

| PCN Number: | 20220314005.1A | | PCN Date: | June 08, 2022 | | | | | | |
|--|---|--|--------------------|--------------------------|---------------------|---------|-----|--------------------|---------------|-----------------|
| Title: | Qualification of a new Lead finish for select devices | | | | | | | | | |
| Customer Contact: | PCN Manager | Dept: | Quality Services | | | | | | | |
| Proposed 1st Ship Date: | June 17, 2022 | Sample requests accepted until: | July 08, 2022* | | | | | | | |
| *Sample requests received after July 8, 2022 will not be supported. | | | | | | | | | | |
| Change Type: | | | | | | | | | | |
| <input type="checkbox"/> | Assembly Site | <input type="checkbox"/> | Design | <input type="checkbox"/> | Wafer Bump Site | | | | | |
| <input 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>Revision A is to announce the <u>addition</u> of TPS259470LRPWR device that was not included on the original PCN notification. This new device is highlighted and bolded in the device list below. The expected first shipment date will be 90 days from this notice (Sept 08, 2022) for the newly added device only. The proposed 1st ship date of June 17, 2022 still applies for the original set of devices.</p> <p>This PCN is to inform of an alternate lead finish qualification for the devices in the product affected section as follows:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>What</th> <th>Current</th> <th>New</th> </tr> </thead> <tbody> <tr> <td>Lead finish</td> <td>NiPdAu</td> <td>Matte Sn</td> </tr> </tbody> </table> <p>Upon expiry of this PCN, there will be a transition period where TI will combine lead free solutions in a single <u>standard part number</u>. For example; <u>TPS22998RYZR</u> – can ship with both Matte Sn and NiPdAu.</p> <p>Example:</p> <ul style="list-style-type: none"> – Customer order for 7500 units of TPS22998RYZR with 2500 units SPQ (Standard Pack Quantity per Reel). – TI can satisfy the above order in one of the following ways. <ul style="list-style-type: none"> I. 3 Reels of NiPdAu finish. II. 3 Reels of Matte Sn finish III. 2 Reels of Matte Sn and 1 reel of NiPdAu finish. IV. 2 Reels of NiPdAu and 1 reel of Matte Sn finish. | | | | | What | Current | New | Lead finish | NiPdAu | Matte Sn |
| What | Current | New | | | | | | | | |
| Lead finish | NiPdAu | Matte Sn | | | | | | | | |
| Reason for Change: | | | | | | | | | | |
| Continuity of supply | | | | | | | | | | |
| Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative): | | | | | | | | | | |
| None | | | | | | | | | | |
| Impact on Environmental Ratings | | | | | | | | | | |
| 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. | | | | | | | | | | |

| | | | |
|---|---|---|---|
| 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:

| | | | |
|----------------|-----------------|-----------------------|----------------|
| PQ25620RYKR | PTPS25974LRPWR | TPS259461ARPWR | XPS62867RQYR |
| PQ25620RYKT | PTPS259810ARPWR | TPS259470LRPWR | XPS628691CRQYR |
| PQ25628RYKT | PTPS25985Z2RQPT | TPS25970ARPWR | XSD93501ERPRT |
| PQ25629RYKT | PTPS51384RJNR | TPS25970LRPWR | XSD93501RPRR |
| PQ25672RQMR | PTPS51386RJNR | TPS25972ARPWR | XSD93501RPRT |
| PQ25792HRLRQMR | PTPS5436DCRPYR | TPS25972LRPWR | XSD93501RXHT |
| PQ25792HRLRQMT | PTPS5436TCRPYR | TPS25974ARPWR | XSN2008029RWZR |
| PQ25792HRRQMR | PTPS55288RPMT | TPS25974LRPWR | XSN2008030RWZR |
| PQ25792HRRQMT | SN2001075RWZR | TPS53830RWZR | XTPS53830RWZT |
| PQ25792RQMR | SN2001075RWZT | TPS53830RWZT | XTPS53832RWZT |
| PQ25796RQMR | SN2001076RWZR | TPS53832RWZR | XTPS55289RYQR |
| PQ25796RQMT | SN2001076RWZT | TPS53832RWZT | XTPS61376RYHR |
| PQ25798RQMR | SN548A28RWWR | TPS62824DMQR | |
| PTPS22998RYZR | TAS2763RPPT | XPS61376SRYHR | |
| PTPS25972ARPWR | TPS22998RYZR | XPS628660ARQYR | |



TI Information
Selective Disclosure

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

| Type | Test Name / Condition | Duration | Qual Device: TPS53831RWZR | Qual Device: TPS543620RPYR | Qual Device: TPS62903RPJR | QBS Package Reference: SN62825DMQR | QBS Package Reference: TPS62085RLTR |
|-------|---------------------------------------|-------------------------------|------------------------------|-------------------------------|------------------------------|--|---|
| AC | Autoclave 121C | 96 Hours | 3/231/0 | - | 3/231/0 | - | 3/231/0 |
| CDM | ESD - CDM | 1500V | - | - | - | 2/6/0 | - |
| HAST | Biased HAST, 130C/85%RH | 96 Hours | 2/154/0 | - | - | 3/231/0 | 3/231/0 |
| HBM | ESD - HBM | 3000V | - | - | - | 1/3/0 | - |
| HTSL | High Temp Storage Bake 150C | 1000 Hours | - | - | - | - | 3/231/0 |
| HTSL | High Temp Storage Bake 170C | 420 Hours | 3/231/0 | 3/231/0 | 3/231/0 | 3/231/0 | - |
| MQ | Manufacturability (Assembly) | (per mfg. Site specification) | Pass | Pass | Pass | Pass | Pass |
| MSL | Thermal Integrity Sequence | Level 2-260C | 3/36/0 | 3/36/0 | 3/36/0 | - | 3/36/0 |
| PD | Physical Dimensions | (per mechanical drawing) | 3/15/0 | 3/15/0 | 3/15/0 | - | 3/15/0 |
| SD | Solderability | Pb Free | 3/66/0 | 3/66/0 | 3/66/0 | 2/44/0 | 3/66/0 |
| TC | Temperature Cycle, -55/125C | 700 Cycles | 3/231/0 | 3/231/0 | - | - | 3/231/0 |
| TC | Temperature Cycle, -65/150C | 500 Cycles | - | - | 3/231/0 | 3/231/0 | - |
| UHAST | Unbiased HAST 130C/85%RH | 96 Hours | - | 3/231/0 | - | 3/231/0 | - |
| VM | Visual Quality Reliability Inspection | Post Temp Cycle | 3/6/0 | 3/6/0 | 3/6/0 | - | 3/6/0 |

- QBS: Qual By Similarity
- Qual Device TPS53831RWZR, TPS543620RPYR, TPS62903RPJR are qualified at LEVEL2-260C
- 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: 20210118-137850

For questions regarding this notice, e-mails can be sent to the contact shown below or your local Field Sales Representative.

| Location | E-Mail |
|---------------------------|--|
| WW Change Management Team | PCN_ww_admin_team@list.ti.com |

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