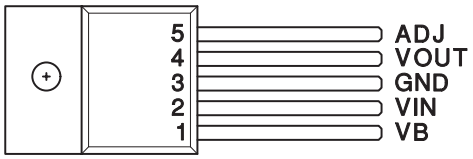
# UC285-1, UC285-2, UC285-3, UC285-ADJ, UC385-1, UC385-2, UC385-3, UC385-ADJ
# FAST TRANSIENT RESPONSE 5-A LOW-DROPOUT REGULATOR

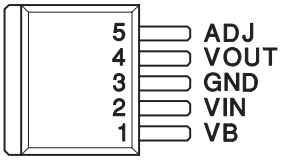
SLUS212F − NOVEMBER 1999 − REVISED MAY 2009

- **Fast Transient Response**
- **10-mA to 5-A Load Current**
- **Short Circuit Protection**
- **Maximum Dropout of 500-mV at 5-A Load Current**
- **Separate Bias (VB) and VIN Pins**
- **Available in Adjustable or Fixed Output Voltages**
- **5-Pin Package Allows Kelvin Sensing of Load Voltage**
- **Reverse Current Protection**

**5-PIN TO-220**
**T PACKAGE (TOP VIEW)**




**5-PIN TO-263**
**TD PACKAGE**
**(TOP VIEW)**




*Note: Tab = Ground*

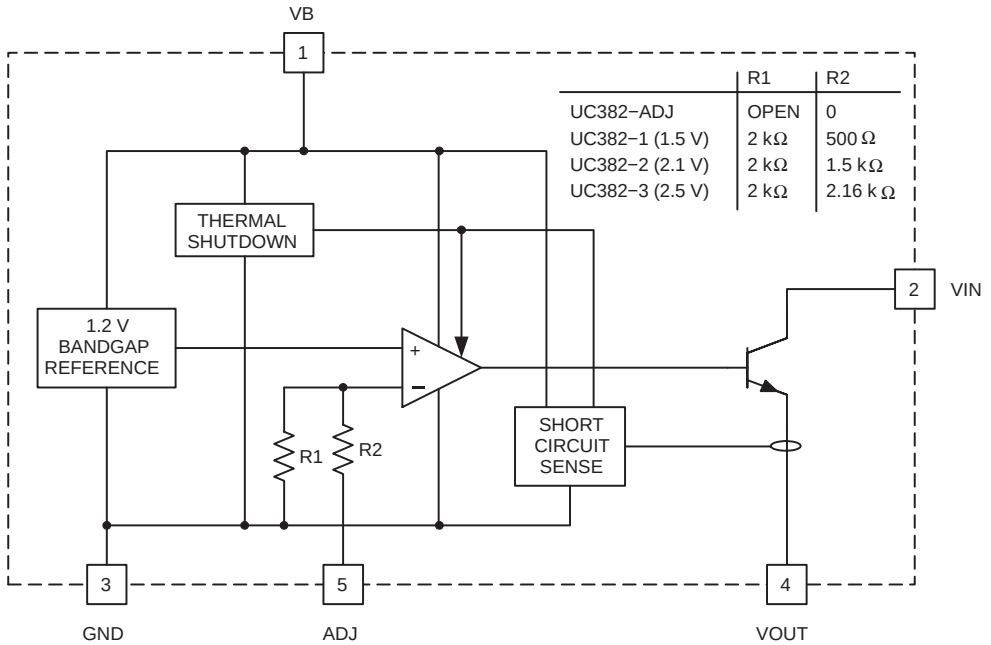
## description

The UC385 is a low dropout linear regulator providing a quick response to fast load changes. Combined with its precision onboard reference, the UC385 excels at driving GTL and BTL buses. Due to its fast response to load transients, the total capacitance required to decouple the regulator's output can be significantly decreased when compared to standard LDO linear regulators.

Dropout voltage (VIN to VOUT) is only 490 mV maximum and 350 mV typical at 5-A load (0°C to 100°C).

The onboard bandgap reference is stable with temperature and scaled for a 1.2 V input to the internal power amplifier. The UC385 is available in fixed output voltages of 1.5 V, 2.1 V, or 2.5 V. The output voltage of the adjustable version can be set with two external resistors. If the external resistors are omitted, the output voltage defaults to 1.2 V.

## block diagram




UDG-00084

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### absolute maximum ratings over operating free-air temperature (unless otherwise noted)†

VB . . . . . 13 V
VIN . . . . . 7.5 V
Output voltage . . . . . 1.2 V to −6.0 V
Storage temperature . . . . . −65°C to 150°C
Junction temperature . . . . . −55°C to 150°C
Lead temperature (soldering, 10 seconds) . . . . . 300°C

† Stresses beyond those listed under “absolute maximum ratings” may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated under “recommended operating conditions” is not implied. Exposure to absolute-maximum-rated conditions for extended periods may affect device reliability.

