

12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN#20210427002.1 Qualify TI Malaysia as an additional Assembly site for Select Devices Change Notification / Sample Request

Date: May 11, 2021

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 samples or additional data are 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 www admin team@list.ti.com). For sample requests or sample related questions, contact your local Field Sales Representative.

Sincerely,

PCN Team SC Business Services

20210427002.1 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 |
|--------------------|-----------------------------|
| LM2675M-5.0/NOPB | null |
| LM2902MX/NOPB | null |
| LM339M/NOPB | null |
| LM2674M-3.3/NOPB | null |
| LM2674M-5.0/NOPB | null |
| LM2675M-12/NOPB | null |
| LM2675M-3.3/NOPB | null |
| LM2675MX-12/NOPB | null |
| LM324AM/NOPB | null |
| LM324M/NOPB | null |
| LM2675M-ADJ/NOPB | null |
| LM2675MX-5.0/NOPB | null |
| LM324MX/NOPB | null |
| LM339MX/NOPB | null |
| LMV324MX/NOPB | null |
| LP2951CMX-3.3/NOPB | null |
| LM324AMX/NOPB | null |
| LM5109BMA/NOPB | null |
| LM2675MX-ADJ/NOPB | null |
| LM5109BMAX/NOPB | null |
| LM2674MX-3.3/NOPB | null |
| LM2674MX-5.0/NOPB | null |
| LM2674MX-ADJ/NOPB | null |
| LM2675MX-3.3/NOPB | null |
| LM339AM/NOPB | null |
| LM5101BMA/NOPB | null |
| LMV324M/NOPB | null |
| LP2951ACMX/NOPB | null |
| LM339AMX/NOPB | null |
| LP2951ACM/NOPB | null |
| LM2901MX/NOPB | null |
| LM5101CMA/NOPB | null |
| LP2951CM/NOPB | null |
| LP2951CMX/NOPB | null |
| LM2674M-ADJ/NOPB | null |
| LP2951CMX/J7000697 | null |

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

| | PCN Number: 20210427002.1 PCN Date: May 11, 2021 | | | | | | | | | | | | | | | |
|---|---|-----------|--|--------|--|-----------|--------------------|----------|----------|----------|------------------------|--------|----------------|------------|-------|---|
| | | nber: | | | | | | PCN Date | | | - / / - | | | | | |
| Title | | | | | | | ditional <i>i</i> | Asser | | | | | vice | S | | |
| Cust | tome | r Conta | ct: | PCN I | <u>Manager</u> | | Dept: | 1 | | lity Ser | | | | | | |
| Proposed 1 st Ship Date: Aug. 1: | | | 11, | 2021 | | Est | imated Ava | | _ | | Date prov sample re | | | | | |
| Change Type: Aug. 11, 2021 Availability: sample request | | | | | | | | | | | | | | | | |
| | | mbly Sit | e | | | П | Design | | | | | W | afer Bump Site | | | |
| | | mbly Pro | | | | Ħ | Data S | | | | Wafer Bump Material | | | | | |
| _ | | mbly Ma | | | | Ħ | Part number change | | | | Ħ | _ | | Bump Pro | | |
| | | nanical S | | | 1 | Test Site | | | | Ħ | | | Fab Site | | | |
| | | ing/Ship | | | | Ħ | Test Process | | | Ħ | | | Fab Mate | rials | | |
| | | 9, 0 | P 3/ | | 9 | | 16361106633 | | | П | | | Fab Proce | | | |
| | | | | | | | PCN | Det | tails | | | | <u></u> | | | |
| Des | cript | ion of C | han | ae: | | | | | | | | | | | | |
| | | | | | d to an | nou | ince the | gual | ificatio | n of TI | Mala | avsia | aas | an Additi | onal | |
| Asse | mbly | | the I | ist of | | | | | | | | | | l Material | | |
| | | | | | | | TIEM | | | AP1 | | | | MLA | | |
| | | Marria | C = 112 | | | | | | CID# | | 201 | | | | | |
| | | Mount | | | | | 807553 | | | 101375 | | - | | L47858 | | |
| | | Mold C | | ouna | | | 809685 | | | 101323 | | _ | 4211880 | | | |
| Lead Finish ##Bond wire, diameter | | | | _ | Matte S | | | Matte Sn | | | | NiPdAu | | | | |
| | | ##B0N | a wir | e, dia | meter | μ | u, 1.3 n | niis | Au | , 1.3 mi | IS | | Cu, | 1.3 mils | | |
| ## - Applies to only the LM2674M-5.0/NOPBNOTE: Devices are currently built at either TIEM or AP1 or both | | | | | | | | | | | | | | | | |
| Upon expiry of this PCN TI will combine lead free solutions in a single <u>standard part number</u> , for this device. For example; <u>LM2901M/NOPB</u> – can ship with both Matte Sn and NiPdAu. | | | | | | | | | | | | | | | | |
| Evan | nnla | | | | | | | | | | | | | | | |
| Example: - Customer order for 7500 units of LM2901M/NOPB with 2500 units SPQ (Standard Pack Quantity per Reel). | | | | | | | | dard | | | | | | | | |
| TI can satisfy the above order in one of the following ways. | | | | | | | | | | | | | | | | |
| I. 3 Reels of NiPdAu finish.II. 3 Reels of Matte Sn finish | | | | | | | | | | | | | | | | |
| II. 3 Reels of Matte Sn finishIII. 2 Reels of Matte Sn and 1 reel of NiPdAu finish. | | | | | | | | | | | | | | | | |
| IV. 2 Reels of Matte Sn and 1 reel of MirdAu finish. IV. 2 Reels of NiPdAu and 1 reel of Matte Sn finish. | | | | | | | | | | | | | | | | |
| IV. 2 Neels of NiruAu and I feel of Matte 311 fillish. | | | | | | | | | | | | | | | | |
| Reason for Change: | | | | | | | | | | | | | | | | |
| Continuity of Supply | | | | | | | | | | | | | | | | |
| Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative): | | | | | | | | | | | | | | | | |
| None | | | | | | | | | | | | | | | | |
| Anticipated impact on Material Declaration | | | | | | | | | | | | | | | | |
| | No I | impact to | o the | | _ | | | | ns or l | Product | Cor | nten | t rep | orts are | drive | n |
| | Mate | erial Dec | larat | ion | | | • | | | | | | | ollowing t | | |
| | production release. Upon production release the revised | | | | | | | | | | | | | | | |
| | | | reports can be obtained at the site link below | | | | | | | | | | | | | |
| | | | | | http://www.ti.com/quality/docs/materialcontentsearch.tsp | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |

