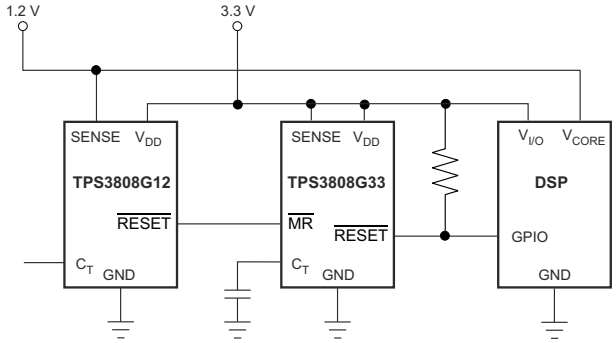
# TPS3808 低静止電流、プログラマブル遅延、監視回路

## 1 特長

- 遅延時間を調整可能なパワーオン・リセット・ジェネレータ:1.25ms～10s
- 超低静止時電流:2.4µA (標準値)
- 高いスレッショルド精度:0.5% (標準値)
- 標準電圧レール (0.9V～5V) と可変電圧レール (最小0.4V) に適した固定スレッショルド電圧が利用可能
- マニュアル・リセット (MR) 入力
- オープン・ドレインの RESET 出力
- 温度範囲:-40℃～125℃
- 小型の SOT-23 および 2mm x 2mm WSON パッケージ

## 2 アプリケーション

- DSP またはマイクロコントローラ・アプリケーション
- ノート PC およびデスクトップ PC
- PDA およびハンドヘルド製品
- 携帯用およびバッテリ駆動製品
- FPGA および ASIC アプリケーション




代表的なアプリケーション

## 3 概要

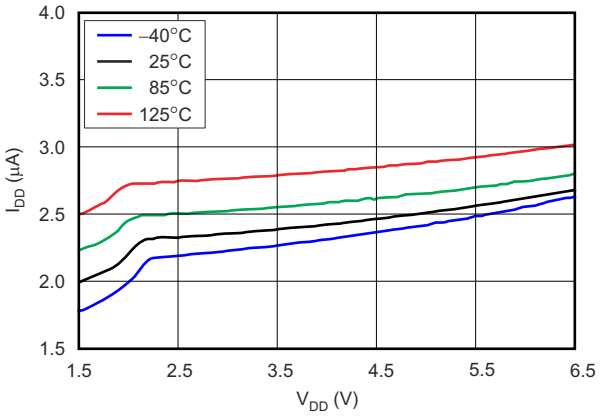
TPS3808 マイクロプロセッサ監視回路ファミリは、0.4V～5V のシステム電圧を監視し、SENSE 電圧がプリセットされたスレッショルドを下回った場合、または手動リセット (MR) ピンが論理ローに下がった場合、オープン・ドレインの RESET 信号をアサートします。SENSE 電圧と手動リセット (MR) がそれぞれのスレッショルドを上回った後、ユーザーが設定可能な遅延時間の間、RESET 出力はローを維持します。

TPS3808 デバイスは、高精度の基準電圧を使用して $V_{IT} \leq 3.3V$ で 0.5% のスレッショルド精度を達成しています。リセット遅延時間は、$C_T$ ピンを未接続にすることで 20ms に設定でき、抵抗を使用して $C_T$ ピンを $V_{DD}$ に接続することで 300ms に設定できます。または、$C_T$ ピンを外部コンデンサに接続することで 1.25ms～10s の範囲でユーザー調整することもできます。TPS3808 デバイスは、静止電流が 2.4µA (標準値) と非常に小さいため、バッテリ駆動のアプリケーションに適しています。本デバイスは SOT-23 および 2mm × 2mm WSON パッケージで供給され、–40℃～125℃ ($T_J$) の温度範囲で完全に規定されています。

**製品情報**

| 型番 | パッケージ(1) | 本体サイズ(公称) |
|---|---|---|
| TPS3808 | SOT-23 (6) | 2.90mm×1.60mm |
| | WSON (6) | 2.00mm × 2.00mm |

(1) 提供されているすべてのパッケージについては、巻末の注文情報を参照してください。




消費電流と電源電圧との関係

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## 4 Revision History

資料番号末尾の英字は改訂を表しています。その改訂履歴は英語版に準じています。

| Changes from Revision L (September 2020) to Revision M (March 2023) | Page |
|---|---|
| • Updated *Device Voltage Thresholds* footnote | 3 |
| • Updated *Thermal Information* | 5 |

| Changes from Revision K (October 2015) to Revision L (September 2020) | Page |
|---|---|
| • 文書全体にわたって表、図、相互参照の採番方法を更新。 | 1 |

| Changes from Revision J (August 2008) to Revision K (October 2015) | Page |
|---|---|
| • 「ESD 定格」表、「機能説明」セクション、「デバイスの機能モード」セクション、「アプリケーションと実装」セクション、「電源に関する推奨事項」セクション、「レイアウト」セクション、「デバイスおよびドキュメントのサポート」セクション、「メカニカル、パッケージ、および注文情報」セクションを追加。「スイッチング特性」表、タイミング図、関連する真理値表を移動。 | 1 |
| • Changed 図 9-1; removed capacitor shown on $C_T$ | 14 |

## 5 Device Voltage Thresholds

The following table shows the nominal rail to be monitored and the corresponding threshold voltage of the device.

| PART NUMBER | NOMINAL SUPPLY VOLTAGE(1) | THRESHOLD VOLTAGE ($V_{IT}$) |
|---|---|---|
| TPS3808G01 | Adjustable | 0.405 V |
| TPS3808G09 | 0.9 V | 0.84 V |
| TPS3808G12 | 1.2 V | 1.12 V |
| TPS3808G125 | 1.25 V | 1.16 V |
| TPS3808G15 | 1.5 V | 1.40 V |
| TPS3808G18 | 1.8 V | 1.67 V |
| TPS3808G19 | 1.9 V | 1.77 V |
| TPS3808G25 | 2.5 V | 2.33 V |
| TPS3808G30 | 3 V | 2.79 V |
| TPS3808G33 | 3.3 V | 3.07 V |
| TPS3808G50 | 5 V | 4.65 V |

(1) Please contact TI for availability of other threshold options.

# 6 Pin Configuration and Functions

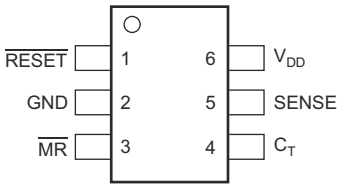



**図 6-1. DBV Package 6-Pin SOT-23 Top View**

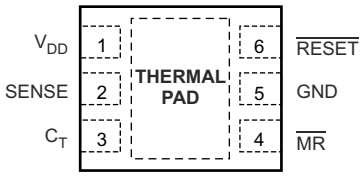



**図 6-2. DRV Package 6-Pin (2.00 mm × 2.00 mm) WSON With Thermal Pad Top View**

**表 6-1. Pin Functions**

| PIN | | | I/O | DESCRIPTION |
|---|---|---|---|---|
| NAME | SOT-23 | WSON | | |
| $C_T$ | 4 | 3 | I | Reset period programming pin. Connecting this pin to $V_{DD}$ through a 40-kΩ to 200-kΩ resistor or leaving it open results in fixed delay times (see *セクション 7.5*). Connecting this pin to a ground referenced capacitor ≥ 100 pF gives a user-programmable delay time. See *セクション 8.3.2* for more information. |
| GND | 2 | 5 | — | Ground |
| $\overline{MR}$ | 3 | 4 | I | Driving the manual reset pin ( $\overline{MR}$) low asserts $\overline{RESET}$. $\overline{MR}$ is internally tied to $V_{DD}$ by a 90-kΩ pull-up resistor. |
| $\overline{RESET}$ | 1 | 6 | O | $\overline{RESET}$ is an open-drain output that is driven to a low-impedance state when $\overline{RESET}$ is asserted (either the SENSE input is lower than the threshold voltage ($V_{IT}$) or the $\overline{MR}$ pin is set to a logic low). $\overline{RESET}$ remains low (asserted) for the reset period after both SENSE is above $V_{IT}$ and $\overline{MR}$ is set to a logic high. A pull-up resistor from 10 kΩ to 1 MΩ should be used on this pin, and allows the reset pin to attain voltages higher than $V_{DD}$. |
| SENSE | 5 | 2 | I | This pin is connected to the voltage to be monitored. If the voltage at this terminal drops below the threshold voltage $V_{IT}$, then $\overline{RESET}$ is asserted. |
| $V_{DD}$ | 6 | 1 | I | Supply voltage. It is good analog design practice to place a 0.1-µF ceramic capacitor close to this pin. |
| Thermal Pad | — | Pad | — | Thermal Pad. Connect to ground plane to enhance thermal performance of package. |

# 7 Specifications

## 7.1 Absolute Maximum Ratings

over operating junction temperature range (unless otherwise noted) (1)

| | | MIN | MAX | UNIT |
|---|---|---|---|---|
| Voltage | $V_{DD}$ | –0.3 | 7 | V |
| | $V_{CT}$ | –0.3 | $V_{DD}$ + 0.3 | V |
| | $V_{RESET}$, $V_{MR}$, $V_{SENSE}$ | –0.3 | 7 | V |
| Current | $\overline{RESET}$ pin | –5 | 5 | mA |
| Temperature | Operating junction, $T_J$ (2) | –40 | 150 | °C |
| | Storage, $T_{stg}$ | –65 | 150 | °C |

(1) Stresses beyond those listed under *Absolute Maximum Ratings* may cause permanent damage to the device. These are stress ratings only, which do not imply functional operation of the device at these or any other conditions beyond those indicated under *Recommended Operating Conditions*. Exposure to absolute-maximum-rated conditions for extended periods may affect device reliability.
(2) As a result of the low dissipated power in this device, it is assumed that $T_J = T_A$.

## 7.2 ESD Ratings

| | | | VALUE | UNIT |
|---|---|---|---|---|
| $V_{(ESD)}$ | Electrostatic discharge | Human body model (HBM), per ANSI/ESDA/JEDEC JS-001, all pins(1) | ±2000 | V |
| | | Charged device model (CDM), per JEDEC specification JESD22-C101, all pins(2) | ±500 | |

(1) JEDEC document JEP155 states that 500-V HBM allows safe manufacturing with a standard ESD control process.
(2) JEDEC document JEP157 states that 250-V CDM allows safe manufacturing with a standard ESD control process.

## 7.3 Recommended Operating Conditions

over operating free-air temperature range (unless otherwise noted)

| | | MIN | NOM | MAX | UNIT |
|---|---|---|---|---|---|
| $V_{DD}$ | Input supply range | 1.7 | | 6.5 | V |
| $V_{SENSE}$ | SENSE pin voltage | 0 | | 6.5 | V |
| $V_{(Ct)}$ | $C_T$ pin voltage | | | $V_{DD}$ | V |
| $V_{\overline{MR}}$ | $\overline{MR}$ pin voltage | 0 | | 6.5 | V |
| $V_{\overline{RESET}}$ | $\overline{RESET}$ pin voltage | 0 | | 6.5 | V |
| $I_{\overline{RESET}}$ | $\overline{RESET}$ pin current | 0.0003 | | 5 | mA |

## 7.4 Thermal Information

| THERMAL METRIC(1) | | TPS3808 | | UNIT |
|---|---|---|---|---|
| | | DBV (SOT-23) | DRV (WSON) | |
| | | 6 PINS | 6 PINS | |
| $R_{\theta JA}$ | Junction-to-ambient thermal resistance | 180.9 | 178.1 | °C/W |
| $R_{\theta JC(top)}$ | Junction-to-case (top) thermal resistance | 117.8 | 95.6 | °C/W |
| $R_{\theta JB}$ | Junction-to-board thermal resistance | 27.8 | 135 | °C/W |
| $\psi_{JT}$ | Junction-to-top characterization parameter | 18.9 | 6.3 | °C/W |
| $\psi_{JB}$ | Junction-to-board characterization parameter | 27.3 | 136.6 | °C/W |
| $R_{\theta JC(bot)}$ | Junction-to-case (bottom) thermal resistance | N/A | 7.3 | °C/W |

(1) For more information about traditional and new thermal metrics, see the *Semiconductor and IC Package Thermal Metrics* application report, SPRA953.

## 7.5 Electrical Characteristics

1.7 V ≤ $V_{DD}$ ≤ 6.5 V, $R_{LRESET}$ = 100 kΩ, $C_{LRESET}$ = 50 pF, over operating temperature range ($T_J$ = –40°C to 125°C), unless otherwise noted. Typical values are at $T_J$ = 25°C(1).

| PARAMETER | | | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|---|---|---|---|---|---|---|---|
| $V_{DD}$ | Input supply range | | –40°C < $T_J$ < 125°C | 1.7 | | 6.5 | V |
| | | | 0°C < $T_J$ < 85°C | 1.65 | | 6.5 | V |
| $I_{DD}$ | Supply current (current into $V_{DD}$ pin) | | $V_{DD}$ = 3.3 V, $\overline{RESET}$ not asserted $\overline{MR}$, $\overline{RESET}$, $C_T$ open | | 2.4 | 5 | µA |
| | | | $V_{DD}$ = 6.5 V, $\overline{RESET}$ not asserted $\overline{MR}$, $\overline{RESET}$, $C_T$ open | | 2.7 | 6 | |
| $V_{OL}$ | Low-level output voltage | | 1.3 V ≤ $V_{DD}$ < 1.8 V, $I_{OL}$ = 0.4 mA | | | 0.3 | V |
| | | | 1.8 V ≤ $V_{DD}$ ≤ 6.5 V, $I_{OL}$ = 1 mA | | | 0.4 | |
| $V_{POR}$ | Power-up reset voltage(2) | | $V_{OL}$ (max) = 0.2 V, $I_{\overline{RESET}}$ = 15 µA | | | 0.8 | |
| $V_{IT}$ | Negative-going input threshold accuracy | TPS3808G01 | | –2% | ±1% | 2% | |
| | | $V_{IT}$ ≤ 3.3 V | | –1.5% | ±0.5% | 1.5% | |
| | | 3.3 V < $V_{IT}$ ≤ 5.0 V | | –2% | ±1% | 2% | |
| | | $V_{IT}$ ≤ 3.3 V | –40°C < $T_J$ < 85°C | –1.25% | ±0.5% | 1.25% | |
| | | 3.3 V < $V_{IT}$ ≤ 5.0 V | –40°C < $T_J$ < 85°C | –1.5% | ±0.5% | 1.5% | |
| $V_{HYS}$ | Hysteresis on $V_{IT}$ pin | TPS3808G01 | | | 1.5% | 3% | $V_{IT}$ |
| | | Fixed versions | | | 1% | 2.5% | |
| $R_{\overline{MR}}$ | $\overline{MR}$ Internal pullup resistance | | | 70 | 90 | | kΩ |
| $I_{SENSE}$ | Input current at SENSE pin | TPS3808G01 | $V_{SENSE}$ = $V_{IT}$ | –25 | | 25 | nA |
| | | Fixed versions | $V_{SENSE}$ = 6.5 V | | 1.7 | | µA |
| $I_{OH}$ | $\overline{RESET}$ leakage current | | $V_{\overline{RESET}}$ = 6.5 V, $\overline{RESET}$ not asserted | | | 300 | nA |
| $C_{IN}$ | Input capacitance, any pin | $C_T$ pin | $V_{IN}$ = 0 V to $V_{DD}$ | | 5 | | pF |
| | | Other pins | $V_{IN}$ = 0 V to 6.5 V | | 5 | | |
| $V_{IL}$ | $\overline{MR}$ logic low input | | | 0 | | 0.3 $V_{DD}$ | V |
| $V_{IH}$ | $\overline{MR}$ logic high input | | | 0.7 $V_{DD}$ | | $V_{DD}$ | |

(1) The lowest supply voltage ($V_{DD}$) at which $\overline{RESET}$ becomes active. $T_{rise(VDD)}$ ≥ 15 µs/V.
(2) $R_{LRESET}$ and $C_{LRESET}$ are the resistor and capacitor connected to the $\overline{RESET}$ pin.

