



12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN# 20130924000
Add Cu as Alternative Wire Base Metal for Selected Device(s)
on T0-220 (KCS) and SOT-23 (DBV) packages
Change Notification / Sample Request

Date: 9/27/2013
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

20130924000
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 |
|-----------------|-----------------------------|
| LM237KCSE3 | null |
| LM337KCSE3 | null |
| TL750L05CKCS | null |
| TL750M05CKCSE3 | null |
| TL750M10CKCSE3 | null |
| TL780-05KCS | null |
| TL780-12KCSE3 | null |
| TL783CKCSE3 | null |
| TLV1117CKCS | null |
| TLV2217-25KCSE3 | null |
| TLV2217-33KCSE3 | null |
| TPD2S017DBVR | null |
| UA7810CKCS | null |
| UA7812CKCS | null |
| UA7812CKCSE3 | null |
| UA7815CKCS | null |
| UA7815CKCSE3 | null |
| UA7824CKCS | null |
| UA78M05CKCS | null |
| UA78M05CKCSE3 | null |
| UA78M12CKCS | null |
| UA78M33CKCS | null |
| UA78M33CKCSE3 | null |

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

| | | | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|---------------------------|---------------------------------------|---------------------------------|------------------|
| PCN Number: | 20130924000 | | PCN Date: | 09/27/2013 | |
| Title: | Add Cu as Alternative Wire Base Metal for Selected Device(s) on T0-220 (KCS) and SOT-23 (DBV) packages | | | | |
| Customer Contact: | PCN Manager | Phone: | +1(214)480-6037 | Dept: | Quality Services |
| Proposed 1st Ship Date: | 12/27/2013 | | Estimated Sample Availability: | Date provided at sample request | |
| Change Type: | | | | | |
| <input 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 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"/> | Part number change | | | |
| 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 Material Differences are as follows: | | | | | |
| Group 1 Devices: | | | | | |
| Material set | From | | To | | |
| Wire | W-02 | | W-13 | | |
| Group 2 Devices: | | | | | |
| Material set | From | | To | | |
| Mold Compound | R-13 | | R-17 | | |
| Wire | W-04 (Au) | | W-15 (Cu) | | |
| Lead Finish | NiPdAu | | Matte Sn | | |
| Upon expiration of this PCN, TI will combine lead free solutions in a <i>single standard part number</i> , for example; TPD2S017DBVR – can ship with both Matte Sn and NiPdAu. | | | | | |
| When available customers may specify NiPdAu finish by ordering the part with the G4 suffix, e.g. TPD2S017DBVRG4 . | | | | | |
| 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. | | | | | |
| Group 1 Device - Changes to product identification resulting from this PCN: | | | | | |
| None | | | | | |

Group 2 Device - Changes to product identification resulting from this PCN:**Sample Product Shipping Label (not actual product label)**

Assembly Site

| | | | |
|------|----------------------------|-----------|--------------------|
| NFME | Assembly Site Origin (22L) | ASO:NFME | ECAT:G4 (NiPdAu) |
| NFME | Assembly Site Origin (22L) | ASO: NFME | ECAT:G3 (Matte Sn) |

Sample product shipping label to show code location only (not actual product label)

ECAT: G4 = NiPdAu
ECAT: G3 = Matte Sn

TEXAS INSTRUMENTS
MADE IN: Malaysia
2DC: 20
MSL 2 /260C/1 YEAR SEAL DT
MSL 1 /235C/UNLIM 03/29/04
OPT: ITEM: 39
LBL: 5A (L)TO:1750

(1P) SN74LS07NSR
(Q) 2000 (D) 0336
(31T) LOT: 3959047MLA
(4W) TKY (1T) 7523483SI2
(P)
(2P) REV: (V) 0033317
(20L) CSO: SHE (21L) CCO:USA
(22L) ASO: MLA (23L) ACO: MYS