**AVAILABLE OPTIONS(1)**

| $T_J$ | PACKAGED DEVICES | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | TO-220 (T) | | | | TO−263 (TD)(2) | | | |
| | OUTPUT VOLTAGE | | | | OUTPUT VOLTAGE | | | |
| | 1.5 V | 2.1 V | 2.5 V | 1.2 V or ADJ | 1.5 V | 2.1 V | 2.5 V | 1.2 V or ADJ |
| –40°C to 100°C | 285T-1 | 285T-2 | 285T-3 | 285T-ADJ | 285TD-1 | 285TD-2 | 285TD-3 | 285TD-ADJ |
| 0°C to 100°C | 385T-1 | 385T-2 | 385T-3 | 385T-ADJ | 385TD-1 | 385TD-2 | 385TD-3 | 385TD-ADJ |

1. For more package and ordering information, see the Package Option Addendum located at the end of this data sheet.
2. For 50 piece reel, add KTTT (e.g., UC285TDKTTT−1); for 500 piece reel, add TR (e.g., UC285TDTR−1).

### electrical characteristics unless otherwise stated, these parameters apply for $T_A$ = −40°C to 100°C for the UC285-x series and 0°C to 100°C for the UC385-x, VB = 5 V; VIN = 3.3 V, VOUT = 2.5 V, $T_A = T_J$.

| PARAMETER | | TEST CONDITION | MIN | TYP | MAX | UNIT |
|---|---|---|---|---|---|---|
| **UC385-3 Fixed 2.5 V, 5-A Family** | | | | | | |
| Output voltage | UC385-3 | $I_{VOUT}$ = 100 mA | 2.475 | 2.5 | 2.525 | V |
| | UC285-3 | $I_{VOUT}$ = 100 mA | 2.45 | 2.5 | 2.525 | V |
| Load regulation | | $I_{VOUT}$ = 10 mA to 5 A | | 0.5 | 4 | mV |
| VIN PSRR | | | 80 | 110 | | dB |
| VB PSRR | | | 50 | 65 | | dB |
| VIN dropout voltage (VIN - VOUT) | | $I_{VOUT}$ = 5 A, $T_J$ = 25°C | | 350 | 425 | mV |
| | UC385-3 | $I_{VOUT}$ = 5 A | | 350 | 490 | mV |
| | UC285-3 | $I_{VOUT}$ = 5 A | | 350 | 500 | mV |
| VB dropout (VB - VOUT) | UC385-3 | $I_{VOUT}$ = 5 A | | 1.8 | 2.1 | V |
| | UC285-3 | $I_{VOUT}$ = 5 A | | 1.8 | 2.2 | V |
| Short circuit current limit | | | 5.1 | | 7.5 | A |
| VB current | | $I_{VOUT}$ = 10 mA | | 8 | 15 | mA |
| | | $I_{VOUT}$ = 5 A | | 40 | 100 | mA |
| VIN current | | $I_{VOUT}$ = 5 A | 4.9 | 4.96 | | A |
| **UC385-2 Fixed 2.1 V, 5-A Family** | | | | | | |
| Output voltage | UC385-2 | $I_{VOUT}$ = 100 mA | 2.079 | 2.1 | 2.121 | V |
| | UC285-2 | $I_{VOUT}$ = 100 mA | 2.058 | 2.1 | 2.121 | V |
| Load regulation | | $I_{VOUT}$ = 10 mA to 5 A | | 0.5 | 4 | mV |
| VIN PSRR | | | 80 | 110 | | dB |
| VB PSRR | | | 50 | 67 | | dB |

**electrical characteristics unless otherwise stated, these parameters apply for $T_A$ = −40°C to 100°C for the UC285-x series and 0°C to 100°C for the UC385-x, VB = 5 V; VIN = 3.3 V, VOUT = 2.5 V, $T_A = T_J$.**