## 7.6 Switching Characteristics

1.7 V ≤ $V_{DD}$ ≤ 6.5 V, $R_{LRESET}$ = 100 kΩ, $C_{LRESET}$ = 50 pF, over operating temperature range ($T_J$ = –40°C to 125°C), unless otherwise noted. Typical values are at $T_J$ = 25°C.(1)

| PARAMETER | | | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|---|---|---|---|---|---|---|---|
| $t_w$ | Input pulse width to $\overline{RESET}$ | SENSE | $V_{IH}$ = 1.05 $V_{IT}$, $V_{IL}$ = 0.95 $V_{IT}$ | | 20 | | µs |
| | | $\overline{MR}$ | $V_{IH}$ = 0.7 $V_{DD}$, $V_{IL}$ = 0.3 $V_{DD}$ | | 0.001 | | |
| $t_d$ | $\overline{RESET}$ delay time | $C_T$ = Open | See 図 7-1 | 12 | 20 | 28 | ms |
| | | $C_T$ = $V_{DD}$ | | 180 | 300 | 420 | |
| | | $C_T$ = 100 pF | | 0.75 | 1.25 | 1.75 | |
| | | $C_T$ = 180 nF | | 0.7 | 1.2 | 1.7 | s |
| | Propagation delay | $\overline{MR}$ to $\overline{RESET}$ | $V_{IH}$ = 0.7 $V_{DD}$, $V_{IL}$ = 0.3 $V_{DD}$ | | 150 | | ns |
| | High-to-low level $\overline{RESET}$ delay | SENSE to $\overline{RESET}$ | $V_{IH}$ = 1.05 $V_{IT}$, $V_{IL}$ = 0.95 $V_{IT}$ | | 20 | | µs |

(1) $R_{LRESET}$ and $C_{LRESET}$ are the resistor and capacitor connected to the RESET pin.

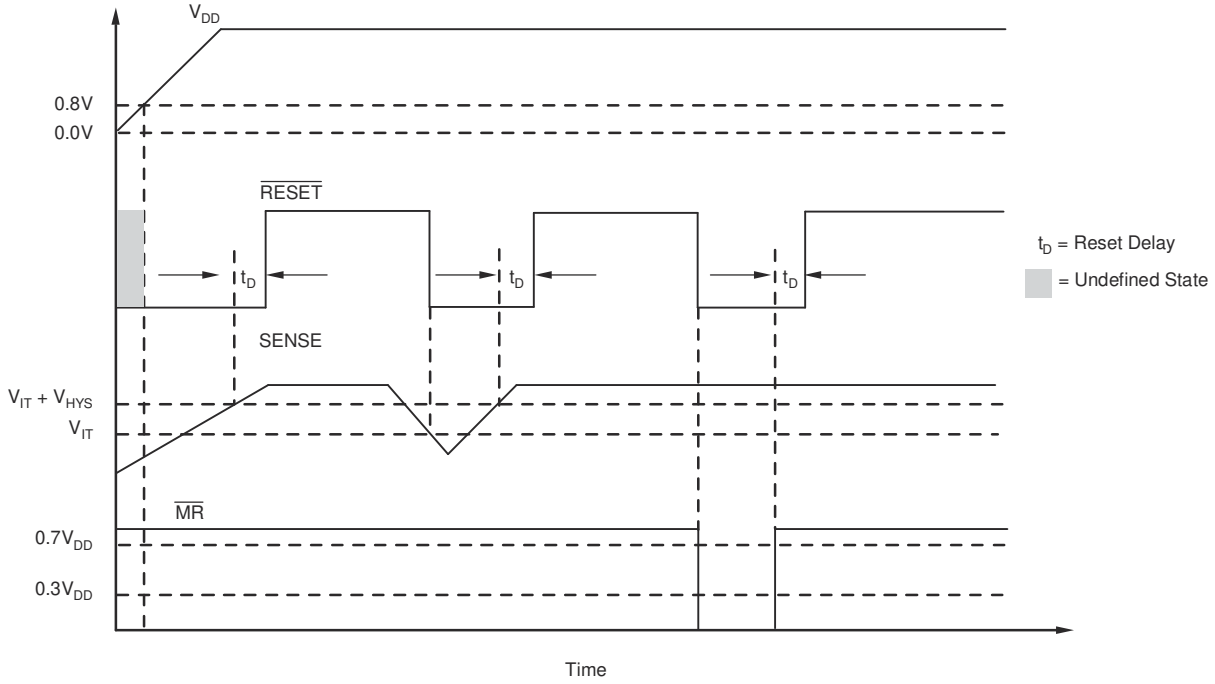



**図 7-1. TPS3808 Timing Diagram Showing $\overline{MR}$ and SENSE Reset Timing**

## 7.7 Typical Characteristics

At $T_J$ = 25°C, $V_{DD}$ = 3.3 V, $R_{LRESET}$ = 100 kΩ, and $C_{LRESET}$ = 50 pF, unless otherwise noted.

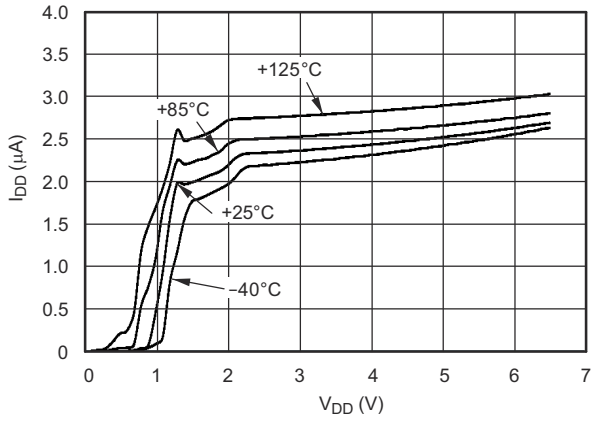



**図 7-2. Supply Current vs Supply Voltage**

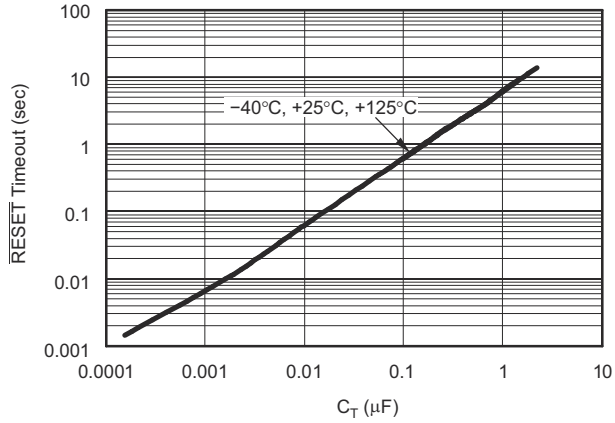



**図 7-3. $\overline{\text{RESET}}$ Time-Out Period vs $C_T$**

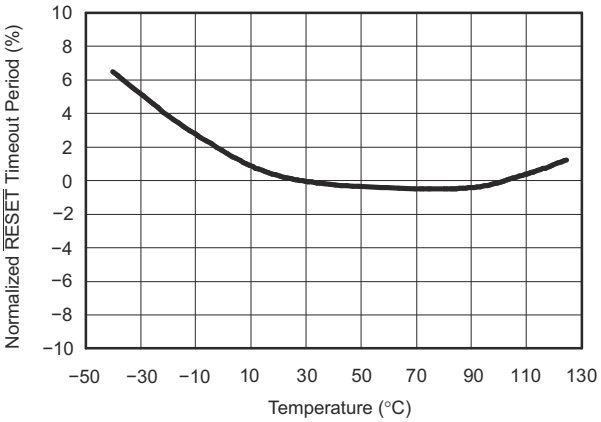



**図 7-4. Normalized $\overline{\text{RESET}}$ Time-Out Period vs Temperature ($C_T$ = Open, $C_T$ = $V_{DD}$, $C_T$ = Any)**

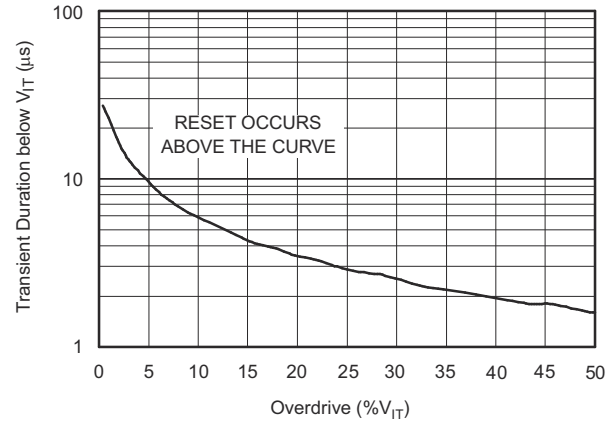



**図 7-5. Maximum Transient Duration at Sense vs Sense Threshold Overdrive Voltage**

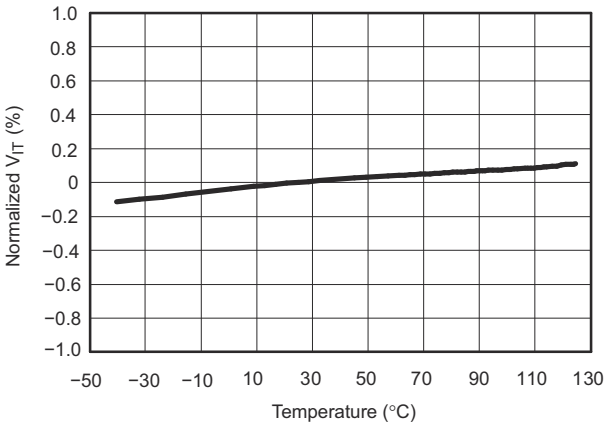



**図 7-6. Normalized Sense Threshold Voltage ($V_{IT}$) vs Temperature**

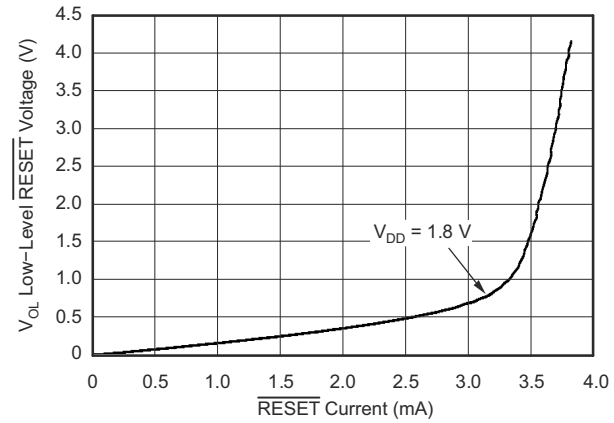



**図 7-7. Low-Level $\overline{\text{RESET}}$ Voltage vs $\overline{\text{RESET}}$ Current**

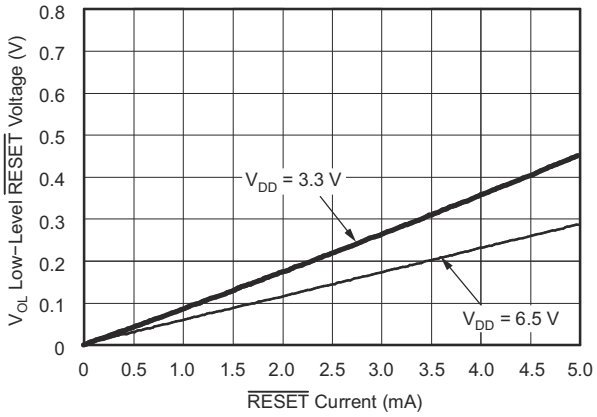


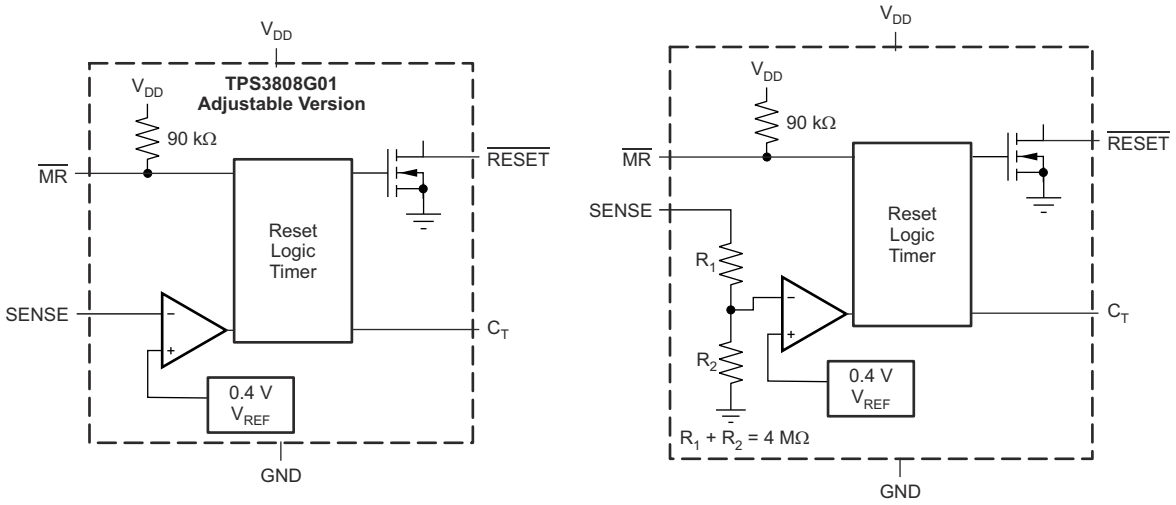

**図 7-8. Low-Level $\overline{\text{RESET}}$ Voltage vs $\overline{\text{RESET}}$ Current**

# 8 Detailed Description

## 8.1 Overview

The TPS3808 microprocessor supervisory product family is designed to assert a $\overline{\text{RESET}}$ signal when either the SENSE pin voltage drops below $V_{IT}$ or the manual reset ( $\overline{\text{MR}}$) is driven low. The $\overline{\text{RESET}}$ output remains asserted for a user-adjustable time after both the manual reset ( $\overline{\text{MR}}$) and SENSE voltages return above their respective thresholds.