Product Affected: Group 1

| | | | |
|-----------------|-----------------|---------------|---------------|
| LM237KCSE3 | TL780-12KCS | UA7808CKCS | UA78M05IKCSE3 |
| LM2940-50CKCSE3 | TL780-12KCSE3 | UA7808CKCSE3 | UA78M08CKCS |
| LM2940-50IKCSE3 | TL780-15KCS | UA7810CKCS | UA78M08CKCSE3 |
| LM337KCSE3 | TL780-15KCSE3 | UA7810CKCSE3 | UA78M12CKCS |
| TL-SCSI285KCSE3 | TL783CKCSE3 | UA7812CKCS | UA78M12CKCSE3 |
| TL750L05CKCS | TLV1117CKCS | UA7812CKCSE3 | UA78M33CKCS |
| TL750L05CKCSE3 | TLV1117CKCSE3 | UA7815CKCS | UA78M33CKCSE3 |
| TL750M05CKCSE3 | TLV1117IKCS | UA7815CKCSE3 | UA7908CKCS |
| TL750M08CKCSE3 | TLV1117IKCSE3 | UA7824CKCS | UA7908CKCSE3 |
| TL750M10CKCSE3 | TLV2217-18KCS | UA7824CKCSE3 | UA79M05CKCS |
| TL750M12CKCSE3 | TLV2217-18KCSE3 | UA78M05CKCS | UA79M05CKCSE3 |
| TL780-05KCS | TLV2217-25KCSE3 | UA78M05CKCSE3 | |
| TL780-05KCSE3 | TLV2217-33KCSE3 | UA78M05IKCS | |

Product Affected: Group 2

TPD2S017DBVR

Qualification Data: Group 1 Devices

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 : UA7808CKCS**Package Construction Details**

| | | | |
|----------------------------|---------------|-----------------|------------------|
| Assembly Site: | NFME | Mold Compound: | R-12 |
| # Pins-Designator, Family: | 3-KCS, TO-220 | Mount Compound: | A-05 |
| Lead frame (Finish, Base): | Matte Sn, Cu | Bond Wire: | 2.0 Mil Dia., Cu |

| | | | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------|-----------------|------------------|--------|--------|
| Qualification: <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results | | | | | | |
| Reliability Test | | Conditions | | Sample Size/Fail | | |
| Electrical Characterization | | - | | Pass | | |
| Life Test | | 150C(300 Hrs) | | 80/0 | | |
| Thermal Shock | | -65C/+150C (1000 Cyc) | | 76/0 | | |
| Temperature Cycle | | -65C/+150C (1000 Cyc) | | 77/0 | | |
| Unbiased HAST | | 130C/85%RH (192 Hrs) | | 78/0 | | |
| Biased HAST | | 130C/85%RH (192 Hrs) | | 77/0 | | |
| High Temp Storage Bake | | 170C (600Hrs) | | 77/0 | | |
| Manufacturability (Assembly) | | (per mfg. Site specification) | | Pass | | |
| Qual Vehicle 2 : UA78M05CKCS | | | | | | |
| Package Construction Details | | | | | | |
| Assembly Site: | | NFME | Mold Compound: | R-12 | | |
| # Pins-Designator, Family: | | 3-KCS, TO-220 | Mount Compound: | A-05 | | |
| Lead frame (Finish, Base): | | Matte Sn, Cu | Bond Wire: | 2.0 Mil Dia., Cu | | |
| Qualification: <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results | | | | | | |
| Reliability Test | | Conditions | | Sample Size/Fail | | |
| | | | | Lot# 1 | Lot# 2 | |
| Electrical Characterization | | - | | Pass | - | |
| Life Test | | 150C (300 Hrs) | | 77/0 | 77/0 | |
| Thermal Shock | | -65C/+150C (1000 Cyc) | | 77/0 | 77/0 | |
| Temperature Cycle | | -65C/+150C (1000 Cyc) | | 77/0 | 77/0 | |
| Unbiased HAST | | 130C/85%RH (192 Hrs) | | 77/0 | 77/0 | |
| Biased HAST | | 130C/85%RH (192 Hrs) | | 77/0 | 77/0 | |
| High Temp Storage Bake | | 150C (2000Hrs) | | 77/0 | 77/0 | |
| Manufacturability (Assembly) | | (per mfg. Site specification) | | Pass | Pass | |
| Qualification Data: Group 2 Devices | | | | | | |
| 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 : TL432ACDBVR | | | | | | |
| Package Construction Details | | | | | | |
| Assembly Site: | | NFME | Mold Compound: | R-17 | | |
| # Pins-Designator, Family: | | 5-DBV, SOT-23 | Mount Compound: | A-03 | | |
| Lead frame (Finish, Base): | | Matte Sn, Cu | Bond Wire: | 1.0 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 |
| Electrical Characterization | | - | | Pass | - | - |
| Life Test | | 150C(300 Hrs) | | 77/0 | 77/0 | - |
| **Autoclave | | 121C (192 Hrs) | | 77/0 | 77/0 | 77/0 |
| **Thermal Shock | | -65C/+150C (500 Cyc) | | 77/0 | 77/0 | - |
| **Temperature Cycle | | -65C/+150C (1000 Cyc) | | 77/0 | 77/0 | 77/0 |
| **Unbiased HAST | | 130C/85%RH (96 Hrs) | | 77/0 | 77/0 | 77/0 |
| **Biased HAST | | 130C/85%RH (192 Hrs) | | 77/0 | 77/0 | - |
| **High Temp Storage Bake | | 170C (600Hrs) | | 77/0 | 77/0 | 77/0 |
| Flammability (UL 94V-0) | | (UL 94V-0) | | 5/0 | 5/0 | - |
| Flammability (UL-1694) | | (UL-1694) | | 5/0 | 5/0 | - |