| PARAMETER | | TEST CONDITION | MIN | TYP | MAX | UNIT |
|---|---|---|---|---|---|---|
| **UC385−2 Fixed 2.1 V, 5-A Family (continued)** | | | | | | |
| VIN dropout voltage (VIN - VOUT) | | $I_{VOUT}$ = 5 A, $T_J$ = 25°C | | 350 | 425 | mV |
| | UC385-2 | $I_{VOUT}$ = 5 A | | 350 | 490 | mV |
| | UC285-2 | $I_{VOUT}$ = 5 A | | 350 | 500 | mV |
| VB dropout (VB - VOUT) | UC385-2 | $I_{VOUT}$ = 5 A | | 1.8 | 2.1 | V |
| | UC285-2 | $I_{VOUT}$ = 5 A | | 1.8 | 2.2 | V |
| Short circuit current limit | | | 5.1 | | 7.5 | A |
| VB current | | $I_{VOUT}$ = 10 mA | | 8 | 15 | mA |
| | | $I_{VOUT}$ = 5 A | | 40 | 100 | mA |
| VIN current | | $I_{VOUT}$ = 5 A | 4.9 | 4.96 | | A |
| **UC385−1 Fixed 1.5 V, 5-A Family** | | | | | | |
| Output voltage | UC385-1 | $I_{VOUT}$ = 100 mA | 1.485 | 1.5 | 1.515 | V |
| | UC285-1 | $I_{VOUT}$ = 100 mA | 1.470 | 1.5 | 1.515 | V |
| Load regulation | | $I_{VOUT}$ = 10 mA to 5 A | | 0.5 | 4 | mV |
| VIN PSRR | | | 80 | 110 | | dB |
| VB PSRR | | | 50 | 65 | | dB |
| VIN dropout voltage (VIN - VOUT) | | $I_{VOUT}$ = 5 A, $T_J$ = 25°C | | 350 | 425 | mV |
| | UC285-1 | $I_{VOUT}$ 5 A | | 350 | 490 | mV |
| | UC285-2 | $I_{VOUT}$ = 5 A | | 350 | 500 | mV |
| VB dropout (VB - VOUT) | UC385-1 | $I_{VOUT}$ = 5 A | | 1.8 | 2.1 | V |
| | UC285-1 | $I_{VOUT}$ = 5 A | | 1.8 | 2.2 | V |
| Short circuit current limit | | | 5.1 | | 7.5 | A |
| VB current | | $I_{VOUT}$ = 10 mA | | 8 | 15 | mA |
| | | $I_{VOUT}$ = 5 A | | 40 | 100 | mA |
| VIN = current | | $I_{VOUT}$ = 5 A | 4.9 | 4.96 | | A |
| **UC385-ADJ Adjustable, 5-A Family** | | | | | | |
| ADJ voltage | UC385-ADJ | $I_{VOUT}$ - 100 mA | 1.188 | 1.2 | 1.212 | V |
| | UC285-ADJ | $I_{VOUT}$ - 100 mA | 1.176 | 1.2 | 1.212 | V |
| Load regulation | | $I_{VOUT}$ = 10 mA to 5 A | | 0.5 | 4 | mV |
| VIN PSRR | | VOUT programmed for 2.5 V | 80 | 110 | | dB |
| VB PSRR VOUT | | Programmed for 2.5 V | 50 | 65 | | dB |
| VIN dropout voltage (VIN - VOUT) | | $I_{VOUT}$ = 5 A, $T_J$ = 25°C | | 350 | 425 | mV |
| | UC385-ADJ | $I_{VOUT}$ = 5 A | | 350 | 490 | mV |
| | UC285-ADJ | $I_{VOUT}$ = 5 A | | 350 | 500 | mV |
| VB dropout (VB - VOUT) | UC385-ADJ | $I_{VOUT}$ = 5 A | | 1.8 | 2.1 | V |
| | UC285-ADJ | $I_{VOUT}$ = 5 A | | 1.8 | 2.2 | V |
| Short circuit current limit | | | 5.1 | | 7.5 | A |
| VB current | | $I_{VOUT}$ = 10 mA | | 8 | 15 | mA |
| | | $I_{VOUT}$ = 5 A | | 40 | 100 | mA |
| VIN current | | $I_{VOUT}$ = 5 A | 4.9 | 4.96 | | A |

## pin descriptions

**ADJ:** In the adjustable version, the user programs the output voltage with two external resistors. The resistors should be 0.1% for high accuracy. The output amplifier is configured as a noninverting operational amplifier. The resistors should meet the criteria of R3 || R4 < 100 Ω. Connect ADJ to VOUT for an output voltage of 1.2 V. Note that the point at which the feedback network is connected to the output is the Kelvin sense point.

**GND:** For accurate results, the GND pin should be referenced to the load ground.

**VB:** Supplies power to all circuits of the regulator except the output power transistor. The 2-V headroom from VB to VOUT allows the use of a Darlington output stage for inherently low output impedance and fast response. (Dropout is derated for junction temperatures below 0°C.)

**VIN:** Supplies the current to the collector of the output power transistor only. The dropout (VIN-VOUT) is under 100 mV for light loads; maximum dropout is 490 mV at 5 A for $T_J$ = 0°C to 100°C. (Dropout is derated for junction temperatures over 100°C.)

**VOUT:** This pin should be connected to the load via a low impedance path. Avoid connectors which add significant inductance and resistance. Note that even though a Kelvin sense is available through a 5-pin package, care must be taken since voltage drops along wire traces add to the dropout voltage.