| Changes to product identification resulting from this PCN: | | | | | | | |
|--|----------------------------|-----------------------------|-------------------------|--|--|--|--|
| Assembly Site | Assembly Site Origin (22L) | Assembly Country Code (23L) | Assembly City | | | | |
| TIEM | CU6 | MYS | Kuala Lumpur | | | | |
| AP1 | AKR | PHL | Cupang, Muntinlupa City | | | | |
| TI Malaysia | MLA | MYS | Ayutthaya | | | | |

Sample product shipping label (not actual product label)

G3: Matte Sn G4: NiPdAu

TEXAS
INSTRUMENTS
MADE IN: Malaysia

MADE IN: Malaysia 2DC: 2Q: MSL 2 /260C/1 YEAR SEAL DT MSL 1 /235C/UNLIM 03/29/04

PT: 1750 LBL: 5A (L)TO:1750

(1P) \$N74L\$07N\$R (Q) 2000 (D) 0336 (31T)LOT: 3959047MLA (4W) TKY(1T) 7523483812

(P) (2P) REV: (V) 0033317 (20L) CSO: SHE (21L) CCO:USA (22L) ASO: MLA 23L) ACO: MYS

Product Affected:

| | LM2675MX- | | |
|-----------------------|-------------------|--------------------|-------------------------|
| LM2674M-12/NOPB | ADJ/J7002911 | LM5101AMX/NOPB | LMV844MAX/NOPB |
| LM2674M-3.3/NOPB | LM2675MX-ADJ/NOPB | LM5101AMX/S7003027 | LP2951ACM-3.0/NOPB |
| LM2674M-5.0/NOPB | LM2901M/NOPB | LM5101BMA/NOPB | LP2951ACM-3.3/NOPB |
| LM2674M-ADJ/NOPB | LM2901MX/NOPB | LM5101BMAX/NOPB | LP2951ACM/NOPB |
| LM2674MX-12/NOPB | LM2902M/NOPB | LM5101CMA/NOPB | LP2951ACMX- 3.0/NOPB |
| LM2674MX-3.3/NOPB | LM2902MX/E7002681 | LM5101CMAX/NOPB | LP2951ACMX- 3.3/NOPB |
| LM2674MX-5.0/NOPB | LM2902MX/NAK2 | LM5101M/NOPB | LP2951ACMX/NOPB |
| LM2674MX-ADJ/NOPB | LM2902MX/NOPB | LM5101MX/NOPB | LP2951CM-3.0/NOPB |
| LM2675M-12/NOPB | LM324AM/NOPB | LM5109AMA/NOPB | LP2951CM-3.3/NOPB |
| LM2675M-3.3/NOPB | LM324AMX/NOPB | LM5109AMAX/NOPB | LP2951CM/NOPB |
| LM2675M-5.0/NOPB | LM324M/NOPB | LM5109BMA/NOPB | LP2951CMX-3.0/NOPB |
| LM2675M-ADJ/NOPB | LM324MX/NOPB | LM5109BMAX/NOPB | LP2951CMX-3.3/NOPB |
| LM2675MX-12/NOPB | LM339AM/NOPB | LM5109MA/NOPB | LP2951CMX/E7002608 |
| LM2675MX-3.3/E7002948 | LM339AMX/NOPB | LM5109MAX/NOPB | LP2951CMX/J7000697 |
| LM2675MX-3.3/NAK2 | LM339M/NOPB | LMV324M/NOPB | LP2951CMX/NAK2 |
| LM2675MX-3.3/NOPB | LM339MX/NOPB | LMV324MX/NOPB | LP2951CMX/NOPB |
| LM2675MX-5.0/NOPB | LM5101AM/NOPB | LMV844MA/NOPB | |
| | | | |



