

| | | | |
|---|---|---------------------------------------|----------------------------------|
| PCN Number: | 20160205001 | PCN Date: | 2/8/2016 |
| Title: | TPS71701DCK Die Revision Change and Datasheet Updates | | |
| Customer Contact: | PCN Manager | Dept: | Quality Services |
| Proposed 1st Ship Date: | 5/8/2016 | Estimated Sample Availability: | Date provided at sample request. |
| Change Type: | | | |
| <input type="checkbox"/> | Assembly Site | <input type="checkbox"/> | Assembly Process |
| <input checked="" type="checkbox"/> | Design | <input checked="" type="checkbox"/> | Electrical Specification |
| <input type="checkbox"/> | Test Site | <input type="checkbox"/> | Packing/Shipping/Labeling |
| <input type="checkbox"/> | Wafer Bump Site | <input type="checkbox"/> | Wafer Bump Material |
| <input type="checkbox"/> | Wafer Fab Site | <input type="checkbox"/> | Wafer Fab Materials |
| <input type="checkbox"/> | | <input type="checkbox"/> | Part number change |

PCN Details

Description of Change:

This notification is to inform of a design change to select devices. Affected devices are listed in the Product Affected section of this document. The design changes are summarized as follows:

Group 1 Devices: Die Revision Change and datasheet updates

The Design change is to allow use of a wider range of feedback resistors across the operating range. The Die Revision and the datasheet number will be changing:

| Current | | New | |
|--------------|------------------|--------------|------------------|
| Die Revision | Datasheet Number | Die Revision | Datasheet Number |
| C | SBVS068H | D | SBVS068I |

The product datasheet(s) is updated as seen in the change revision history below:



TPS717

SBVS068I – FEBRUARY 2006 – REVISED JANUARY 2016

TPS717

Low-Noise, High-Bandwidth PSRR, Low-Dropout, 150-mA Linear Regulator

| Changes from Revision H (January 2015) to Revision I | Page |
|--|------|
| • Added TI Design | 1 |
| • Changed PMOSFET to PMOS in <i>Description</i> section | 1 |
| • Added footnote to the <i>Recommended Operating Conditions</i> table | 5 |
| • Changed V_{FB} parameter in <i>Electrical Characteristics</i> table | 6 |
| • Changed units of V_n parameter in <i>Electrical Characteristics</i> table | 6 |
| • Deleted UVLO parameter minimum specification from <i>Electrical Characteristics</i> table | 6 |
| • Changed T_A to T_J in x-axis of Figure 7 , Figure 10 , and Figure 11 | 8 |
| • Changed second paragraph of <i>Startup and Noise Reduction Capacitor</i> section | 13 |
| • Changed last bullet in <i>Normal Operation</i> section | 14 |
| • Changed value of the T_J column in last row of Table 1 | 15 |
| • Added last sentence to <i>Input and Output Capacitor Requirements</i> section | 16 |
| • Changed V_{REF} to V_{FB} in Equation 3 | 17 |
| • Changed definition of z in Table 4 | 23 |

These changes may be reviewed at the datasheet link provided:

<http://www.ti.com/lit/ds/sbvs068i/sbvs068i.pdf>

Group 2 Devices: Datasheet updates only

The product datasheet(s) is updated as seen in the change revision history below:



TPS717

SBVS068I—FEBRUARY 2006—REVISED JANUARY 2016

TPS717

Low-Noise, High-Bandwidth PSRR, Low-Dropout, 150-mA Linear Regulator

| Changes from Revision H (January 2015) to Revision I | Page |
|--|------|
| • Added TI Design | 1 |
| • Changed PMOSFET to PMOS in <i>Description</i> section | 1 |
| • Added footnote to the <i>Recommended Operating Conditions</i> table | 5 |
| • Changed V_{FB} parameter in <i>Electrical Characteristics</i> table | 6 |
| • Changed units of V_n parameter in <i>Electrical Characteristics</i> table | 6 |
| • Deleted UVLO parameter minimum specification from <i>Electrical Characteristics</i> table | 6 |
| • Changed T_A to T_J in x-axis of Figure 7 , Figure 10 , and Figure 11 | 8 |
| • Changed second paragraph of <i>Startup and Noise Reduction Capacitor</i> section | 13 |
| • Changed last bullet in <i>Normal Operation</i> section | 14 |
| • Changed value of the TJ column in last row of Table 1 | 15 |
| • Added last sentence to <i>Input and Output Capacitor Requirements</i> section | 16 |
| • Changed V_{REF} to V_{FB} in Equation 3 | 17 |
| • Changed definition of z in Table 4 | 23 |

These changes may be reviewed at the datasheet link provided:

<http://www.ti.com/lit/ds/sbvs068i/sbvs068i.pdf>

Reason for Change:

Improved product performance

Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):

None

Changes to product identification resulting from this PCN:

Group 1 Devices – Die Rev Marking:

| Current | New |
|--------------|--------------|
| Die Rev [2P] | Die Rev [2P] |
| C | D |

Sample product shipping label (not actual product label)

MADE IN: Malaysia
2DC: 2Q:

| | |
|-----------------------|----------|
| 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) 7523483S12
(P)
(2P) REV: (V) 0033317
(20L) CS0: SHE (21L) CCO:USA
(22L) AS0: MLA (23L) ACO: MYS

Product Affected Group 1: Die Revision Change (Rev C to Rev D) and datasheet updates

| | | | |
|--------------|----------------|--------------|----------------|
| TPS71701DCKR | TPS71701DCKRG4 | TPS71701DCKT | TPS71701DCKTG4 |
|--------------|----------------|--------------|----------------|

Product Affected Group 2: Datasheet updates only

| | | | |
|----------------|----------------|----------------|----------------|
| TPS71709DSER | TPS71713DCKTG4 | TPS71725DCKRG4 | TPS71729DCKR |
| TPS71709DSERG4 | TPS71715DCKR | TPS71725DCKT | TPS71729DCKT |
| TPS71709DSET | TPS71715DCKT | TPS71726DCKR | TPS71730DCKR |
| TPS71709DSETG4 | TPS71715DCKTG4 | TPS71726DCKT | TPS71730DCKRG4 |

| | | | |
|----------------|----------------|----------------|----------------|
| TPS71710DCKR | TPS717185DSER | TPS71726DCKTG4 | TPS71730DCKT |
| TPS71710DCKRG4 | TPS717185DSET | TPS71727DCKR | TPS71730DCKTG4 |
| TPS71710DCKT | TPS71718DCKR | TPS71727DCKT | TPS71733DCKR |
| TPS71710DCKTG4 | TPS71718DCKRG4 | TPS71727DCKTG4 | TPS71733DCKRG4 |
| TPS71710DRVR | TPS71718DCKT | TPS71727DSER | TPS71733DCKT |
| TPS71710DRVRG4 | TPS71718DCKTG4 | TPS71727DSET | TPS71733DCKTG4 |
| TPS71710DRVT | TPS71718DSER | TPS717285DCKR | TPS71733DRVR |
| TPS71711DCKR | TPS71718DSERG4 | TPS717285DCKT | TPS71733DRVRG4 |
| TPS71711DCKRG4 | TPS71718DSET | TPS71728DCKR | TPS71733DRVT |
| TPS71711DCKT | TPS71719DCKR | TPS71728DCKRG4 | TPS71733DRVTG4 |
| TPS71711DCKTG4 | TPS71719DCKRG4 | TPS71728DCKT | TPS71733DSER |
| TPS71712DCKR | TPS71719DCKT | TPS71728DCKTG4 | TPS71733DSET |
| TPS71712DCKRG4 | TPS71719DCKTG4 | TPS71728DSER | TPS71745DSER |
| TPS71712DCKT | TPS71721DCKR | TPS71728DSERG4 | TPS71745DSET |
| TPS71712DCKTG4 | TPS71721DCKT | TPS71728DSET | TPS71750DSER |
| TPS71713DCKR | TPS71725DCKR | TPS71728DSETG4 | TPS71750DSET |
| TPS71713DCKT | | | |

Qualification Summary

LTPS71701DINZ & LTPS71701DIN: Die revision from C to D
Approved 12-Jan-2016

Product Attributes

| Attributes | Qual Device: SN201502020DRV (TPS71701QDRVRQ1) | Qual Device: TPS71701DCK | QB S Product Reference: TPS71701QDRVRQ1 | QB S Product Reference: TPS71701QDRVRQ1 | QB S Product Reference: TPS71701QDRVRQ1 | QB S Product Reference: TPS71701QDRVRQ1 | QB S Process Reference: TPS55340Q/PWPR Q1 | QB S Package Reference: OPA330AIDCK | QB S Package Reference: TMP300AIDCK | QB S Package Reference: TPS54160QDRRCR Q1 | QB S Package Reference: TPS71713DCK |
|--------------------|---|-----------------------------|--|--|--|--|--|--|--|--|--|
| Wafer Fab Supplier | MIH08 | MIH08 | MIH08 | MIH08 | MIH08 | MIH08 | MIH08 | MIH08 | MIH08 | MIH08 | MIH08 |
| Die Revision | D | D | C | C | C | C | PG20 | E | D | - | A |
| Assembly site | NSEN52 | NFME | UTAC (NSE) | UTAC / NSE (NS2) | UTAC / NSE (NS2) | UTAC / NSE (NS2) | TA/TITL | NFME | NFME | UTAC -THAILAND | NFME |
| Package Type | SON 2.0 X 2.0(MM) | SOT | SON 2.0 X 2.0(MM) | SON 2.0 X 2.0(MM) | SON 2.0 X 2.0(MM) | SON 2.0 X 2.0(MM) | HTSSOP | SOT | SOT | VSON | SOT |