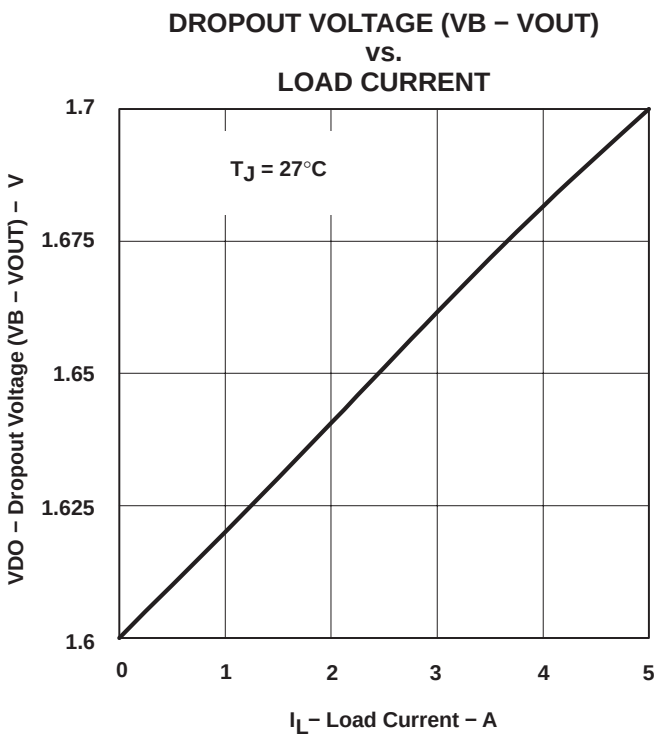



Figure 1

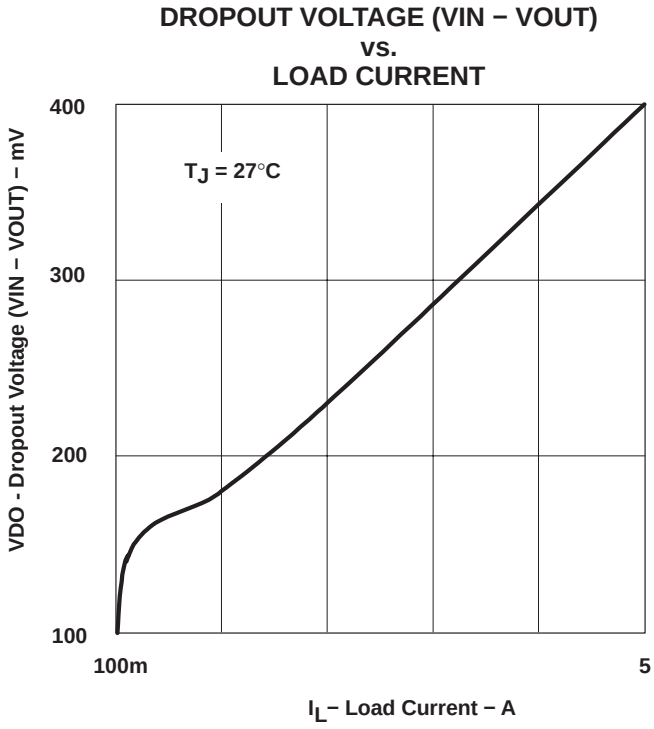



Figure 2

## APPLICATION INFORMATION

The UC385 is easy to use. The adjustable version requires two resistors to set the output voltage. The fixed versions of the UC385 require no external resistors. All versions of the UC385 require decoupling capacitors on the input and output. In a typical application, VB and VIN are driven from switching power supplies which may have large filter capacitors at their outputs. If the UC385 is further than 12 inches from the power supply, it is recommended to add local decoupling as close as possible to the linear regulator.

Decouple the output of the UC385 with at least 100 μF of high quality tantalum or Sanyo OSCON capacitors close to the VOUT pin for maximum stability. Many applications involving ultrafast GTL or BTL applications require additional capacitance close to the load. The exact amount will vary according to speed and magnitude of the load transients and the tolerance allowed for transients on VOUT. When specifying the decoupling capacitors, the series resistance of the capacitor bank is an important factor in its ability to filter load transients.

The UC385 allows for Kelvin sensing the voltage at the load. This improves regulation performance and eliminates the voltage drops due to wire trace resistance. This voltage drop must be added to the headroom (VIN to VOUT and VB to VOUT). The dropout of 350 mV is measured at the pins and does not include additional drops due to trace resistance.