| | | | | | |
|-----------------------------------------------------------------------------------------------|--|------------------------------------|------------------|--------|------------------|
| Flammability (IEC 695-2-2) | | (IEC 695-2-2) | 5/0 | 5/0 | - |
| Solderability | | Steam age, 8 hours; PB-Free solder | 22/0 | 22/0 | - |
| Salt Atmosphere | | - | 22/0 | 22/0 | - |
| X-ray | | (top side only) | 5/0 | 5/0 | 5/0 |
| Manufacturability (Assembly) | | (per mfg. Site specification) | Pass | Pass | Pass |
| Moisture Sensitivity | | L1-260C | 12/0 | 12/0 | 12/0 |
| Notes **- Preconditioning sequence: Level 1-260C. | | | | | |
| Qual Vehicle 2 : TS321IDBVR | | | | | |
| Package Construction Details | | | | | |
| Assembly Site: | | NFME | Mold Compound: | | R-17 |
| # Pins-Designator, Family: | | 5-DBV, SOT-23 | Mount Compound: | | A-03 |
| Lead frame (Finish, Base): | | Matte Sn, Cu | Bond Wire: | | 1.0 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 |
| Electrical Characterization | | - | Pass | - | - |
| Life Test | | 150C(300 Hrs) | 77/0 | - | - |
| **Autoclave | | 121C (192 Hrs) | 77/0 | 77/0 | 77/0 |
| **Thermal Shock | | -65C/+150C (500 Cyc) | 77/0 | - | - |
| **Temperature Cycle | | -65C/+150C (1000 Cyc) | 77/0 | 77/0 | 77/0 |
| **Unbiased HAST | | 130C/85%RH (96 Hrs) | 77/0 | 77/0 | 77/0 |
| **Biased HAST | | 130C/85%RH (192 Hrs) | 77/0 | - | - |
| **High Temp Storage Bake | | 170C (600Hrs) | 77/0 | 77/0 | 77/0 |
| Flammability (UL 94V-0) | | (UL 94V-0) | 5/0 | - | - |
| Flammability (UL-1694) | | (UL-1694) | 5/0 | - | - |
| Flammability (IEC 695-2-2) | | (IEC 695-2-2) | 5/0 | - | - |
| Solderability | | Steam age, 8 hours; PB-Free solder | 22/0 | - | - |
| Salt Atmosphere | | - | 22/0 | - | - |
| X-ray | | (top side only) | 5/0 | 5/0 | 5/0 |
| Manufacturability (Assembly) | | (per mfg. Site specification) | Pass | Pass | Pass |
| Moisture Sensitivity | | L1-260C | 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 |