## 8.2 Functional Block Diagram




Adjustable Voltage Version　　Fixed Voltage Version

## 8.3 Feature Description

A broad range of voltage threshold and reset delay time adjustments are available for the TPS3808 device, allowing these devices to be used in a wide array of applications. Reset threshold voltages can be factory-set from 0.82 V to 3.3 V or from 4.4 V to 5 V, while the TPS3808G01 can be set to any voltage above 0.405 V using an external resistor divider. Two preset delay times are also user-selectable: connecting the $C_T$ pin to $V_{DD}$ results in a 300-ms reset delay, whereas leaving the $C_T$ pin open yields a 20-ms reset delay. In addition, connecting a capacitor between $C_T$ and GND allows the designer to select any reset delay period from 1.25 ms to 10 s.

### 8.3.1 SENSE Input

The SENSE input provides a pin at which any system voltage can be monitored. If the voltage on this pin drops below $V_{IT}$, then $\overline{\text{RESET}}$ is asserted. The comparator has a built-in hysteresis to ensure smooth $\overline{\text{RESET}}$ assertions and de-assertions. It is good analog design practice to put a 1-nF to 10-nF bypass capacitor on the SENSE input to reduce sensitivity to transients and layout parasitics.

The TPS3808 device is relatively immune to short negative transients on the SENSE pin. Sensitivity to transients is dependent on threshold overdrive, as shown in (図 7-5).

The TPS3808G01 can be used to monitor any voltage rail down to 0.405 V using the circuit shown in 図 8-1.

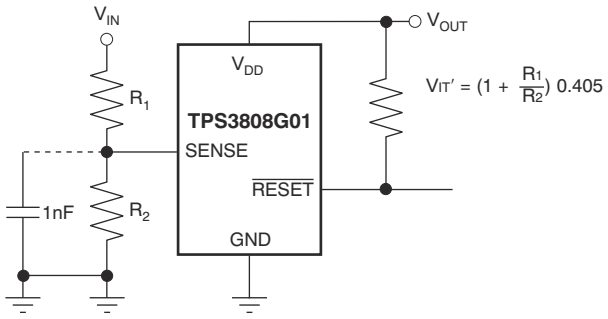



**図 8-1. Using the TPS3808G01 to Monitor a User-Defined Threshold Voltage**

### 8.3.2 Selecting the RESET Delay Time

The TPS3808 has three options for setting the $\overline{\text{RESET}}$ delay time as shown in 図 8-2. 図 8-2 (a) shows the configuration for a fixed 300-ms typical delay time by tying $C_T$ to $V_{DD}$; a resistor from 40 kΩ to 200 kΩ must be used. Supply current is not affected by the choice of resistor. 図 8-2 (b) shows a fixed 20-ms delay time by leaving the $C_T$ pin open. 図 8-2 (c) shows a ground referenced capacitor connected to $C_T$ for a user-defined program time between 1.25 ms and 10 s.

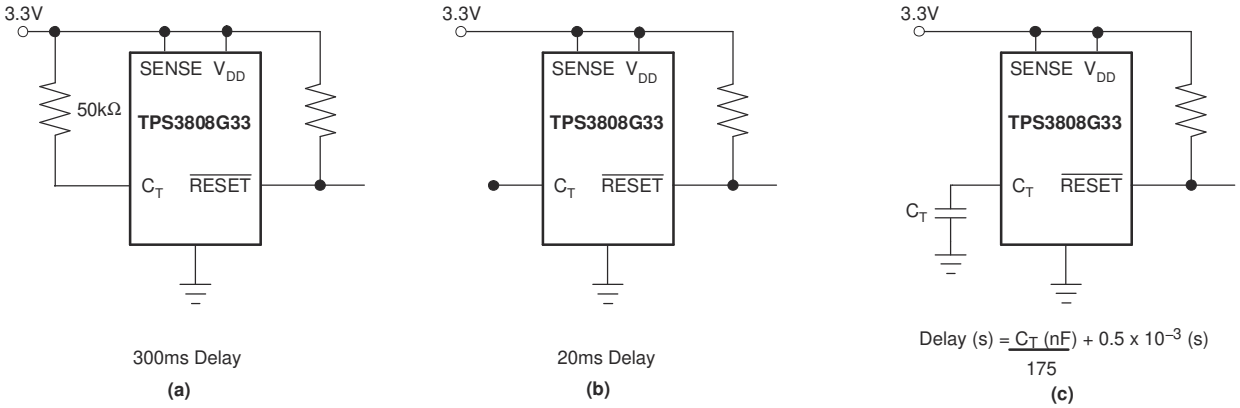



**図 8-2. Configuration Used to Set the $\overline{\text{RESET}}$ Delay Time**

The capacitor $C_T$ should be ≥ 100 pF nominal value in order for the TPS3808xxx to recognize that the capacitor is present. The capacitor value for a given delay time can be calculated using 式 1.

$$C_T\,(\text{nF}) = \left[t_D\,(\text{s}) - 0.5 \times 10^{-3}\,(\text{s})\right] \times 175 \tag{1}$$

The reset delay time is determined by the time it takes an on-chip precision 220-nA current source to charge the external capacitor to 1.23 V. When a $\overline{\text{RESET}}$ is asserted, the capacitor is discharged. When the $\overline{\text{RESET}}$ conditions are cleared, the internal current source is enabled and begins to charge the external capacitor. When the voltage on this capacitor reaches 1.23 V, $\overline{\text{RESET}}$ is deasserted. Note that a low-leakage type capacitor such as a ceramic should be used, and that stray capacitance around this pin may cause errors in the reset delay time.

### 8.3.3 Manual RESET ( $\overline{MR}$) Input

The manual reset ( $\overline{MR}$) input allows a processor or other logic circuits to initiate a reset. A logic low (0.3 $V_{DD}$) on $\overline{MR}$ causes $\overline{RESET}$ to assert. After $\overline{MR}$ returns to a logic high and SENSE is above its reset threshold, $\overline{RESET}$ is de-asserted after the user-defined reset delay expires. Note that $\overline{MR}$ is internally tied to $V_{DD}$ using a 90-kΩ resistor, so this pin can be left unconnected if $\overline{MR}$ is not used.

See 図 8-3 for how $\overline{MR}$ can be used to monitor multiple system voltages. Note that if the logic signal driving $\overline{MR}$ does not go fully to $V_{DD}$, there is some additional current draw into $V_{DD}$ as a result of the internal pullup resistor on $\overline{MR}$. To minimize current draw, a logic-level FET can be used as illustrated in 図 8-4.

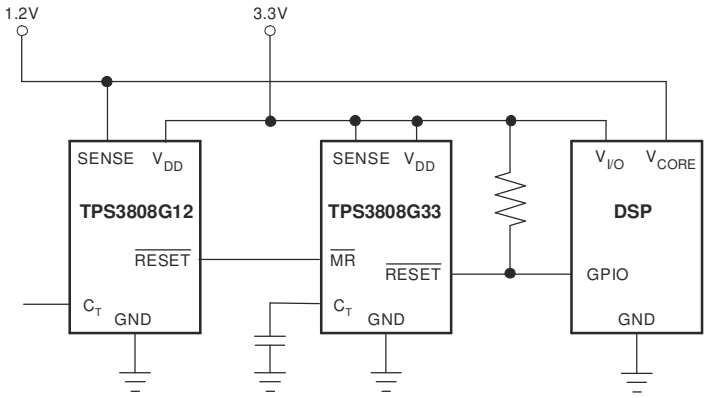



**図 8-3. Using $\overline{MR}$ to Monitor Multiple System Voltages**

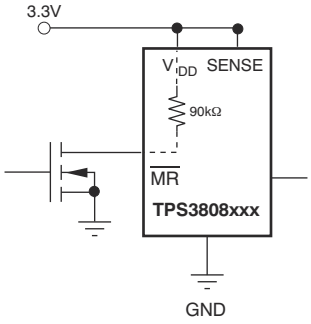



**図 8-4. Using an External MOSFET to Minimize $I_{DD}$ When $\overline{MR}$ Signal Does Not Go to $V_{DD}$**

### 8.3.4 RESET Output

$\overline{RESET}$ remains high (unasserted) as long as SENSE is above its threshold ($V_{IT}$) and the manual reset ( $\overline{MR}$) is logic high. If either SENSE falls below $V_{IT}$ or $\overline{MR}$ is driven low, $\overline{RESET}$ is asserted, driving the $\overline{RESET}$ pin to a low impedance.

Once $\overline{MR}$ is again logic high and SENSE is above $V_{IT}$ + $V_{HYS}$ (the threshold hysteresis), a delay circuit is enabled that holds $\overline{RESET}$ low for a specified reset delay period. Once the reset delay has expired, the $\overline{RESET}$ pin goes to a high impedance state. The pullup resistor from the open-drain $\overline{RESET}$ to the supply line can be used to allow the reset signal for the microprocessor to have a voltage higher than $V_{DD}$ (up to 6.5 V). The pullup resistor should be no smaller than 10 kΩ as a result of the finite impedance of the $\overline{RESET}$ line.

## 8.4 Device Functional Modes

表 8-1. Truth Table

| $\overline{MR}$ | SENSE > $V_{IT}$ | $\overline{RESET}$ |
|---|---|---|
| L | 0 | L |
| L | 1 | L |
| H | 0 | L |
| H | 1 | H |

### 8.4.1 Normal Operation ($V_{DD} > V_{DD(min)}$)

When $V_{DD}$ is greater than $V_{DD(min)}$, the $\overline{RESET}$ signal is determined by the voltage on the SENSE pin and the logic state of $\overline{MR}$.

- $\overline{MR}$ high: When the voltage on $V_{DD}$ is greater than 1.7 V for a time of the selected $t_D$, the $\overline{RESET}$ signal corresponds to the voltage on SENSE relative to $V_{IT}$.
- $\overline{MR}$ low: in this mode, $\overline{RESET}$ is held low regardless of the value of the SENSE pin.

### 8.4.2 Above Power-On Reset but Less Than $V_{DD(min)}$ ($V_{POR} < V_{DD} < V_{DD(min)}$)

When the voltage on $V_{DD}$ is less than the device $V_{DD(min)}$ voltage, and greater than the power-on reset voltage ($V_{POR}$), the $\overline{RESET}$ signal is asserted and low impedance, respectively, regardless of the voltage on the SENSE pin.

### 8.4.3 Below Power-On Reset ($V_{DD} < V_{POR}$)

When the voltage on $V_{DD}$ is lower than the required voltage ($V_{POR}$) needed to internally pull the asserted output to GND, $\overline{RESET}$ is undefined and should not be relied upon for proper device function.

# 9 Application and Implementation

注

Information in the following applications sections is not part of the TI component specification, and TI does not warrant its accuracy or completeness. TI's customers are responsible for determining suitability of components for their purposes. Customers should validate and test their design implementation to confirm system functionality.

## 9.1 Application Information

The following sections describe in detail how to properly use this device, depending on the requirements of the final application.

## 9.2 Typical Application

A typical application of the TPS3808G25 used with a 2.5-V processor is shown in 図 9-1. The open-drain $\overline{\text{RESET}}$ output is typically connected to the $\overline{\text{RESET}}$ input of a microprocessor. A pullup resistor must be used to hold this line high when $\overline{\text{RESET}}$ is not asserted. The $\overline{\text{RESET}}$ output is undefined for voltage below 0.8 V, but this characteristic is normally not a problem because most microprocessors do not function below this voltage.

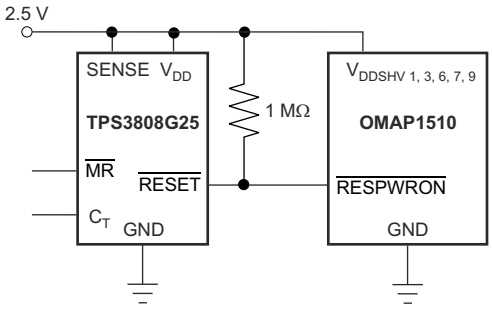



**図 9-1. Typical Application of the TPS3808 With an OMAP Processor**

### 9.2.1 Design Requirements

The TPS3808 is intended to drive the $\overline{\text{RESET}}$ input of a microprocessor. The $\overline{\text{RESET}}$ pin is pulled high with a 1-MΩ resistor and the reset delay time is controlled by $C_T$ depending on the reset requirement times of the microprocessor. In this case, $C_T$ is left open for a typical reset delay time of 20 ms.

### 9.2.2 Detailed Design Procedure

The primary constraint for this application is the reset delay time. In this case, because $C_T$ is open, it is set to 20 ms. A 0.1-µF decoupling capacitor is connected to the $V_{DD}$ pin and a 1-MΩ resistor is used to pull up the $\overline{\text{RESET}}$ pin high. The $\overline{\text{MR}}$ pin can be connected to an external signal if desired.

#### *9.2.2.1 Immunity to SENSE Pin Voltage Transients*

The TPS3808 is relatively immune to short negative transients on the SENSE pin. Sensitivity to transients depends on threshold overdrive. Threshold overdrive is defined by how much the $V_{SENSE}$ exceeds the specified threshold, and is important to know because the smaller the overdrive, the slower the $\overline{\text{RESET}}$ response. Threshold overdrive is calculated as a percent of the threshold in question, as shown in 式 2:

$$\text{Overdrive} = | (V_{SENSE} / V_{IT} - 1) \times 100\% | \quad (2)$$

where:

- $V_{IT}$ is the threshold voltage.

図 9-2 shows this relationship.

### 9.2.3 Application Curve

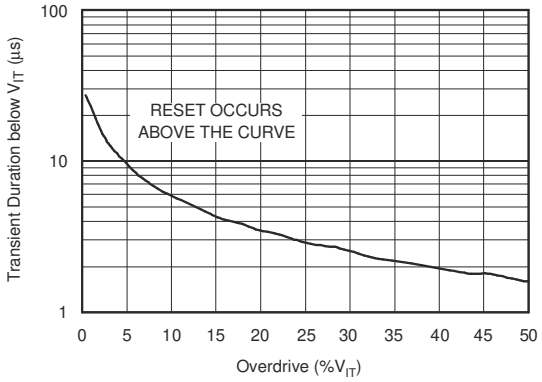



**図 9-2. Maximum Transient Duration at SENSE vs SENSE Threshold Overdrive Voltage**

## 10 Power Supply Recommendations

These devices are designed to operate from an input supply with a voltage range between 1.7 V and 6.5 V. Use a low-impedance power supply to eliminate inaccuracies caused by current changes during the voltage reference refresh.