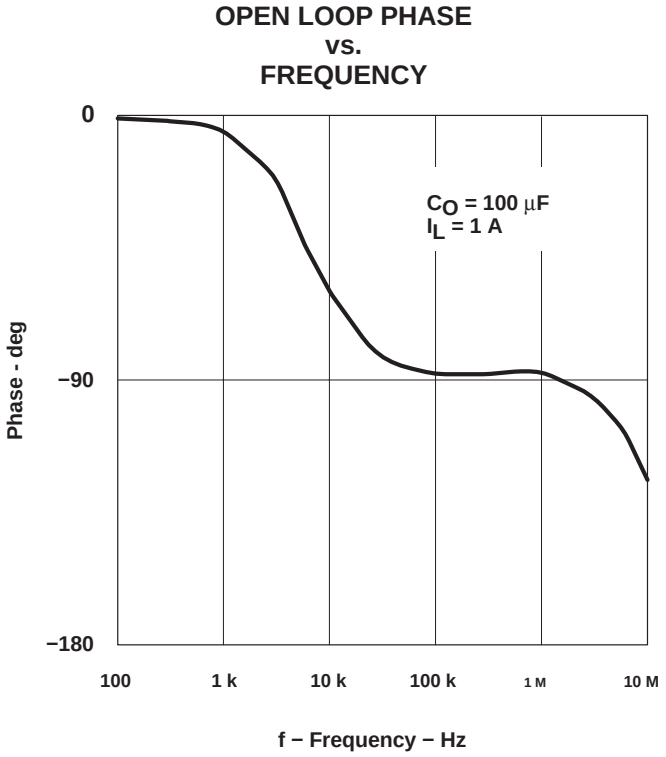



**Figure 3**

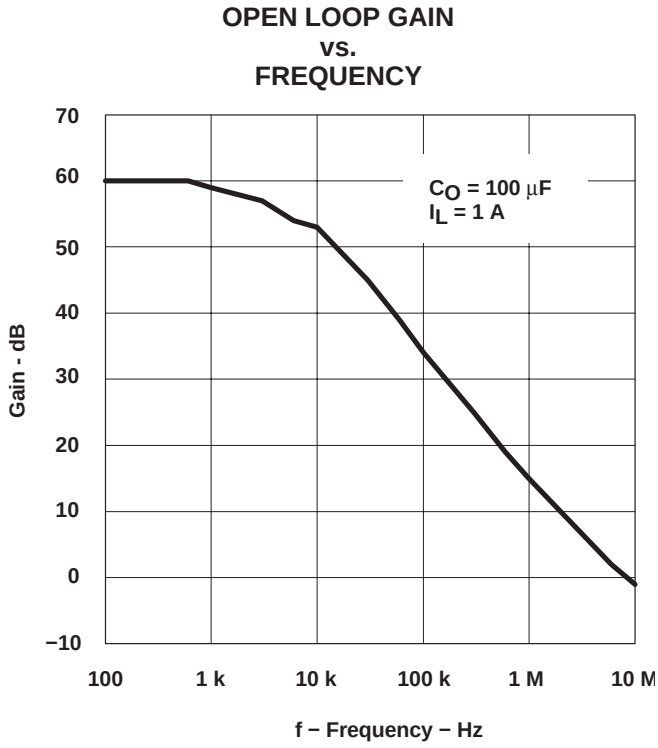



**Figure 4**

## APPLICATION INFORMATION

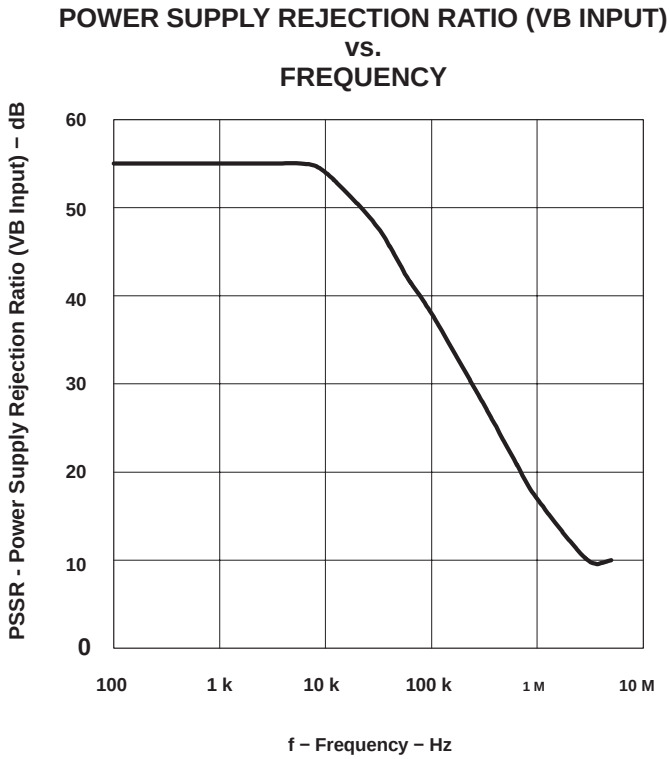
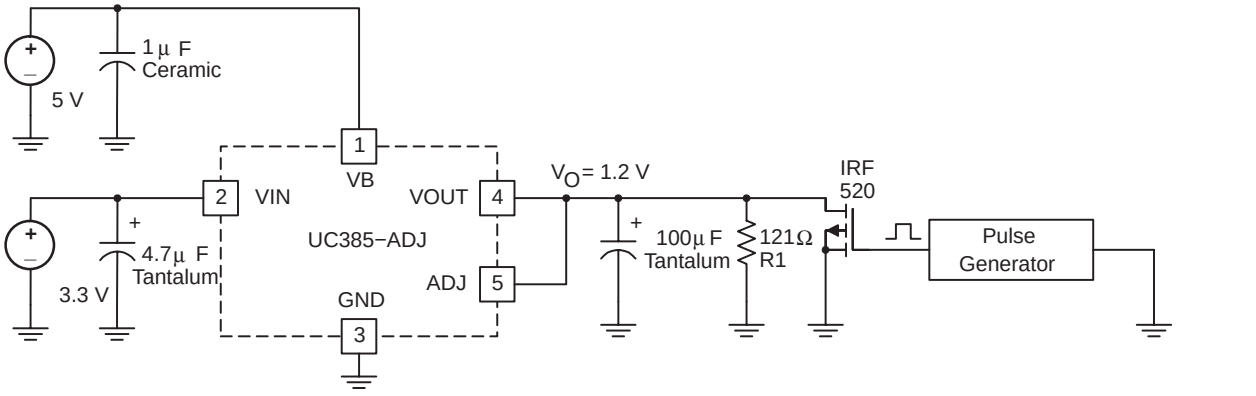



