate Cu as an alternate bond wire for select devices
Change Notification / Sample Request**

Date: March 16, 2022
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.

Texas Instruments requires acknowledgement of 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 additional data is required, requests must be received within **30 days** of this notification.

The changes discussed within this PCN will not take effect any earlier than the proposed first ship date 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 or to provide acknowledgement of this PCN, you may contact your local Field Sales Representative or the PCN Team (PCN_ww_admin_team@list.ti.com). For sample requests or sample related questions, contact your local Field Sales Representative.

Sincerely,

PCN Team
SC Business Services

20211222000.1
Change Notification / Sample Request
Attachments

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
LM2936DT-5.0/NOPB	null
LP38690DT-5.0/NOPB	null
LP38691DT-3.3/NOPB	null
LP2950CDT-5.0/NOPB	null
LP38690DTX-3.3/NOPB	null
LM2936DTX-5.0/NOPB	null
LP38690DTX-2.5/NOPB	null
LP2950CDTX-5.0/NOPB	null
LP38690DT-3.3/NOPB	null
LP38691DTX-3.3/NOPB	null
LP38690DT-1.8/NOPB	null
LP2950CDTX-3.3/NOPB	null
LP38691DTX-5.0/NOPB	null

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

PCN Number:	20211222000.1			PCN Date:									
Title:	Qualification of Cu as an alternate bond wire for select devices												
Customer Contact:	PCN Manager	Dept:	Quality Services										
Proposed 1st Ship Date:	Jun 16 2022		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>This PCN is to inform of the qualification of an alternate bond wire qualification as follows:</p> <table border="1" style="margin: 10px auto; width: 80%;"> <tr> <th style="text-align: center;">Current Bond Diameter</th> <th style="text-align: center;">Additional Bond wire & diameter</th> </tr> <tr> <td style="text-align: center;">Au, 1.0 or 1.3 mils</td> <td style="text-align: center;">Cu, 0.96 or 1.3 mils</td> </tr> </table>						Current Bond Diameter	Additional Bond wire & diameter	Au, 1.0 or 1.3 mils	Cu, 0.96 or 1.3 mils				
Current Bond Diameter	Additional Bond wire & diameter												
Au, 1.0 or 1.3 mils	Cu, 0.96 or 1.3 mils												
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													
Impact on Environmental Ratings													
<p>Checked boxes indicate the status of environmental ratings following implementation of this change. If below boxes are checked, there are no changes to the associated environmental ratings.</p> <table border="1" style="width: 100%;"> <tr> <td style="text-align: center;">RoHS</td> <td style="text-align: center;">REACH</td> <td style="text-align: center;">Green Status</td> <td style="text-align: center;">IEC 62474</td> </tr> <tr> <td><input checked="" type="checkbox"/> No Change</td> <td><input checked="" type="checkbox"/> No Change</td> <td><input checked="" type="checkbox"/> No Change</td> <td><input checked="" type="checkbox"/> No Change</td> </tr> </table>						RoHS	REACH	Green Status	IEC 62474	<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> No Change
RoHS	REACH	Green Status	IEC 62474										
<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> No Change										
Changes to product identification resulting from this PCN:													
None													
Product Affected:													

LM2936DT-3.0/NOPB	LP2950CDT-3.3/NOPB	LP38690DTX-1.8/NOPB	LP38691DTX-1.8/NOPB
LM2936DT-3.3/NOPB	LP2950CDT-5.0/NOPB	LP38690DTX-2.5/NOPB	LP38691DTX-2.5/NOPB
LM2936DT-5.0	LP2950CDTX-3.0/NOPB	LP38690DTX-3.3/NOPB	LP38691DTX-3.3/NOPB
LM2936DT-5.0/NOPB	LP2950CDTX-3.3/NOPB	LP38690DTX-5.0/NOPB	LP38691DTX-5.0/NOPB
LM2936DTX-3.3/NOPB	LP2950CDTX-5.0/NOPB	LP38691DT-1.8	SM72238TD-3.3/NOPB
LM2936DTX-3.3/S7002479	LP38690DT-1.8/NOPB	LP38691DT-1.8/NOPB	SM72238TD-5.0/NOPB
LM2936DTX-5.0/NOPB	LP38690DT-2.5/NOPB	LP38691DT-2.5/NOPB	SM72238TDE-3.3/NOPB
LM9036DT-5.0/NOPB	LP38690DT-3.3	LP38691DT-3.3	SM72238TDE-5.0/NOPB
LM9036DTX-5.0/NOPB	LP38690DT-3.3/NOPB	LP38691DT-3.3/NOPB	SM72238TDX-3.3/NOPB
LP2950CDT-3.0/NOPB	LP38690DT-5.0/NOPB	LP38691DT-5.0/NOPB	SM72238TDX-5.0/NOPB
LP2950CDT-3.3			



TI Information
Selective Disclosure

Qualification Report

Cu Wire Conversion for DPAK Devices Approve Date 31-Oct-2021

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: LM2936DT50NOPB	Qual Device: LP38690DT-33	QBS Reference: LM1117DT50NOPB	QBS Reference: LM5037MTNOPB
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	-	3/231/0	3/231/0
AC	Autoclave 121C	96 Hours	-	-	3/231/0	3/231/0
WBP	Bond Pull	Wires	3/90/0	3/90/0	3/90/0	3/90/0
WBS	Ball Bond Shear	Wires	3/90/0	3/90/0	3/90/0	3/90/0
THB	Biased Temperature and Humidity	1000 Hours				3/231/0
HTSL	High Temp. Storage Bake, 150C	1000 Hours				1/77/0

- QBS: Qual By Similarity
- Qual Device LM2936DT50NOPB is qualified at LEVEL2-260CG
- Qual Device LP38690DT-33 is qualified at LEVEL1-235CL
- 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: 20210325-139321

For questions regarding this notice, e-mails can be sent to the 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
WW PCN Team	PCN_ww_admin_team@list.ti.com

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