


| PCN Number: | 20150922000 | | PCN Date: | 09/24/2015 | | | | | | | | | | |
|---|---------------------------------------|--|--|-------------------------------------|---------------------|--|-------------------------|------|---------|------------------|----|------------|--------------------------|-----------|
| Title: | TPS630250RNCR/T Conversion to Green | | | | | | | | | | | | | |
| Customer Contact: | PCN Manager | Dept: | Quality Services | | | | | | | | | | | |
| Proposed 1st Ship Date: | 12/24/2015 | 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 checked="" 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: | | | | | | | | | | | | | | |
| Texas Instruments is pleased to announce the conversion to green status for the TPS630250RNCR/T device. A change from lead based (SnPb) solder paste to lead free (Pb free) solder paste for the assembly process will be internal to the package and will not affect customer usage. | | | | | | | | | | | | | | |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;"></th> <th style="width: 35%;">Die Pillar Solder Paste</th> <th style="width: 40%;">ECAT</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Current</td> <td style="text-align: center;">Lead (SnPb) base</td> <td style="text-align: center;">e4</td> </tr> <tr> <td style="text-align: center;">New</td> <td style="text-align: center;">Sn (Pb free) base</td> <td style="text-align: center;">G4</td> </tr> </tbody> </table> | | | | | | | Die Pillar Solder Paste | ECAT | Current | Lead (SnPb) base | e4 | New | Sn (Pb free) base | G4 |
| | Die Pillar Solder Paste | ECAT | | | | | | | | | | | | |
| Current | Lead (SnPb) base | e4 | | | | | | | | | | | | |
| New | Sn (Pb free) base | G4 | | | | | | | | | | | | |
| Reason for Change: | | | | | | | | | | | | | | |
| Migration to Green status | | | | | | | | | | | | | | |
| 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: | | | | | | | | | | | | | | |
| | | Device Symbolization | | | | | | | | | | | | |
| | Current | <pre> +-----+ TI = TI LETTERS !O ! YM = YEAR MONTH DATE CODE ! 630250 ! S = ASSEMBLY SITE CODE ! TI YMS ! LLLL = ASSY LOT CODE ! LLLL ! +-----+ O - PIN 1 (MARKED) </pre> | | | | | | | | | | | | |
| | New | <pre> +-----+ TI = TI LETTERS !O ! YM = YEAR MONTH DATE CODE ! 63025P ! S = ASSEMBLY SITE CODE ! TI YMS ! LLLL = ASSY LOT CODE ! LLLL ! +-----+ O - PIN 1 (MARKED) </pre> | | | | | | | | | | | | |
| NOTE: The datasheet will be updated to reflect this new device name for the G4 devices. | | | | | | | | | | | | | | |

TI Label, ECAT Information:


TEXAS INSTRUMENTS
 MADE IN: Malaysia
 2DC: 2Q:


G4



| | |
|--------------------|----------|
| MSL 2 /260C/1 YEAR | SEAL DT |
| MSL 1 /235C/UNLIM | 03/29/04 |

OPT:
 ITEM: 39
LBL: 5A (L)T0:1750

(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

Before Change: e4

After Change: G4

Product Affected:

TPS630250RNCR

TPS630250RNCT



TI Information
 Selective Disclosure

Qualification Report

TPS630250PRNC (LBC7/HotRod with Pb free Solder)

Approve Date 25-Aug-2015

Product Attributes

| Die Attributes | Qual Device: TPS630250PRNC | QBS Process Reference: TPS65830YFF | QBS Package Reference: TPS22993RLWR | QBS Package Reference: TPS62085RLT |
|-----------------------|-------------------------------|---------------------------------------|--|---------------------------------------|
| Die Revision | A3 | PG1.2 | A | PG1.2/B1 |
| Wafer Fab Supplier | RFAB | RFAB | RFAB | MIH08 |
| Wafer Process | LBC7 | LBC7 | LBC7 | LBC7 |
| Package Attributes | Qual Device: TPS630250PRNC | QBS Process Reference: TPS65830YFF | QBS Package Reference: TPS22993RLWR | QBS Package Reference: TPS62085RLT |
| Assembly Site | TI-CLARK | TI-CLARK | TI-CLARK | TI-CLARK |
| Package Family | QFN | WCSP | QFN | QFN |
| Package Designator | RNC | YFF | RLW | RLT |
| Package Size (mils) | 98.4 X 98.4 | 118.11 X 118.11 | 118.11 X 118.11 | 78.74 X 78.74 |
| Body Thickness (mils) | 35.4 | 24.61 | 29.53 | 39.37 |
| Pin Count | 14 | 49 | 20 | 7 |
| Lead Frame Type | Cu | Cu | Cu | Cu |
| Lead Finish | NiPdAu | - | NiPdAu | NiPdAu |
| Lead Pitch(mils) | 19.68 | 15.75 | 15.75 | 19.68 |
| Bump Composition | - | SnAgCu | - | - |
| Flammability Rating | UL 94 V-0 | UL 94 V-0 | - | UL 94 V-0 |

- QBS: Qual By Similarity

- Qual Device TPS630250PRNC is qualified at LEVEL1-260C

Qualification Results

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

| Type | Test Name / Condition | Duration | Qual Device: TPS630250PRNC | QBS Process Reference: TPS66830YFF | QBS Package Reference: TPS22993RLWR | QBS Package Reference: TPS62085RLT |
|-------|-------------------------------|--------------------------|-------------------------------|---------------------------------------|--|---------------------------------------|
| AC | Autoclave 121C | 96 Hours | - | - | 3/231/0 | 3/231/0 |
| ED | Electrical Characterization | Per Datasheet Parameters | Pass | - | Pass | Pass |
| HAST | Biased HAST, 130C/85%RH | 96 Hours | - | - | 3/231/0 | 3/231/0 |
| HBM | ESD - HBM | 4000 V | 1/3/0 | - | - | - |
| CDM | ESD - CDM | 1500 V | 1/3/0 | - | - | 3/9/0 |
| HTOL | Life Test, 125C | 1000 Hours | - | - | 1/77/0 | - |
| HTOL | Life Test, 150C | 300 Hours | - | 3/231/0 | - | - |
| HTSL | High Temp. Storage Bake, 150C | 1000 Hours | 3/231/0 | - | - | 3/231/0 |
| HTSL | High Temp. Storage Bake, 170C | 420 Hours | - | - | 3/231/0 | - |
| LU | Latch-up | (per JESD78) | 3/18/0 | 3/18/0 | - | - |
| PD | Physical Dimensions | -- | 3/15/0 | - | 3/15/0 | 3/15/0 |
| SD | Solderability | 8 Hours Steam Age | - | - | - | 3/66/0 |
| TC | Temperature Cycle, -55/125C | 700 Cycles | 3/231/0 | 3/229/0 | 3/231/0 | 3/231/0 |
| TC | Temperature Cycle, -65/150C | 500 Cycles | - | - | - | - |
| UHAST | Unbiased HAST, 130C/85%RH | 96 Hours | - | 3/228/0 | - | 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 |