## 11 Layout

### 11.1 Layout Guidelines

Make sure the connection to the $V_{DD}$ pin is low impedance. Place a 0.1-µF ceramic capacitor near the $V_{DD}$ pin. If no capacitor is connected to the $C_T$ pin, parasitic capacitance on this pin should be minimized so the $\overline{\text{RESET}}$ delay time is not adversely affected.

### 11.2 Layout Example

The layout example in 図 11-1 shows how the TPS3808 is laid out on a printed circuit board (PCB) for a 20-ms delay.

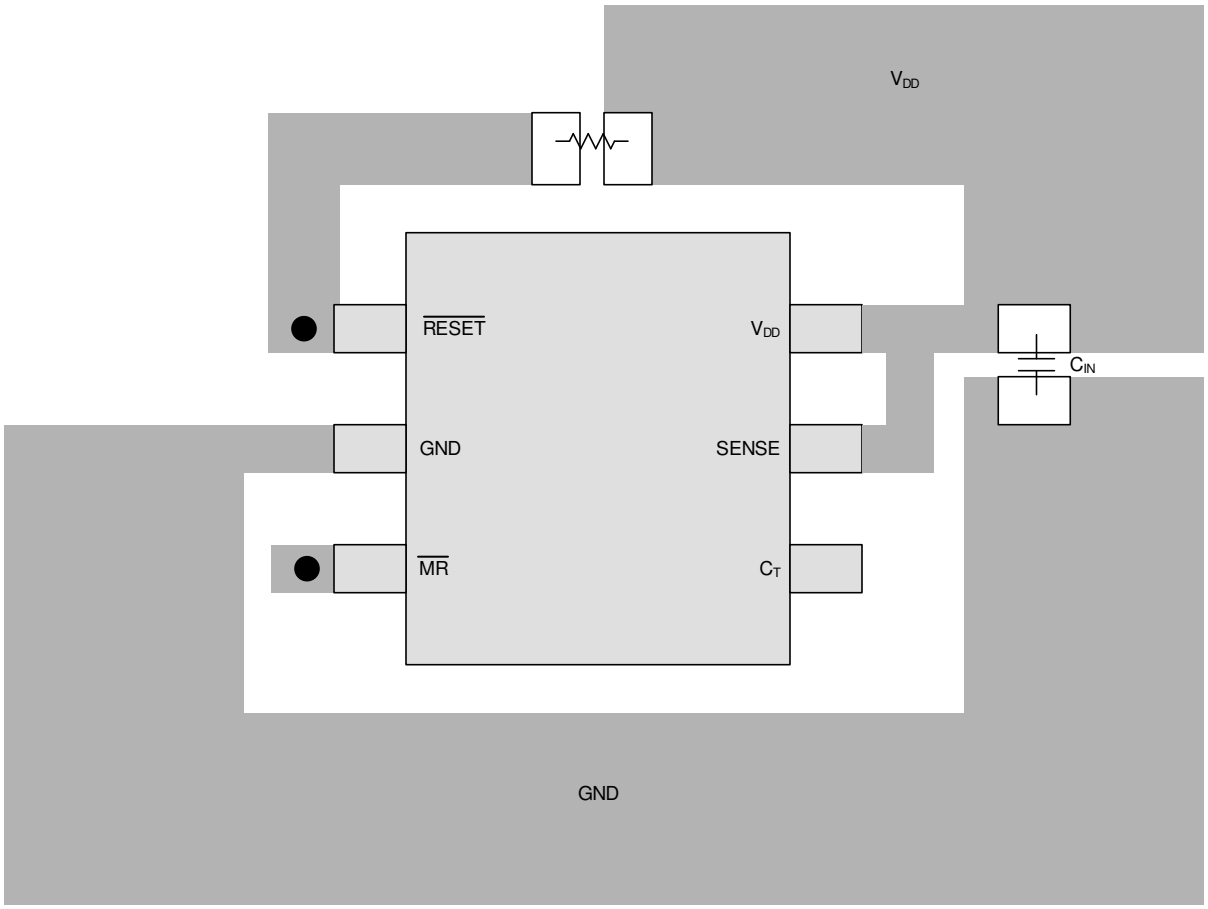



**図 11-1. Layout Example for a 20-ms Delay**

# 12 Device and Documentation Support

## 12.1 Device Support

### 12.1.1 Development Support

#### *12.1.1.1 Evaluation Modules*

An evaluation module (EVM) is available to assist in the initial circuit performance evaluation using the TPS3808. The TPS3808G01DBVEVM evaluation module (and related user guide) can be requested at the Texas Instruments website through the product folders or purchased directly from the TI eStore.

## 12.2 Documentation Support

### 12.2.1 Related Documentation

The following related documents are available for download at www.ti.com:

- Application note. *Optimizing Resistor Dividers at a Comparator Input*. Literature number SLVA450.
- Application note. *Sensitivity Analysis for Power Supply Design*. Literature number SLVA481.
- TPS3808G01DBVEVM Evaluation Module User Guide. Literature number SBVU015.

## 12.3 サポート・リソース

TI E2E™ サポート・フォーラムは、エンジニアが検証済みの回答と設計に関するヒントをエキスパートから迅速かつ直接得ることができる場所です。既存の回答を検索したり、独自の質問をしたりすることで、設計で必要な支援を迅速に得ることができます。

リンクされているコンテンツは、該当する貢献者により、現状のまま提供されるものです。これらは TI の仕様を構成するものではなく、必ずしも TI の見解を反映したものではありません。TI の使用条件を参照してください。

## 12.4 Trademarks

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## 12.5 静電気放電に関する注意事項

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ESD による破損は、わずかな性能低下からデバイスの完全な故障まで多岐にわたります。精密な IC の場合、パラメータがわずかに変化するだけで公表されている仕様から外れる可能性があるため、破損が発生しやすくなっています。

## 12.6 用語集

テキサス・インスツルメンツ用語集　　この用語集には、用語や略語の一覧および定義が記載されています。

# 13 Mechanical, Packaging, and Orderable Information

The following pages include mechanical, packaging, and orderable information. This information is the most-current data available for the designated devices. This data is subject to change without notice and without revision of this document. For browser-based versions of this data sheet, see the left-hand navigation pane.

## PACKAGING INFORMATION

| Orderable part number | Status (1) | Material type (2) | Package \| Pins | Package qty \| Carrier | RoHS (3) | Lead finish/ Ball material (4) | MSL rating/ Peak reflow (5) | Op temp (°C) | Part marking (6) |
|---|---|---|---|---|---|---|---|---|---|
| TPS3808G01DBVR | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU \| SN | Level-1-260C-UNLIM | -40 to 125 | AVW |
| TPS3808G01DBVR.B | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVW |
| TPS3808G01DBVR1G4 | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVW |
| TPS3808G01DBVR1G4.B | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVW |
| TPS3808G01DBVRG4 | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | - | Call TI | Call TI | -40 to 125 | |
| TPS3808G01DBVT | Active | Production | SOT-23 (DBV) \| 6 | 250 \| SMALL T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVW |
| TPS3808G01DBVT.B | Active | Production | SOT-23 (DBV) \| 6 | 250 \| SMALL T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVW |
| TPS3808G01DBVTG4 | Active | Production | SOT-23 (DBV) \| 6 | 250 \| SMALL T&R | - | Call TI | Call TI | -40 to 125 | |
| TPS3808G01DRVR | Active | Production | WSON (DRV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVW |
| TPS3808G01DRVR.B | Active | Production | WSON (DRV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVW |
| TPS3808G01DRVR1G4 | Active | Production | WSON (DRV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVW |
| TPS3808G01DRVR1G4.B | Active | Production | WSON (DRV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVW |
| TPS3808G01DRVRG4 | Active | Production | WSON (DRV) \| 6 | 3000 \| LARGE T&R | - | Call TI | Call TI | -40 to 125 | |
| TPS3808G01DRVT | Active | Production | WSON (DRV) \| 6 | 250 \| SMALL T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVW |
| TPS3808G01DRVT.B | Active | Production | WSON (DRV) \| 6 | 250 \| SMALL T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVW |
| TPS3808G09DBVR | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU \| SN | Level-1-260C-UNLIM | -40 to 125 | AVV |
| TPS3808G09DBVR.B | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVV |
| TPS3808G09DBVR1G4 | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVV |
| TPS3808G09DBVR1G4.B | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVV |
| TPS3808G09DBVRG4 | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | - | Call TI | Call TI | -40 to 125 | |
| TPS3808G09DBVT | Active | Production | SOT-23 (DBV) \| 6 | 250 \| SMALL T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVV |
| TPS3808G09DBVT.B | Active | Production | SOT-23 (DBV) \| 6 | 250 \| SMALL T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVV |
| TPS3808G09DBVTG4 | Active | Production | SOT-23 (DBV) \| 6 | 250 \| SMALL T&R | - | Call TI | Call TI | -40 to 125 | |
| TPS3808G125DBVR | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | CAC |
| TPS3808G125DBVR.B | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | CAC |
| TPS3808G125DBVRG4 | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | CAC |
| TPS3808G125DBVRG4.B | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | CAC |
| TPS3808G125DBVT | Active | Production | SOT-23 (DBV) \| 6 | 250 \| SMALL T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | CAC |
| TPS3808G125DBVT.B | Active | Production | SOT-23 (DBV) \| 6 | 250 \| SMALL T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | CAC |

| Orderable part number | Status (1) | Material type (2) | Package \| Pins | Package qty \| Carrier | RoHS (3) | Lead finish/ Ball material (4) | MSL rating/ Peak reflow (5) | Op temp (°C) | Part marking (6) |
|---|---|---|---|---|---|---|---|---|---|
| TPS3808G125DBVTG4 | Active | Production | SOT-23 (DBV) \| 6 | 250 \| SMALL T&R | - | Call TI | Call TI | -40 to 125 | |
| TPS3808G12DBVR | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVY |
| TPS3808G12DBVR.B | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVY |
| TPS3808G12DBVR1G4 | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVY |
| TPS3808G12DBVR1G4.B | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVY |
| TPS3808G12DBVRG4 | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | - | Call TI | Call TI | -40 to 125 | |
| TPS3808G12DBVT | Active | Production | SOT-23 (DBV) \| 6 | 250 \| SMALL T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVY |
| TPS3808G12DBVT.B | Active | Production | SOT-23 (DBV) \| 6 | 250 \| SMALL T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVY |
| TPS3808G12DBVTG4 | Active | Production | SOT-23 (DBV) \| 6 | 250 \| SMALL T&R | - | Call TI | Call TI | -40 to 125 | |
| TPS3808G12DRVR | Active | Production | WSON (DRV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU \| NIPDAUAG | Level-1-260C-UNLIM | -40 to 125 | AVY |
| TPS3808G12DRVR.B | Active | Production | WSON (DRV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAUAG | Level-1-260C-UNLIM | -40 to 125 | AVY |
| TPS3808G12DRVRG4 | Active | Production | WSON (DRV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVY |
| TPS3808G12DRVRG4.B | Active | Production | WSON (DRV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVY |
| TPS3808G12DRVT | Active | Production | WSON (DRV) \| 6 | 250 \| SMALL T&R | Yes | NIPDAU \| NIPDAUAG | Level-1-260C-UNLIM | -40 to 125 | AVY |
| TPS3808G12DRVT.B | Active | Production | WSON (DRV) \| 6 | 250 \| SMALL T&R | Yes | NIPDAUAG | Level-1-260C-UNLIM | -40 to 125 | AVY |
| TPS3808G12DRVTG4 | Active | Production | WSON (DRV) \| 6 | 250 \| SMALL T&R | - | Call TI | Call TI | -40 to 125 | |
| TPS3808G15DBVR | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVS |
| TPS3808G15DBVR.B | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVS |
| TPS3808G15DBVRG4 | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | - | Call TI | Call TI | -40 to 125 | |
| TPS3808G15DBVT | Active | Production | SOT-23 (DBV) \| 6 | 250 \| SMALL T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVS |
| TPS3808G15DBVT.B | Active | Production | SOT-23 (DBV) \| 6 | 250 \| SMALL T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVS |
| TPS3808G15DBVT1G4 | Active | Production | SOT-23 (DBV) \| 6 | 250 \| SMALL T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVS |
| TPS3808G15DBVT1G4.B | Active | Production | SOT-23 (DBV) \| 6 | 250 \| SMALL T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVS |
| TPS3808G15DBVTG4 | Active | Production | SOT-23 (DBV) \| 6 | 250 \| SMALL T&R | - | Call TI | Call TI | -40 to 125 | |
| TPS3808G15DRVR | Active | Production | WSON (DRV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVS |
| TPS3808G15DRVR.B | Active | Production | WSON (DRV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVS |
| TPS3808G15DRVT | Active | Production | WSON (DRV) \| 6 | 250 \| SMALL T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVS |
| TPS3808G15DRVT.B | Active | Production | WSON (DRV) \| 6 | 250 \| SMALL T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVS |
| TPS3808G18DBVR | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU \| SN | Level-1-260C-UNLIM | -40 to 125 | AVR |
| TPS3808G18DBVR.B | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVR |
| TPS3808G18DBVRG4 | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | - | Call TI | Call TI | -40 to 125 | |

| Orderable part number | Status (1) | Material type (2) | Package \| Pins | Package qty \| Carrier | RoHS (3) | Lead finish/ Ball material (4) | MSL rating/ Peak reflow (5) | Op temp (°C) | Part marking (6) |
|---|---|---|---|---|---|---|---|---|---|
| TPS3808G18DBVT | Active | Production | SOT-23 (DBV) \| 6 | 250 \| SMALL T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVR |
| TPS3808G18DBVT.B | Active | Production | SOT-23 (DBV) \| 6 | 250 \| SMALL T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVR |
| TPS3808G18DBVT1G4 | Active | Production | SOT-23 (DBV) \| 6 | 250 \| SMALL T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVR |
| TPS3808G18DBVT1G4.B | Active | Production | SOT-23 (DBV) \| 6 | 250 \| SMALL T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVR |
| TPS3808G18DBVTG4 | Active | Production | SOT-23 (DBV) \| 6 | 250 \| SMALL T&R | - | Call TI | Call TI | -40 to 125 | |
| TPS3808G18DRVR | Active | Production | WSON (DRV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVR |
| TPS3808G18DRVR.B | Active | Production | WSON (DRV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVR |
| TPS3808G18DRVT | Active | Production | WSON (DRV) \| 6 | 250 \| SMALL T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVR |
| TPS3808G18DRVT.B | Active | Production | WSON (DRV) \| 6 | 250 \| SMALL T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVR |
| TPS3808G19DBVR | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | CHP |
| TPS3808G19DBVR.B | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | CHP |
| TPS3808G19DBVRG4 | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | CHP |
| TPS3808G19DBVRG4.B | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | CHP |
| TPS3808G19DBVT | Active | Production | SOT-23 (DBV) \| 6 | 250 \| SMALL T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | CHP |
| TPS3808G19DBVT.B | Active | Production | SOT-23 (DBV) \| 6 | 250 \| SMALL T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | CHP |
| TPS3808G25DBVR | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | (AVQ, EG25) |
| TPS3808G25DBVR.B | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | (AVQ, EG25) |
| TPS3808G25DBVR1G4 | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVQ |
| TPS3808G25DBVR1G4.B | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVQ |
| TPS3808G25DBVRG4 | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | - | Call TI | Call TI | -40 to 125 | |
| TPS3808G25DBVT | Active | Production | SOT-23 (DBV) \| 6 | 250 \| SMALL T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVQ |
| TPS3808G25DBVT.B | Active | Production | SOT-23 (DBV) \| 6 | 250 \| SMALL T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVQ |
| TPS3808G25DBVTG4 | Active | Production | SOT-23 (DBV) \| 6 | 250 \| SMALL T&R | - | Call TI | Call TI | -40 to 125 | |
| TPS3808G25DRVR | Active | Production | WSON (DRV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVQ |
| TPS3808G25DRVR.B | Active | Production | WSON (DRV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVQ |
| TPS3808G25DRVT | Active | Production | WSON (DRV) \| 6 | 250 \| SMALL T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVQ |
| TPS3808G25DRVT.B | Active | Production | WSON (DRV) \| 6 | 250 \| SMALL T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVQ |
| TPS3808G30DBVR | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU \| SN | Level-1-260C-UNLIM | -40 to 125 | AVP |
| TPS3808G30DBVR.B | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVP |
| TPS3808G30DBVR1G4 | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVP |
| TPS3808G30DBVR1G4.B | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVP |

| Orderable part number | Status (1) | Material type (2) | Package \| Pins | Package qty \| Carrier | RoHS (3) | Lead finish/ Ball material (4) | MSL rating/ Peak reflow (5) | Op temp (°C) | Part marking (6) |
|---|---|---|---|---|---|---|---|---|---|
| TPS3808G30DBVRG4 | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | - | Call TI | Call TI | -40 to 125 | |
| TPS3808G30DBVT | Active | Production | SOT-23 (DBV) \| 6 | 250 \| SMALL T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVP |
| TPS3808G30DBVT.B | Active | Production | SOT-23 (DBV) \| 6 | 250 \| SMALL T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVP |
| TPS3808G30DBVTG4 | Active | Production | SOT-23 (DBV) \| 6 | 250 \| SMALL T&R | - | Call TI | Call TI | -40 to 125 | |
| TPS3808G30DRVR | Active | Production | WSON (DRV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU \| NIPDAUAG | Level-1-260C-UNLIM | -40 to 125 | AVP |
| TPS3808G30DRVR.B | Active | Production | WSON (DRV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAUAG | Level-1-260C-UNLIM | -40 to 125 | AVP |
| TPS3808G30DRVT | Active | Production | WSON (DRV) \| 6 | 250 \| SMALL T&R | Yes | NIPDAU \| NIPDAUAG | Level-1-260C-UNLIM | -40 to 125 | AVP |
| TPS3808G30DRVT.B | Active | Production | WSON (DRV) \| 6 | 250 \| SMALL T&R | Yes | NIPDAUAG | Level-1-260C-UNLIM | -40 to 125 | AVP |
| TPS3808G30DRVTG4.B | Active | Production | WSON (DRV) \| 6 | 250 \| SMALL T&R | - | Call TI | Call TI | -40 to 125 | |
| TPS3808G33DBVR | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU \| SN | Level-1-260C-UNLIM | -40 to 125 | AVO |
| TPS3808G33DBVR.B | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | Yes | SN | Level-1-260C-UNLIM | -40 to 125 | AVO |
| TPS3808G33DBVR1G4 | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVO |
| TPS3808G33DBVR1G4.B | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVO |
| TPS3808G33DBVRG4 | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | - | Call TI | Call TI | -40 to 125 | |
| TPS3808G33DBVT | Active | Production | SOT-23 (DBV) \| 6 | 250 \| SMALL T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVO |
| TPS3808G33DBVT.B | Active | Production | SOT-23 (DBV) \| 6 | 250 \| SMALL T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVO |
| TPS3808G33DBVTG4 | Active | Production | SOT-23 (DBV) \| 6 | 250 \| SMALL T&R | - | Call TI | Call TI | -40 to 125 | |
| TPS3808G33DRVR | Active | Production | WSON (DRV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | SEC |
| TPS3808G33DRVR.B | Active | Production | WSON (DRV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | SEC |
| TPS3808G33DRVT | Active | Production | WSON (DRV) \| 6 | 250 \| SMALL T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | SEC |
| TPS3808G33DRVT.B | Active | Production | WSON (DRV) \| 6 | 250 \| SMALL T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | SEC |
| TPS3808G50DBVR | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVN |
| TPS3808G50DBVR.B | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVN |
| TPS3808G50DBVR1G4 | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVN |
| TPS3808G50DBVR1G4.B | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVN |
| TPS3808G50DBVRG4 | Active | Production | SOT-23 (DBV) \| 6 | 3000 \| LARGE T&R | - | Call TI | Call TI | -40 to 125 | |
| TPS3808G50DBVT | Active | Production | SOT-23 (DBV) \| 6 | 250 \| SMALL T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVN |
| TPS3808G50DBVT.B | Active | Production | SOT-23 (DBV) \| 6 | 250 \| SMALL T&R | Yes | NIPDAU | Level-1-260C-UNLIM | -40 to 125 | AVN |
| TPS3808G50DBVTG4 | Active | Production | SOT-23 (DBV) \| 6 | 250 \| SMALL T&R | - | Call TI | Call TI | -40 to 125 | |

(1) **Status:** For more details on status, see our product life cycle.

(2) **Material type:** When designated, preproduction parts are prototypes/experimental devices, and are not yet approved or released for full production. Testing and final process, including without limitation quality assurance, reliability performance testing, and/or process qualification, may not yet be complete, and this item is subject to further changes or possible discontinuation. If available for ordering, purchases will be subject to an additional waiver at checkout, and are intended for early internal evaluation purposes only. These items are sold without warranties of any kind.

(3) **RoHS values:** Yes, No, RoHS Exempt. See the TI RoHS Statement for additional information and value definition.

(4) **Lead finish/Ball material:** Parts may have multiple material finish options. Finish options are separated by a vertical ruled line. Lead finish/Ball material values may wrap to two lines if the finish value exceeds the maximum column width.

(5) **MSL rating/Peak reflow:** The moisture sensitivity level ratings and peak solder (reflow) temperatures. In the event that a part has multiple moisture sensitivity ratings, only the lowest level per JEDEC standards is shown. Refer to the shipping label for the actual reflow temperature that will be used to mount the part to the printed circuit board.

(6) **Part marking:** There may be an additional marking, which relates to the logo, the lot trace code information, or the environmental category of the part.

Multiple part markings will be inside parentheses. Only one part marking contained in parentheses and separated by a "~" will appear on a part. If a line is indented then it is a continuation of the previous line and the two combined represent the entire part marking for that device.



**OTHER QUALIFIED VERSIONS OF TPS3808 :**

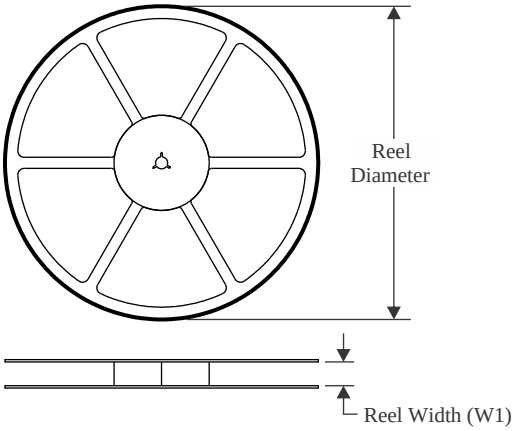
- Automotive : TPS3808-Q1
- Enhanced Product : TPS3808-EP

NOTE: Qualified Version Definitions:

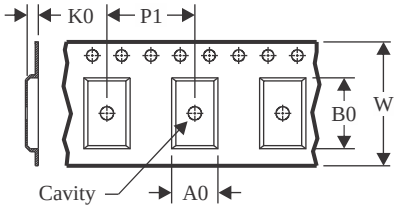
- Automotive - Q100 devices qualified for high-reliability automotive applications targeting zero defects
- Enhanced Product - Supports Defense, Aerospace and Medical Applications

## TAPE AND REEL INFORMATION

**REEL DIMENSIONS**

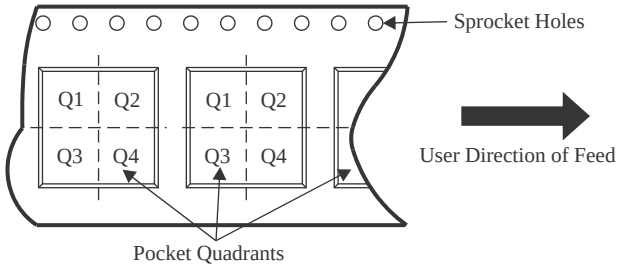



**TAPE DIMENSIONS**




| | |
|---|---|
| A0 | Dimension designed to accommodate the component width |
| B0 | Dimension designed to accommodate the component length |
| K0 | Dimension designed to accommodate the component thickness |
| W | Overall width of the carrier tape |
| P1 | Pitch between successive cavity centers |

**QUADRANT ASSIGNMENTS FOR PIN 1 ORIENTATION IN TAPE**



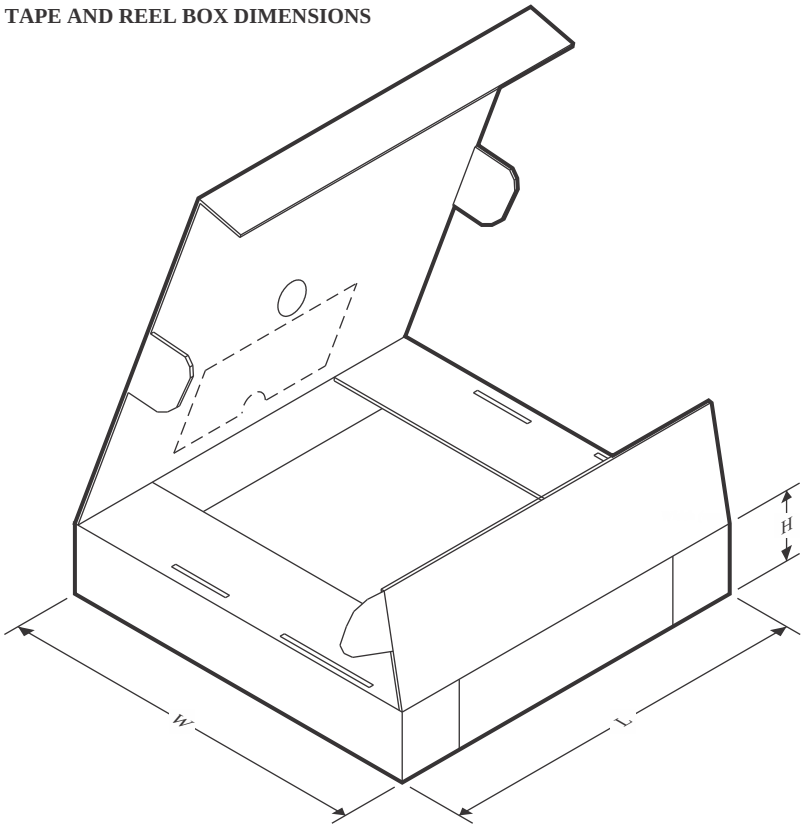

*All dimensions are nominal

| Device | Package Type | Package Drawing | Pins | SPQ | Reel Diameter (mm) | Reel Width W1 (mm) | A0 (mm) | B0 (mm) | K0 (mm) | P1 (mm) | W (mm) | Pin1 Quadrant |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TPS3808G01DBVR | SOT-23 | DBV | 6 | 3000 | 180.0 | 8.4 | 3.2 | 3.2 | 1.4 | 4.0 | 8.0 | Q3 |
| TPS3808G01DBVR | SOT-23 | DBV | 6 | 3000 | 178.0 | 9.0 | 3.23 | 3.17 | 1.37 | 4.0 | 8.0 | Q3 |
| TPS3808G01DBVR | SOT-23 | DBV | 6 | 3000 | 180.0 | 8.4 | 3.2 | 3.2 | 1.4 | 4.0 | 8.0 | Q3 |
| TPS3808G01DBVR1G4 | SOT-23 | DBV | 6 | 3000 | 180.0 | 8.4 | 3.2 | 3.2 | 1.4 | 4.0 | 8.0 | Q3 |
| TPS3808G01DBVT | SOT-23 | DBV | 6 | 250 | 178.0 | 9.0 | 3.23 | 3.17 | 1.37 | 4.0 | 8.0 | Q3 |
| TPS3808G01DBVT | SOT-23 | DBV | 6 | 250 | 180.0 | 8.4 | 3.2 | 3.2 | 1.4 | 4.0 | 8.0 | Q3 |
| TPS3808G01DRVR | WSON | DRV | 6 | 3000 | 178.0 | 8.4 | 2.25 | 2.25 | 1.0 | 4.0 | 8.0 | Q2 |
| TPS3808G01DRVR1G4 | WSON | DRV | 6 | 3000 | 178.0 | 8.4 | 2.25 | 2.25 | 1.0 | 4.0 | 8.0 | Q2 |
| TPS3808G01DRVT | WSON | DRV | 6 | 250 | 179.0 | 8.4 | 2.2 | 2.2 | 1.2 | 4.0 | 8.0 | Q2 |
| TPS3808G01DRVT | WSON | DRV | 6 | 250 | 178.0 | 8.4 | 2.25 | 2.25 | 1.0 | 4.0 | 8.0 | Q2 |
| TPS3808G09DBVR | SOT-23 | DBV | 6 | 3000 | 178.0 | 8.4 | 3.2 | 3.2 | 1.4 | 4.0 | 8.0 | Q3 |
| TPS3808G09DBVR1G4 | SOT-23 | DBV | 6 | 3000 | 180.0 | 8.4 | 3.2 | 3.2 | 1.4 | 4.0 | 8.0 | Q3 |
| TPS3808G09DBVT | SOT-23 | DBV | 6 | 250 | 180.0 | 8.4 | 3.2 | 3.2 | 1.4 | 4.0 | 8.0 | Q3 |
| TPS3808G125DBVR | SOT-23 | DBV | 6 | 3000 | 179.0 | 8.4 | 3.2 | 3.2 | 1.4 | 4.0 | 8.0 | Q3 |
| TPS3808G125DBVRG4 | SOT-23 | DBV | 6 | 3000 | 179.0 | 8.4 | 3.2 | 3.2 | 1.4 | 4.0 | 8.0 | Q3 |
| TPS3808G125DBVT | SOT-23 | DBV | 6 | 250 | 179.0 | 8.4 | 3.2 | 3.2 | 1.4 | 4.0 | 8.0 | Q3 |