**Figure 5**




UDG-00085

**Figure 6. Transient Test Circuit**

## APPLICATION INFORMATION

### 10 mA to 3 A/μs Load Transient Response

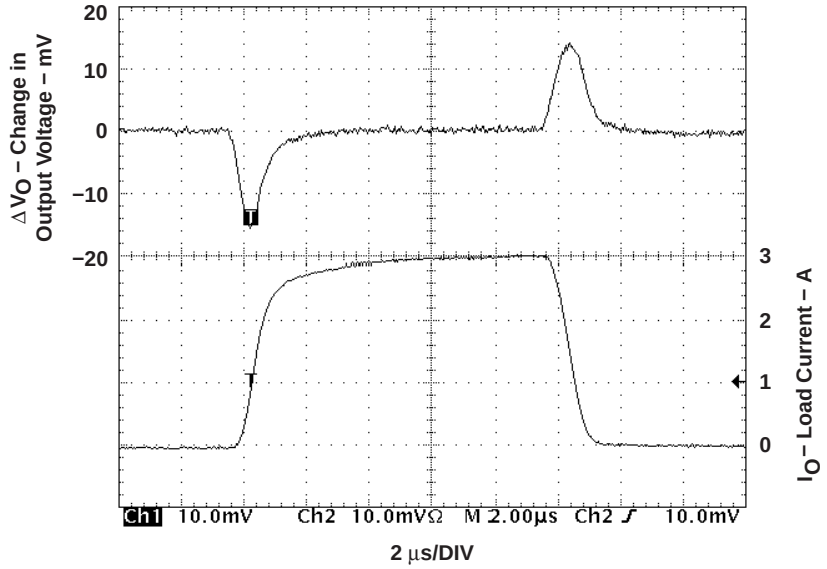
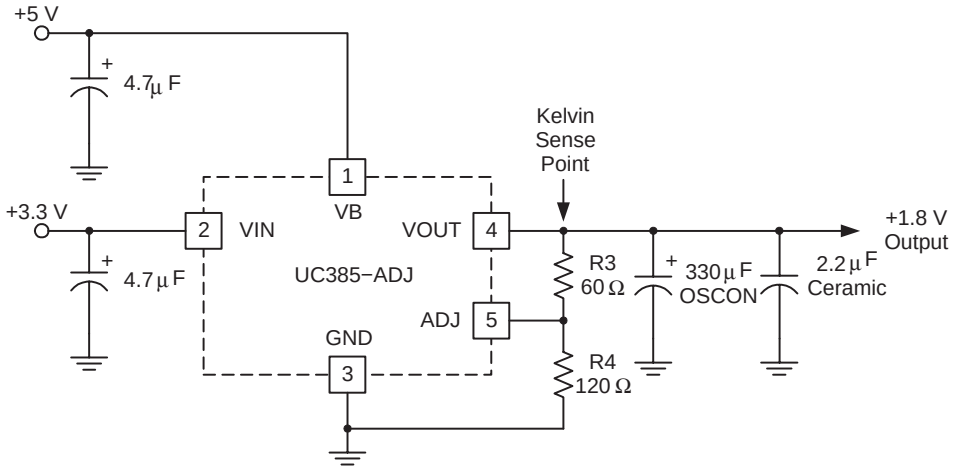



**Figure 7**




UDG-00086

**Figure 8. Typical UC385-ADJ Application**

## APPLICATION INFORMATION

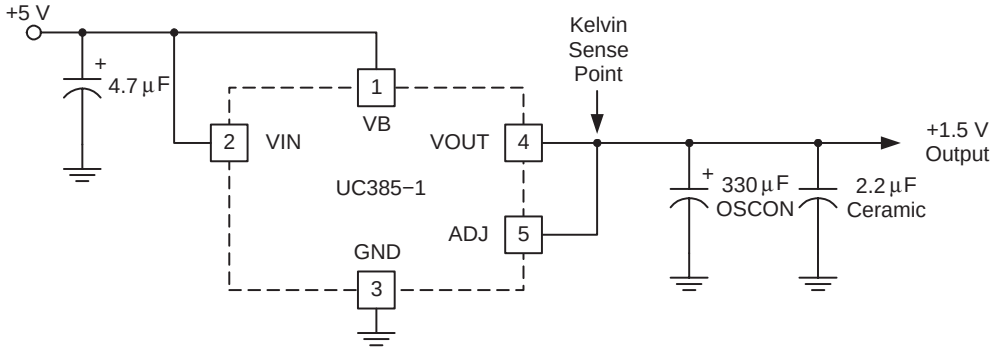



**Figure 9. Typical UC385-1, -2, or -3 Application**

## Revision History

| DATE | REV | PAGE | SECTION | DESCRIPTION |
|---|---|---|---|---|
| 5/09 | F | 2 | Absolute Maximum Ratings | Added VB. |

NOTE: Page numbers for previous revisions may differ from page numbers in the current version.