Qualification Report

Approve Date 16-Feb-2021

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

| Туре | Test Name / Condition | Duration | Qual Device: LM2675MXADHH NC | Qual Device: LM5101AMXSF0 S4 | Qual Device: LMV844MAX/NO PB | QBS Package Reference: CD4081BM96 | QBS Package Reference: LM393DR ROUG H LDF | QBS Package Reference: <u>LP2951ACMX-</u> 3.3/S2 | QBS Package Reference: TCA9546ADR R LF |
|------|--|---|------------------------------------|------------------------------------|------------------------------------|---|--|---|---|
| AC | Autoclave 121C | 96 Hours | 3/231/0 | - | 3/231/0 | 3/228/0 | 3/231/0 | 1/77/0 | 3/231/0 |
| ED | Auto Electrical Distributions | Cpk>1.67 Room, hot, and cold test | - | - | - | - | - | 1/30/0 | - |
| ED | Electrical Characterizatio n, side by side | - | 1/30/0 | 1/30/0 | 1/30/0 | - | - | - | - |
| FLAM | Flammability (UL 94V-0) | - | - | - | - | - | - | - | 3/15/0 |
| HAST | Biased HAST, 130C/85%RH | 192 Hours (for info) | - | - | - | - | - | 3/231/0 | - |
| HAST | Biased HAST, 130C/85%RH | 96 Hours | - | - | - | - | - | 3/231/0 | - |
| HTOL | Life Test, 125C | 1000 Hours | - | - | - | - | - | 1/77/0 | - |
| HTSL | High Temp Storage Bake 170C | 420 Hours | - | - | - | - | 3/231/0 | - | 3/231/0 |
| LI | Lead Fatigue | Leads | - | - | - | 3/66/0 | 3/66/0 | - | - |
| LI | Lead Pull | Leads | - | - | - | 3/126/0 | 3/72/0 | - | - |
| PD | Physical Dimensions | (per mechanical drawing) | - | - | - | 3/15/0 | 3/90/0 | 1/30/0 | - |
| SD | Solderability | Pb Free | - | - | - | 3/66/0 | - | - | 3/66/0 |
| TC | Temperature Cycle, -65/150C | 500 Cycles | 3/231/0 | - | 3/231/0 | 3/231/0 | 3/231/0 | 1/77/0 | 3/231/0 |
| VM | Visual / Mechanical | - | 3/984/0 | 3/984/0 | 3/984/0 | 3/984/0 | 3/984/0 | 3/984/0 | 3/984/0 |
| WBP | Bond Pull | Wires | 3/228/0 | 3/228/0 | 3/228/0 | 3/228/0 | 3/228/0 | 3/90/0 | 3/228/0 |
| WBS | Ball Bond Shear | Wires | 3/228/0 | 3/228/0 | 3/228/0 | 3/228/0 | 3/228/0 | 3/90/0 | 3/228/0 |

⁻ QBS: Qual By Similarity

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

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 www admin_team@list.ti.com |

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⁻ Qual Devices LM2675MXADHHNC, LM5101AMXSF0S4 and LMV844MAX/NOPB are qualified at LEVEL1-260C

⁻ 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 HTOL options based on an activation energy of 0.7eV: 150C/1k Hours, 140C/420 Hours
- The following are equivalent Temp Cycle options per JESD47: -55C/125C/700 Cycles and -65C/150C/500 Cycles

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