| Device | Package Type | Package Drawing | Pins | SPQ | Reel Diameter (mm) | Reel Width W1 (mm) | A0 (mm) | B0 (mm) | K0 (mm) | P1 (mm) | W (mm) | Pin1 Quadrant |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TPS3808G12DBVR | SOT-23 | DBV | 6 | 3000 | 178.0 | 9.0 | 3.23 | 3.17 | 1.37 | 4.0 | 8.0 | Q3 |
| TPS3808G12DBVR1G4 | SOT-23 | DBV | 6 | 3000 | 178.0 | 9.0 | 3.23 | 3.17 | 1.37 | 4.0 | 8.0 | Q3 |
| TPS3808G12DBVT | SOT-23 | DBV | 6 | 250 | 178.0 | 9.0 | 3.23 | 3.17 | 1.37 | 4.0 | 8.0 | Q3 |
| TPS3808G12DRVR | WSON | DRV | 6 | 3000 | 178.0 | 8.4 | 2.25 | 2.25 | 1.0 | 4.0 | 8.0 | Q2 |
| TPS3808G12DRVRG4 | WSON | DRV | 6 | 3000 | 178.0 | 8.4 | 2.25 | 2.25 | 1.0 | 4.0 | 8.0 | Q2 |
| TPS3808G12DRVT | WSON | DRV | 6 | 250 | 178.0 | 8.4 | 2.25 | 2.25 | 1.0 | 4.0 | 8.0 | Q2 |
| TPS3808G12DRVT | WSON | DRV | 6 | 250 | 179.0 | 8.4 | 2.2 | 2.2 | 1.2 | 4.0 | 8.0 | Q2 |
| TPS3808G15DBVR | SOT-23 | DBV | 6 | 3000 | 178.0 | 9.0 | 3.23 | 3.17 | 1.37 | 4.0 | 8.0 | Q3 |
| TPS3808G15DBVT | SOT-23 | DBV | 6 | 250 | 178.0 | 9.0 | 3.23 | 3.17 | 1.37 | 4.0 | 8.0 | Q3 |
| TPS3808G15DBVT1G4 | SOT-23 | DBV | 6 | 250 | 178.0 | 9.0 | 3.23 | 3.17 | 1.37 | 4.0 | 8.0 | Q3 |
| TPS3808G15DRVR | WSON | DRV | 6 | 3000 | 179.0 | 8.4 | 2.2 | 2.2 | 1.2 | 4.0 | 8.0 | Q2 |
| TPS3808G15DRVT | WSON | DRV | 6 | 250 | 179.0 | 8.4 | 2.2 | 2.2 | 1.2 | 4.0 | 8.0 | Q2 |
| TPS3808G18DBVR | SOT-23 | DBV | 6 | 3000 | 180.0 | 8.4 | 3.2 | 3.2 | 1.4 | 4.0 | 8.0 | Q3 |
| TPS3808G18DBVR | SOT-23 | DBV | 6 | 3000 | 178.0 | 9.0 | 3.23 | 3.17 | 1.37 | 4.0 | 8.0 | Q3 |
| TPS3808G18DBVT | SOT-23 | DBV | 6 | 250 | 178.0 | 9.0 | 3.23 | 3.17 | 1.37 | 4.0 | 8.0 | Q3 |
| TPS3808G18DBVT | SOT-23 | DBV | 6 | 250 | 180.0 | 8.4 | 3.2 | 3.2 | 1.4 | 4.0 | 8.0 | Q3 |
| TPS3808G18DBVT1G4 | SOT-23 | DBV | 6 | 250 | 180.0 | 8.4 | 3.2 | 3.2 | 1.4 | 4.0 | 8.0 | Q3 |
| TPS3808G18DRVT | WSON | DRV | 6 | 250 | 179.0 | 8.4 | 2.2 | 2.2 | 1.2 | 4.0 | 8.0 | Q2 |
| TPS3808G19DBVR | SOT-23 | DBV | 6 | 3000 | 178.0 | 9.0 | 3.23 | 3.17 | 1.37 | 4.0 | 8.0 | Q3 |
| TPS3808G19DBVRG4 | SOT-23 | DBV | 6 | 3000 | 178.0 | 9.0 | 3.23 | 3.17 | 1.37 | 4.0 | 8.0 | Q3 |
| TPS3808G19DBVT | SOT-23 | DBV | 6 | 250 | 178.0 | 9.0 | 3.23 | 3.17 | 1.37 | 4.0 | 8.0 | Q3 |
| TPS3808G25DBVR | SOT-23 | DBV | 6 | 3000 | 178.0 | 9.0 | 3.23 | 3.17 | 1.37 | 4.0 | 8.0 | Q3 |
| TPS3808G25DBVR1G4 | SOT-23 | DBV | 6 | 3000 | 178.0 | 9.0 | 3.23 | 3.17 | 1.37 | 4.0 | 8.0 | Q3 |
| TPS3808G25DBVT | SOT-23 | DBV | 6 | 250 | 178.0 | 9.0 | 3.23 | 3.17 | 1.37 | 4.0 | 8.0 | Q3 |
| TPS3808G25DRVR | WSON | DRV | 6 | 3000 | 179.0 | 8.4 | 2.2 | 2.2 | 1.2 | 4.0 | 8.0 | Q2 |
| TPS3808G25DRVT | WSON | DRV | 6 | 250 | 179.0 | 8.4 | 2.2 | 2.2 | 1.2 | 4.0 | 8.0 | Q2 |
| TPS3808G30DBVR | SOT-23 | DBV | 6 | 3000 | 180.0 | 8.4 | 3.2 | 3.2 | 1.4 | 4.0 | 8.0 | Q3 |
| TPS3808G30DBVR | SOT-23 | DBV | 6 | 3000 | 178.0 | 9.0 | 3.23 | 3.17 | 1.37 | 4.0 | 8.0 | Q3 |
| TPS3808G30DBVR1G4 | SOT-23 | DBV | 6 | 3000 | 180.0 | 8.4 | 3.2 | 3.2 | 1.4 | 4.0 | 8.0 | Q3 |
| TPS3808G30DBVT | SOT-23 | DBV | 6 | 250 | 180.0 | 8.4 | 3.2 | 3.2 | 1.4 | 4.0 | 8.0 | Q3 |
| TPS3808G30DRVR | WSON | DRV | 6 | 3000 | 179.0 | 8.4 | 2.2 | 2.2 | 1.2 | 4.0 | 8.0 | Q2 |
| TPS3808G30DRVR | WSON | DRV | 6 | 3000 | 178.0 | 8.4 | 2.25 | 2.25 | 1.0 | 4.0 | 8.0 | Q2 |
| TPS3808G30DRVT | WSON | DRV | 6 | 250 | 179.0 | 8.4 | 2.2 | 2.2 | 1.2 | 4.0 | 8.0 | Q2 |
| TPS3808G30DRVT | WSON | DRV | 6 | 250 | 178.0 | 8.4 | 2.25 | 2.25 | 1.0 | 4.0 | 8.0 | Q2 |
| TPS3808G33DBVR | SOT-23 | DBV | 6 | 3000 | 178.0 | 9.0 | 3.23 | 3.17 | 1.37 | 4.0 | 8.0 | Q3 |
| TPS3808G33DBVR1G4 | SOT-23 | DBV | 6 | 3000 | 178.0 | 9.0 | 3.23 | 3.17 | 1.37 | 4.0 | 8.0 | Q3 |
| TPS3808G33DBVT | SOT-23 | DBV | 6 | 250 | 178.0 | 9.0 | 3.23 | 3.17 | 1.37 | 4.0 | 8.0 | Q3 |
| TPS3808G33DRVR | WSON | DRV | 6 | 3000 | 179.0 | 8.4 | 2.2 | 2.2 | 1.2 | 4.0 | 8.0 | Q2 |
| TPS3808G33DRVT | WSON | DRV | 6 | 250 | 179.0 | 8.4 | 2.2 | 2.2 | 1.2 | 4.0 | 8.0 | Q2 |
| TPS3808G50DBVR | SOT-23 | DBV | 6 | 3000 | 178.0 | 9.0 | 3.23 | 3.17 | 1.37 | 4.0 | 8.0 | Q3 |
| TPS3808G50DBVR1G4 | SOT-23 | DBV | 6 | 3000 | 178.0 | 9.0 | 3.23 | 3.17 | 1.37 | 4.0 | 8.0 | Q3 |

| Device | Package Type | Package Drawing | Pins | SPQ | Reel Diameter (mm) | Reel Width W1 (mm) | A0 (mm) | B0 (mm) | K0 (mm) | P1 (mm) | W (mm) | Pin1 Quadrant |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TPS3808G50DBVT | SOT-23 | DBV | 6 | 250 | 178.0 | 9.0 | 3.23 | 3.17 | 1.37 | 4.0 | 8.0 | Q3 |

TAPE AND REEL BOX DIMENSIONS




*All dimensions are nominal

| Device | Package Type | Package Drawing | Pins | SPQ | Length (mm) | Width (mm) | Height (mm) |
|---|---|---|---|---|---|---|---|
| TPS3808G01DBVR | SOT-23 | DBV | 6 | 3000 | 200.0 | 183.0 | 25.0 |
| TPS3808G01DBVR | SOT-23 | DBV | 6 | 3000 | 180.0 | 180.0 | 18.0 |
| TPS3808G01DBVR | SOT-23 | DBV | 6 | 3000 | 210.0 | 185.0 | 35.0 |
| TPS3808G01DBVR1G4 | SOT-23 | DBV | 6 | 3000 | 210.0 | 185.0 | 35.0 |
| TPS3808G01DBVT | SOT-23 | DBV | 6 | 250 | 180.0 | 180.0 | 18.0 |
| TPS3808G01DBVT | SOT-23 | DBV | 6 | 250 | 210.0 | 185.0 | 35.0 |
| TPS3808G01DRVR | WSON | DRV | 6 | 3000 | 205.0 | 200.0 | 33.0 |
| TPS3808G01DRVR1G4 | WSON | DRV | 6 | 3000 | 205.0 | 200.0 | 33.0 |
| TPS3808G01DRVT | WSON | DRV | 6 | 250 | 203.0 | 203.0 | 35.0 |
| TPS3808G01DRVT | WSON | DRV | 6 | 250 | 205.0 | 200.0 | 33.0 |
| TPS3808G09DBVR | SOT-23 | DBV | 6 | 3000 | 208.0 | 191.0 | 35.0 |
| TPS3808G09DBVR1G4 | SOT-23 | DBV | 6 | 3000 | 210.0 | 185.0 | 35.0 |
| TPS3808G09DBVT | SOT-23 | DBV | 6 | 250 | 210.0 | 185.0 | 35.0 |
| TPS3808G125DBVR | SOT-23 | DBV | 6 | 3000 | 200.0 | 183.0 | 25.0 |
| TPS3808G125DBVRG4 | SOT-23 | DBV | 6 | 3000 | 200.0 | 183.0 | 25.0 |
| TPS3808G125DBVT | SOT-23 | DBV | 6 | 250 | 200.0 | 183.0 | 25.0 |
| TPS3808G12DBVR | SOT-23 | DBV | 6 | 3000 | 180.0 | 180.0 | 18.0 |
| TPS3808G12DBVR1G4 | SOT-23 | DBV | 6 | 3000 | 180.0 | 180.0 | 18.0 |