## PACKAGING INFORMATION

| Orderable Device | Status (1) | Package Type | Package Drawing | Pins | Package Qty | Eco Plan (2) | Lead/Ball Finish | MSL Peak Temp (3) |
|---|---|---|---|---|---|---|---|---|
| UC285T-1 | ACTIVE | TO-220 | KC | 5 | 50 | Green (RoHS & no Sb/Br) | CU SN | N / A for Pkg Type |
| UC285T-1G3 | ACTIVE | TO-220 | KC | 5 | 50 | Green (RoHS & no Sb/Br) | CU SN | N / A for Pkg Type |
| UC285T-3 | ACTIVE | TO-220 | KC | 5 | 50 | Green (RoHS & no Sb/Br) | CU SN | N / A for Pkg Type |
| UC285T-3G3 | ACTIVE | TO-220 | KC | 5 | 50 | Green (RoHS & no Sb/Br) | CU SN | N / A for Pkg Type |
| UC285T-ADJ | ACTIVE | TO-220 | KC | 5 | 50 | Green (RoHS & no Sb/Br) | CU SN | N / A for Pkg Type |
| UC285T-ADJG3 | ACTIVE | TO-220 | KC | 5 | 50 | Green (RoHS & no Sb/Br) | CU SN | N / A for Pkg Type |
| UC285TD-1 | OBSOLETE | DDPAK/ TO-263 | KTT | 5 | | TBD | Call TI | Call TI |
| UC285TD-2 | OBSOLETE | DDPAK/ TO-263 | KTT | 5 | | TBD | Call TI | Call TI |
| UC285TD-3 | OBSOLETE | DDPAK/ TO-263 | KTT | 5 | | TBD | Call TI | Call TI |
| UC285TD-ADJ | OBSOLETE | DDPAK/ TO-263 | KTT | 5 | | TBD | Call TI | Call TI |
| UC285TDKTTT-1 | ACTIVE | DDPAK/ TO-263 | KTT | 5 | 50 | Green (RoHS & no Sb/Br) | CU SN | Level-2-260C-1 YEAR |
| UC285TDKTTT-1G3 | ACTIVE | DDPAK/ TO-263 | KTT | 5 | 50 | Green (RoHS & no Sb/Br) | CU SN | Level-2-260C-1 YEAR |
| UC285TDKTTT-3 | ACTIVE | DDPAK/ TO-263 | KTT | 5 | 50 | Green (RoHS & no Sb/Br) | CU SN | Level-2-260C-1 YEAR |
| UC285TDKTTT-3G3 | ACTIVE | DDPAK/ TO-263 | KTT | 5 | 50 | Green (RoHS & no Sb/Br) | CU SN | Level-2-260C-1 YEAR |
| UC285TDKTTT-ADJ | ACTIVE | DDPAK/ TO-263 | KTT | 5 | 50 | Green (RoHS & no Sb/Br) | CU SN | Level-2-260C-1 YEAR |
| UC285TDKTTT-ADJG3 | ACTIVE | DDPAK/ TO-263 | KTT | 5 | 50 | Green (RoHS & no Sb/Br) | CU SN | Level-2-260C-1 YEAR |
| UC385T-1 | ACTIVE | TO-220 | KC | 5 | 50 | Green (RoHS & no Sb/Br) | CU SN | N / A for Pkg Type |
| UC385T-1G3 | ACTIVE | TO-220 | KC | 5 | 50 | Green (RoHS & no Sb/Br) | CU SN | N / A for Pkg Type |
| UC385T-2 | ACTIVE | TO-220 | KC | 5 | 50 | Green (RoHS & no Sb/Br) | CU SN | N / A for Pkg Type |
| UC385T-2G3 | ACTIVE | TO-220 | KC | 5 | 50 | Green (RoHS & no Sb/Br) | CU SN | N / A for Pkg Type |
| UC385T-3 | ACTIVE | TO-220 | KC | 5 | 50 | Green (RoHS & no Sb/Br) | CU SN | N / A for Pkg Type |
| UC385T-3G3 | ACTIVE | TO-220 | KC | 5 | 50 | Green (RoHS & no Sb/Br) | CU SN | N / A for Pkg Type |
| UC385T-ADJ | ACTIVE | TO-220 | KC | 5 | 50 | Green (RoHS & no Sb/Br) | CU SN | N / A for Pkg Type |
| UC385T-ADJG3 | ACTIVE | TO-220 | KC | 5 | 50 | Green (RoHS & no Sb/Br) | CU SN | N / A for Pkg Type |
| UC385TD-1 | OBSOLETE | DDPAK/ TO-263 | KTT | 5 | | TBD | Call TI | Call TI |