- QB S Qual By Similarity
- Qual Devices qualified at Level 1-200C: TPS71701DCK, SN201502020DRV (TPS71701QDRVRQ1)

Qualification Results

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

| Type | Test Name / Condition | Duration | Qual Device: SN201502020DRV (TPS71701QDRVRQ1) | Qual Device: TPS71701DCK | QB S Product Reference: TPS71701QDRVR Q1 | QB S Product Reference: TPS71701QDRVR Q1 | QB S Product Reference: TPS71701QDRVR Q1 | QB S Product Reference: TPS71701QDRVR Q1 | QB S Process Reference: TPS55340Q/PWPR Q1 | QB S Package Reference: OPA330AIDCK | QB S Package Reference: TMP300AIDCK | QB S Package Reference: TPS54160QDRRCR Q1 | QB S Package Reference: TPS71713DCK |
|--------|-----------------------------------|-----------------------------------|---|-----------------------------|---|---|---|---|--|--|--|--|--|
| PC | Automotive Preconditioning | Level 1-200C | 4/200 | - | 2/200 | - | - | 1/210 | - | 1/200* | 1/300* | - | 2/154* |
| HAST | Biasd HAST, 130C/85%RH | 96 Hours | - | - | 1/770 | - | - | 1/770 | 3/2310 | - | - | 3/2310 | - |
| AC | Accelerate 121C | 96 Hours | - | - | 1/770 | - | - | 1/770 | 3/2310 | - | - | 3/2310 | - |
| UHAIST | Unbiased HAST 130C/85%RH | 96 Hours | 1/770 | - | - | - | - | - | - | 1/770* | 1/770* | - | 1/770* |
| TC | Temperature Cycle, -65/150C | 500 Cycles | 1/770 | - | 1/770 | - | - | 1/770 | 3/2310 | 1/770* | 1/770* | 3/2310 | 1/780* |
| PTC | Power Temperature Cycle, -40/125C | 1000 Cycles | - | - | - | - | - | - | 1/450 | - | - | 1/450 | - |
| HTSL | High Temp. Storage Bake, 150C | 1000 Hours | - | - | 1/450 | - | - | 1/450 | - | - | - | 1/450 | - |
| HTSL | High Temp. Storage Bake, 170C | 420 Hours | - | - | - | - | - | - | 1/770* | 1/770* | - | - | - |
| HTSL | High Temp. Storage Bake, 175C | 500 Hours | 1/500 | - | - | - | - | - | - | - | - | 1/450 | - |
| HTOL | Life Test, 125C | 1000 Hours | - | - | 1/770 | - | - | 1/770 | 3/2310 | - | - | - | - |
| HTOL | Life Test, 150C @ 5V | 408 Hours | 1/770 | - | - | - | - | - | - | - | - | - | - |
| ELFR | Early Life Failure Rate 125C | 48 Hours | - | - | - | - | - | - | 3/2400* | - | - | - | - |
| SD | Surface Mount Solderability | Pb | 1/150 | - | 1/150 | - | - | 1/150 | - | 1/220* | 1/220* | 1/220 | - |
| SD | Surface Mount Solderability | Pb Free | 1/150 | - | 1/150 | - | - | 1/150 | - | - | - | 1/220 | - |
| PD | Physical Dimensions (Cpk>1.67) | -- | 1/100 | - | 1/300 | - | 1/100 | - | - | - | - | 3/300 | - |
| HBM | ESD - HBM - Q100 | 2500 V | 1/30 | - | - | - | - | - | - | - | - | - | - |
| CDM | ESD - CDM - Q100 | 1500 V | 1/30 | - | - | - | - | - | - | - | - | - | - |
| LU | Latch-up (Per ASQ Q100-004) | - | 1/60 | - | 2/120 | - | - | 2/120 | 1/60 | - | - | 1/60 | - |
| ED | Electrical Distributions | Cpk>1.67 Room, not, and cold test | 3/900 | - | 1/300 | 1/300 | 1/300 | 1/300 | 1/300 | - | - | 1/300 | - |
| ED | Electrical Characterization | Per Datasheet Parameters | - | 1/150 * | - | - | - | - | - | - | - | - | 1/50* |

A1 (PC): Preconditioning:
Performed for THB, Biasd HAST, AC, UHAIST & TC samples, as applicable.

Green/Pb-free Status:
Qualified Pb-Free (SMT) and Green

For questions regarding this notice, e-mails can be sent to the regional contacts shown below, or you can contact 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 |