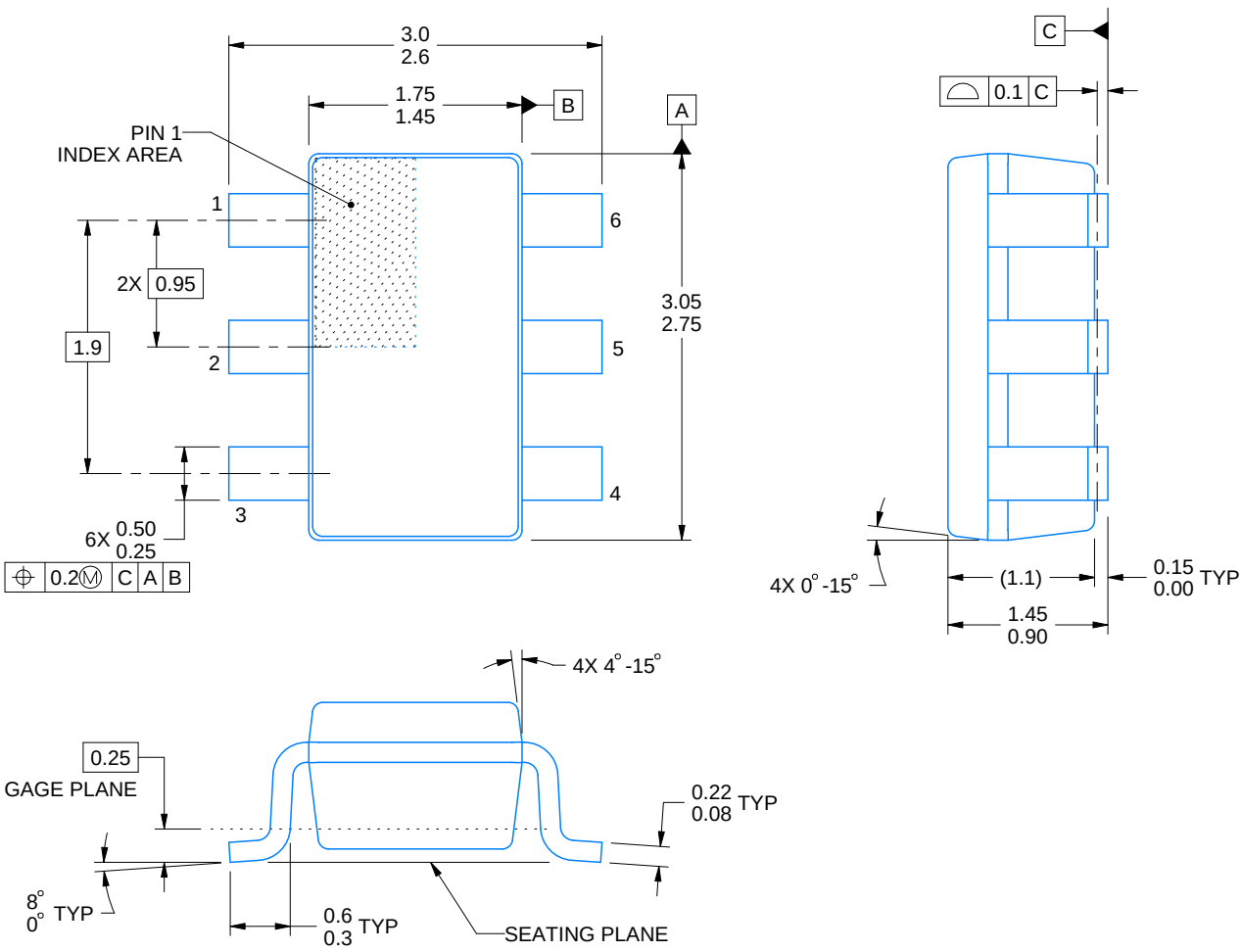
| Device | Package Type | Package Drawing | Pins | SPQ | Length (mm) | Width (mm) | Height (mm) |
|---|---|---|---|---|---|---|---|
| TPS3808G12DBVT | SOT-23 | DBV | 6 | 250 | 180.0 | 180.0 | 18.0 |
| TPS3808G12DRVR | WSON | DRV | 6 | 3000 | 205.0 | 200.0 | 33.0 |
| TPS3808G12DRVRG4 | WSON | DRV | 6 | 3000 | 205.0 | 200.0 | 33.0 |
| TPS3808G12DRVT | WSON | DRV | 6 | 250 | 205.0 | 200.0 | 33.0 |
| TPS3808G12DRVT | WSON | DRV | 6 | 250 | 203.0 | 203.0 | 35.0 |
| TPS3808G15DBVR | SOT-23 | DBV | 6 | 3000 | 180.0 | 180.0 | 18.0 |
| TPS3808G15DBVT | SOT-23 | DBV | 6 | 250 | 180.0 | 180.0 | 18.0 |
| TPS3808G15DBVT1G4 | SOT-23 | DBV | 6 | 250 | 180.0 | 180.0 | 18.0 |
| TPS3808G15DRVR | WSON | DRV | 6 | 3000 | 200.0 | 183.0 | 25.0 |
| TPS3808G15DRVT | WSON | DRV | 6 | 250 | 200.0 | 183.0 | 25.0 |
| TPS3808G18DBVR | SOT-23 | DBV | 6 | 3000 | 210.0 | 185.0 | 35.0 |
| TPS3808G18DBVR | SOT-23 | DBV | 6 | 3000 | 180.0 | 180.0 | 18.0 |
| TPS3808G18DBVT | SOT-23 | DBV | 6 | 250 | 180.0 | 180.0 | 18.0 |
| TPS3808G18DBVT | SOT-23 | DBV | 6 | 250 | 210.0 | 185.0 | 35.0 |
| TPS3808G18DBVT1G4 | SOT-23 | DBV | 6 | 250 | 210.0 | 185.0 | 35.0 |
| TPS3808G18DRVT | WSON | DRV | 6 | 250 | 200.0 | 183.0 | 25.0 |
| TPS3808G19DBVR | SOT-23 | DBV | 6 | 3000 | 180.0 | 180.0 | 18.0 |
| TPS3808G19DBVRG4 | SOT-23 | DBV | 6 | 3000 | 180.0 | 180.0 | 18.0 |
| TPS3808G19DBVT | SOT-23 | DBV | 6 | 250 | 180.0 | 180.0 | 18.0 |
| TPS3808G25DBVR | SOT-23 | DBV | 6 | 3000 | 180.0 | 180.0 | 18.0 |
| TPS3808G25DBVR1G4 | SOT-23 | DBV | 6 | 3000 | 180.0 | 180.0 | 18.0 |
| TPS3808G25DBVT | SOT-23 | DBV | 6 | 250 | 180.0 | 180.0 | 18.0 |
| TPS3808G25DRVR | WSON | DRV | 6 | 3000 | 203.0 | 203.0 | 35.0 |
| TPS3808G25DRVT | WSON | DRV | 6 | 250 | 200.0 | 183.0 | 25.0 |
| TPS3808G30DBVR | SOT-23 | DBV | 6 | 3000 | 210.0 | 185.0 | 35.0 |
| TPS3808G30DBVR | SOT-23 | DBV | 6 | 3000 | 180.0 | 180.0 | 18.0 |
| TPS3808G30DBVR1G4 | SOT-23 | DBV | 6 | 3000 | 210.0 | 185.0 | 35.0 |
| TPS3808G30DBVT | SOT-23 | DBV | 6 | 250 | 210.0 | 185.0 | 35.0 |
| TPS3808G30DRVR | WSON | DRV | 6 | 3000 | 203.0 | 203.0 | 35.0 |
| TPS3808G30DRVR | WSON | DRV | 6 | 3000 | 205.0 | 200.0 | 33.0 |
| TPS3808G30DRVT | WSON | DRV | 6 | 250 | 203.0 | 203.0 | 35.0 |
| TPS3808G30DRVT | WSON | DRV | 6 | 250 | 205.0 | 200.0 | 33.0 |
| TPS3808G33DBVR | SOT-23 | DBV | 6 | 3000 | 180.0 | 180.0 | 18.0 |
| TPS3808G33DBVR1G4 | SOT-23 | DBV | 6 | 3000 | 180.0 | 180.0 | 18.0 |
| TPS3808G33DBVT | SOT-23 | DBV | 6 | 250 | 180.0 | 180.0 | 18.0 |
| TPS3808G33DRVR | WSON | DRV | 6 | 3000 | 200.0 | 183.0 | 25.0 |
| TPS3808G33DRVT | WSON | DRV | 6 | 250 | 200.0 | 183.0 | 25.0 |
| TPS3808G50DBVR | SOT-23 | DBV | 6 | 3000 | 180.0 | 180.0 | 18.0 |
| TPS3808G50DBVR1G4 | SOT-23 | DBV | 6 | 3000 | 180.0 | 180.0 | 18.0 |
| TPS3808G50DBVT | SOT-23 | DBV | 6 | 250 | 180.0 | 180.0 | 18.0 |

# PACKAGE OUTLINE

## DBV0006A

## SOT-23 - 1.45 mm max height

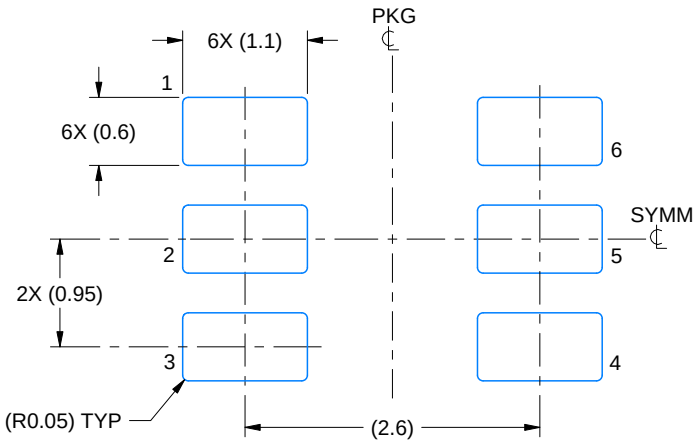
SMALL OUTLINE TRANSISTOR



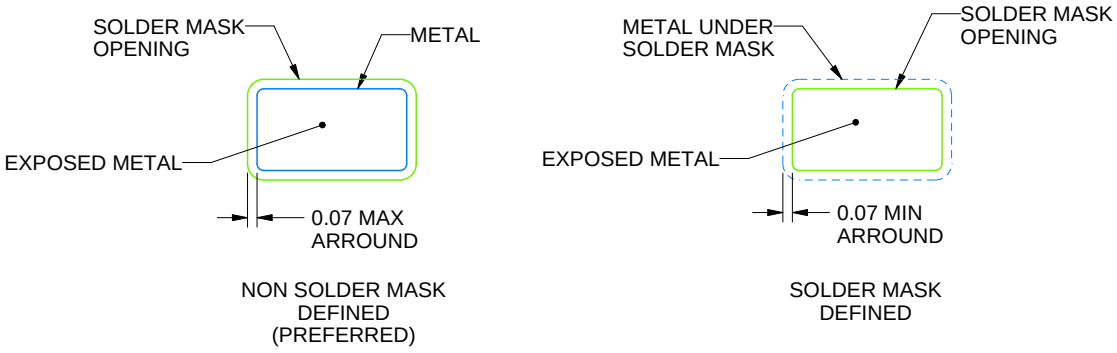

4214840/G 08/2024

NOTES:

1. All linear dimensions are in millimeters. Any dimensions in parenthesis are for reference only. Dimensioning and tolerancing per ASME Y14.5M.
2. This drawing is subject to change without notice.
3. Body dimensions do not include mold flash or protrusion. Mold flash and protrusion shall not exceed 0.25 per side.
4. Leads 1,2,3 may be wider than leads 4,5,6 for package orientation.
5. Refernce JEDEC MO-178.




LAND PATTERN EXAMPLE
EXPOSED METAL SHOWN
SCALE:15X

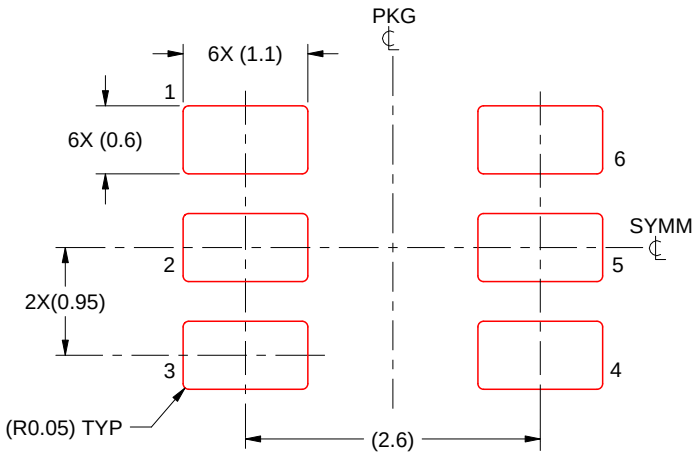



SOLDER MASK DETAILS

4214840/G 08/2024

NOTES: (continued)

6. Publication IPC-7351 may have alternate designs.
7. Solder mask tolerances between and around signal pads can vary based on board fabrication site.




SOLDER PASTE EXAMPLE
BASED ON 0.125 mm THICK STENCIL
SCALE:15X

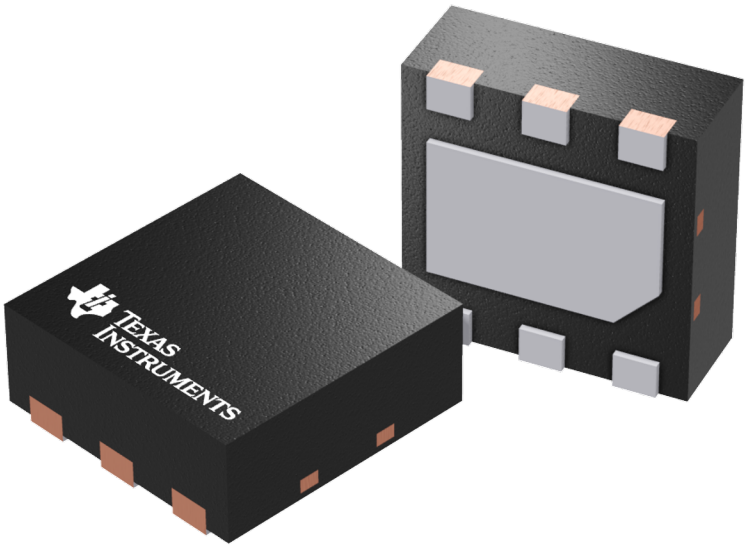
4214840/G 08/2024

NOTES: (continued)

8. Laser cutting apertures with trapezoidal walls and rounded corners may offer better paste release. IPC-7525 may have alternate design recommendations.
9. Board assembly site may have different recommendations for stencil design.

# DRV 6 WSON - 0.8 mm max height

PLASTIC SMALL OUTLINE - NO LEAD



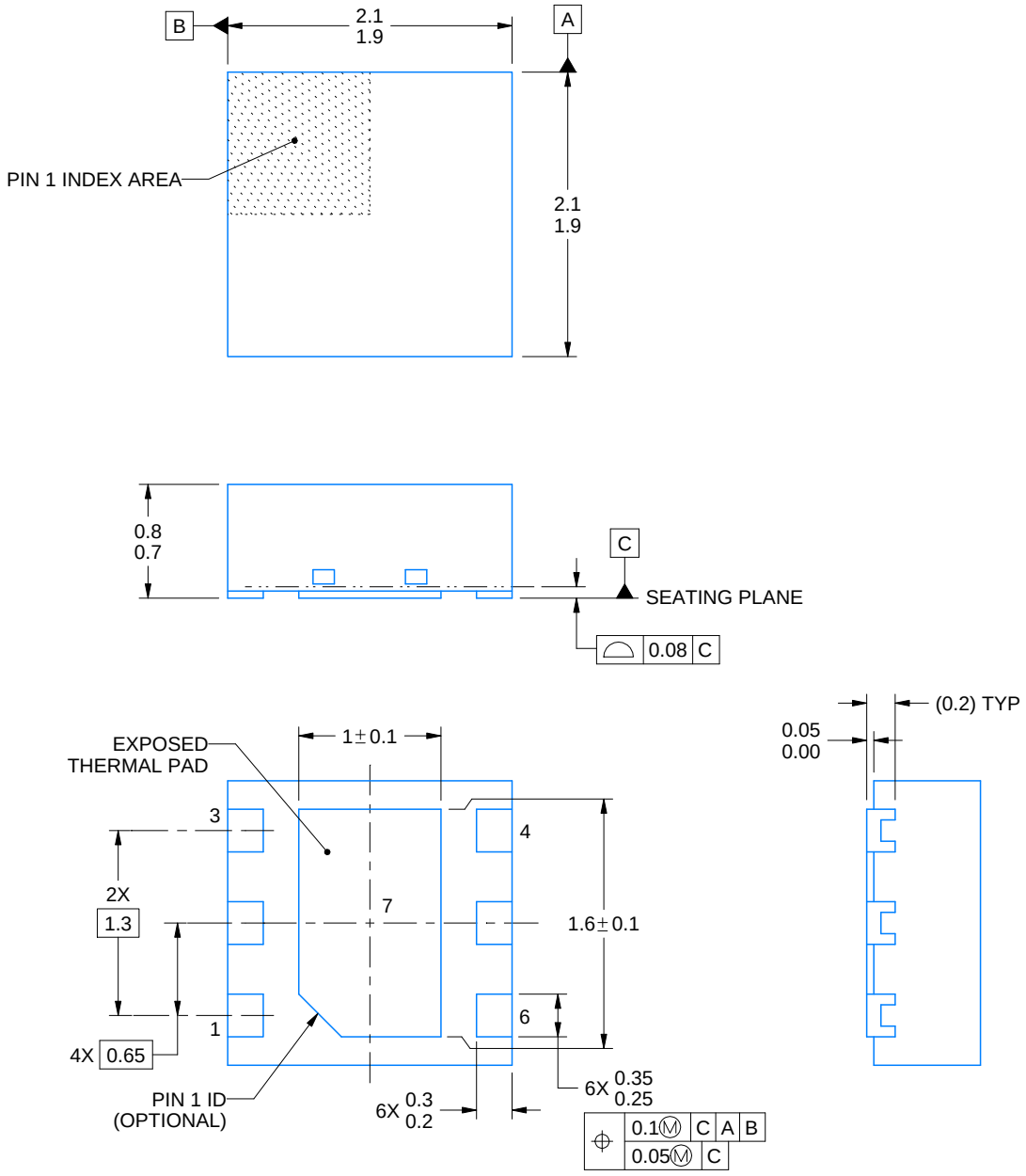

Images above are just a representation of the package family, actual package may vary.
Refer to the product data sheet for package details.

# DRV0006D

# PACKAGE OUTLINE

## WSON - 0.8 mm max height

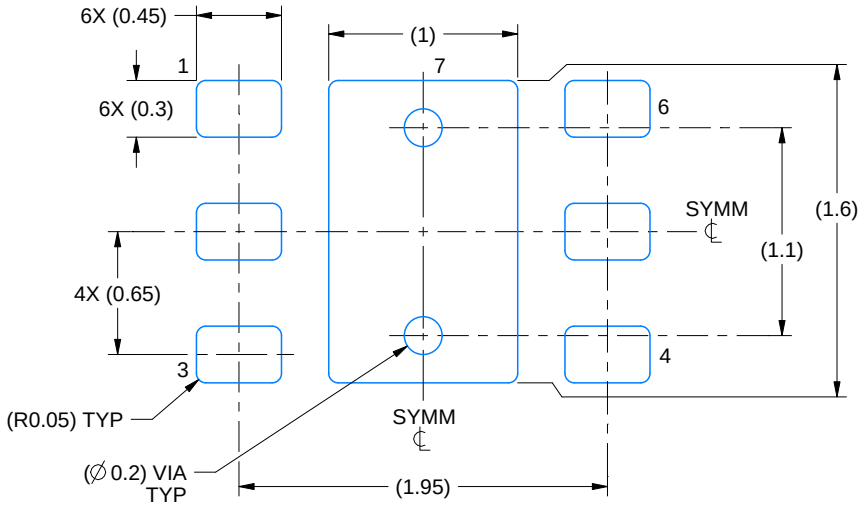
PLASTIC SMALL OUTLINE - NO LEAD



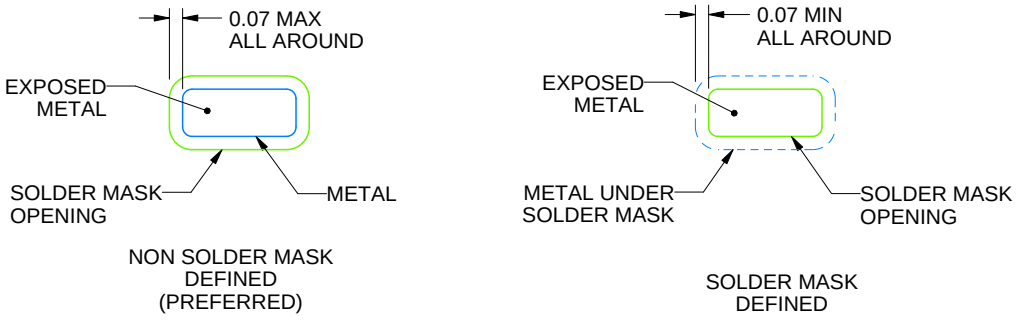

4225563/A 12/2019

NOTES:

1. All linear dimensions are in millimeters. Any dimensions in parenthesis are for reference only. Dimensioning and tolerancing per ASME Y14.5M.
2. This drawing is subject to change without notice.
3. The package thermal pad must be soldered to the printed circuit board for thermal and mechanical performance.




LAND PATTERN EXAMPLE
EXPOSED METAL SHOWN
SCALE:25X

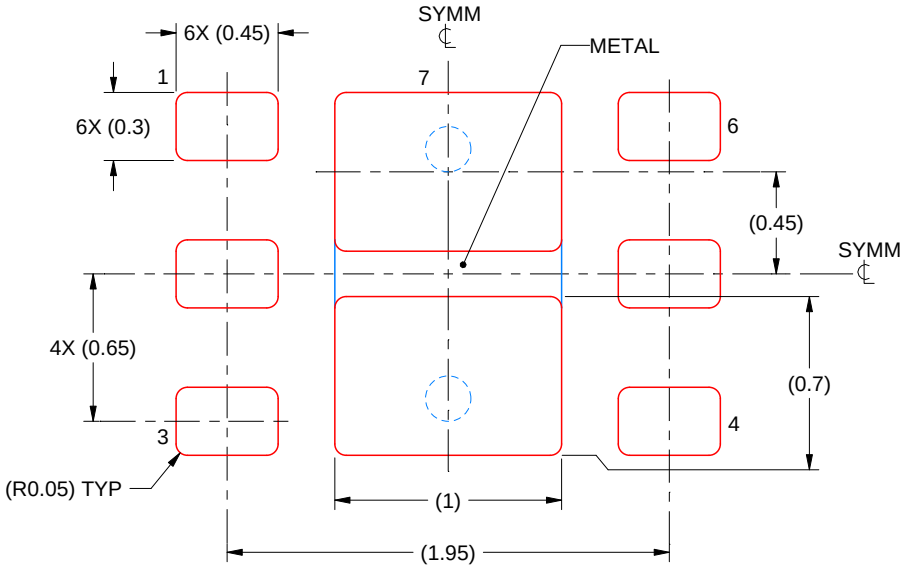



SOLDER MASK DETAILS

4225563/A 12/2019

NOTES: (continued)

4. This package is designed to be soldered to a thermal pad on the board. For more information, see Texas Instruments literature number SLUA271 (www.ti.com/lit/slua271).
5. Vias are optional depending on application, refer to device data sheet. If some or all are implemented, recommended via locations are shown.



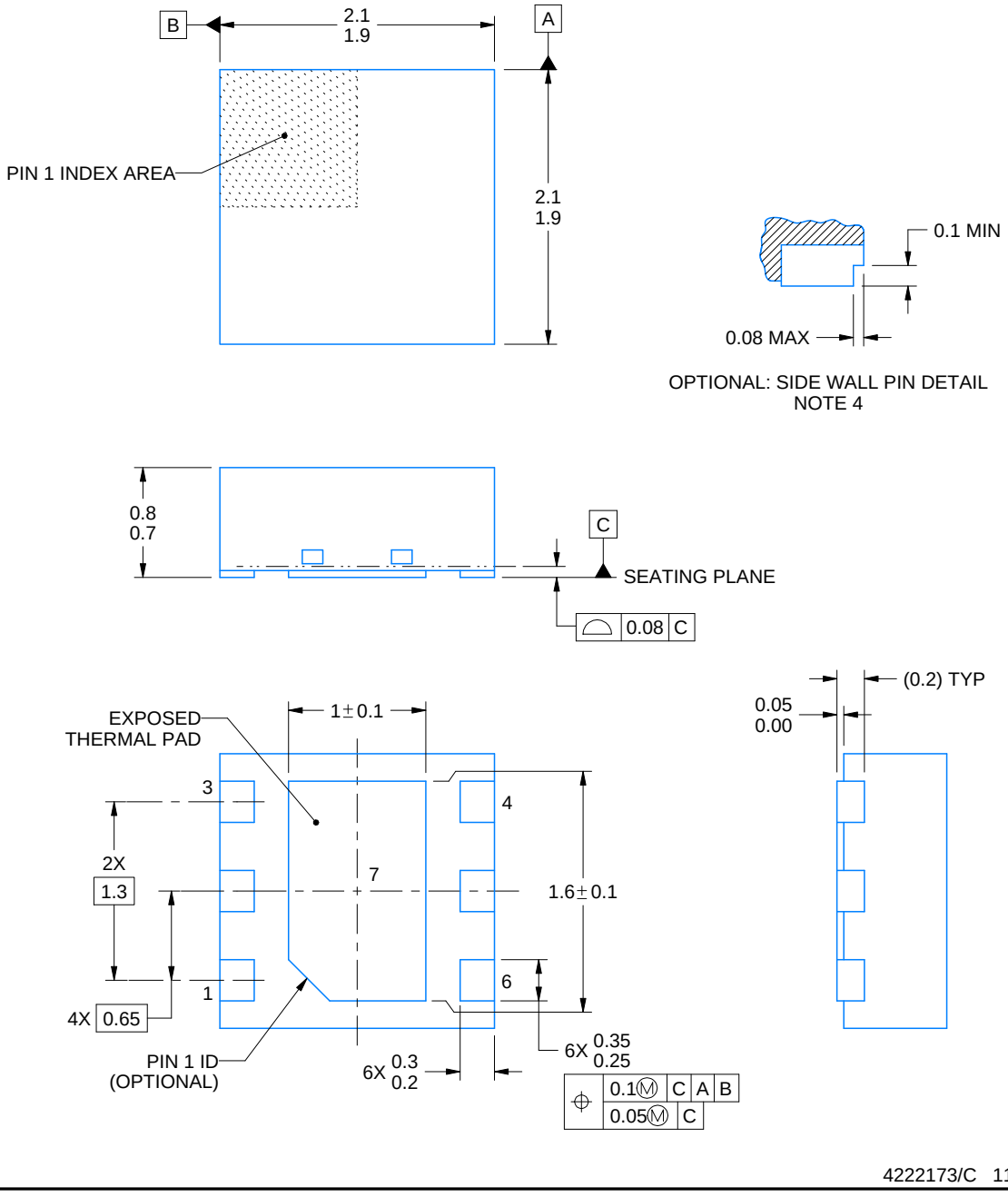

SOLDER PASTE EXAMPLE
BASED ON 0.125 mm THICK STENCIL

EXPOSED PAD #7
88% PRINTED SOLDER COVERAGE BY AREA UNDER PACKAGE
SCALE:30X

4225563/A 12/2019

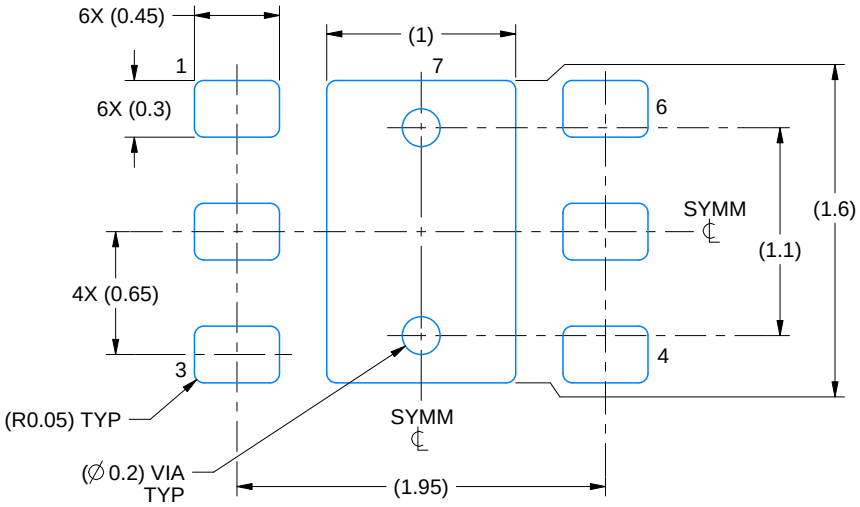
NOTES: (continued)

6. Laser cutting apertures with trapezoidal walls and rounded corners may offer better paste release. IPC-7525 may have alternate design recommendations.

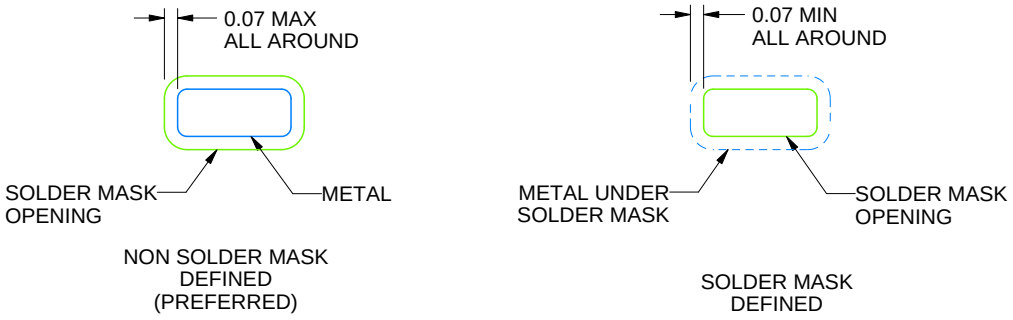



NOTES:

1. All linear dimensions are in millimeters. Any dimensions in parenthesis are for reference only. Dimensioning and tolerancing per ASME Y14.5M.
2. This drawing is subject to change without notice.
3. The package thermal pad must be soldered to the printed circuit board for thermal and mechanical performance.
4. Minimum 0.1 mm solder wetting on pin side wall. Available for wettable flank version only.




LAND PATTERN EXAMPLE
SCALE:25X

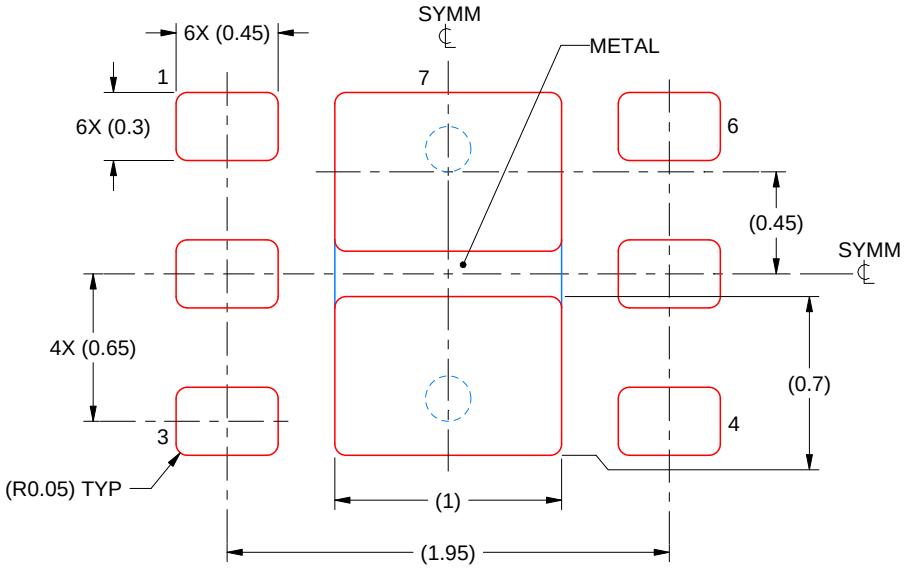



SOLDER MASK DETAILS

4222173/C 11/2025

NOTES: (continued)

5. This package is designed to be soldered to a thermal pad on the board. For more information, see Texas Instruments literature number SLUA271 (www.ti.com/lit/slua271).
6. Vias are optional depending on application, refer to device data sheet. If some or all are implemented, recommended via locations are shown.




SOLDER PASTE EXAMPLE
BASED ON 0.125 mm THICK STENCIL

EXPOSED PAD #7
88% PRINTED SOLDER COVERAGE BY AREA UNDER PACKAGE
SCALE:30X

4222173/C 11/2025

NOTES: (continued)

7. Laser cutting apertures with trapezoidal walls and rounded corners may offer better paste release. IPC-7525 may have alternate design recommendations.

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最終更新日：2025 年 10 月