| Orderable Device | Status (1) | Package Type | Package Drawing | Pins | Package Qty | Eco Plan (2) | Lead/Ball Finish | MSL Peak Temp (3) |
|---|---|---|---|---|---|---|---|---|
| UC385TD-2 | OBSOLETE | DDPAK/ TO-263 | KTT | 5 | | TBD | Call TI | Call TI |
| UC385TD-3 | OBSOLETE | DDPAK/ TO-263 | KTT | 5 | | TBD | Call TI | Call TI |
| UC385TD-ADJ | OBSOLETE | DDPAK/ TO-263 | KTT | 5 | | TBD | Call TI | Call TI |
| UC385TDKTTT-1 | ACTIVE | DDPAK/ TO-263 | KTT | 5 | 50 | Green (RoHS & no Sb/Br) | CU SN | Level-2-260C-1 YEAR |
| UC385TDKTTT-1G3 | ACTIVE | DDPAK/ TO-263 | KTT | 5 | 50 | Green (RoHS & no Sb/Br) | CU SN | Level-2-260C-1 YEAR |
| UC385TDKTTT-3 | ACTIVE | DDPAK/ TO-263 | KTT | 5 | 50 | Green (RoHS & no Sb/Br) | CU SN | Level-2-260C-1 YEAR |
| UC385TDKTTT-3G3 | ACTIVE | DDPAK/ TO-263 | KTT | 5 | 50 | Green (RoHS & no Sb/Br) | CU SN | Level-2-260C-1 YEAR |
| UC385TDKTTT-ADJ | ACTIVE | DDPAK/ TO-263 | KTT | 5 | 50 | Green (RoHS & no Sb/Br) | CU SN | Level-2-260C-1 YEAR |
| UC385TDKTTT-ADJG3 | ACTIVE | DDPAK/ TO-263 | KTT | 5 | 50 | Green (RoHS & no Sb/Br) | CU SN | Level-2-260C-1 YEAR |
| UC385TDTR-1 | ACTIVE | DDPAK/ TO-263 | KTT | 5 | 500 | Green (RoHS & no Sb/Br) | CU SN | Level-2-260C-1 YEAR |
| UC385TDTR-1G3 | ACTIVE | DDPAK/ TO-263 | KTT | 5 | 500 | Green (RoHS & no Sb/Br) | CU SN | Level-2-260C-1 YEAR |
| UC385TDTR-3 | ACTIVE | DDPAK/ TO-263 | KTT | 5 | 500 | Green (RoHS & no Sb/Br) | CU SN | Level-2-260C-1 YEAR |
| UC385TDTR-3G3 | ACTIVE | DDPAK/ TO-263 | KTT | 5 | 500 | Green (RoHS & no Sb/Br) | CU SN | Level-2-260C-1 YEAR |
| UC385TDTR-ADJ | ACTIVE | DDPAK/ TO-263 | KTT | 5 | 500 | Green (RoHS & no Sb/Br) | CU SN | Level-2-260C-1 YEAR |
| UC385TDTR-ADJE3 | ACTIVE | DDPAK/ TO-263 | KTT | 5 | 500 | Green (RoHS & no Sb/Br) | CU SN | Level-2-260C-1 YEAR |
| UC385TDTR-ADJG3 | ACTIVE | DDPAK/ TO-263 | KTT | 5 | 500 | Green (RoHS & no Sb/Br) | CU SN | Level-2-260C-1 YEAR |
| UC385TH-ADJ | OBSOLETE | TO-220 | KC | 5 | | TBD | Call TI | Call TI |

(1) The marketing status values are defined as follows:
**ACTIVE:** Product device recommended for new designs.
**LIFEBUY:** TI has announced that the device will be discontinued, and a lifetime-buy period is in effect.
**NRND:** Not recommended for new designs. Device is in production to support existing customers, but TI does not recommend using this part in a new design.
**PREVIEW:** Device has been announced but is not in production. Samples may or may not be available.
**OBSOLETE:** TI has discontinued the production of the device.

(2) Eco Plan - The planned eco-friendly classification: Pb-Free (RoHS), Pb-Free (RoHS Exempt), or Green (RoHS & no Sb/Br) - please check http://www.ti.com/productcontent for the latest availability information and additional product content details.
**TBD:** The Pb-Free/Green conversion plan has not been defined.
**Pb-Free (RoHS):** TI's terms "Lead-Free" or "Pb-Free" mean semiconductor products that are compatible with the current RoHS requirements for all 6 substances, including the requirement that lead not exceed 0.1% by weight in homogeneous materials. Where designed to be soldered at high temperatures, TI Pb-Free products are suitable for use in specified lead-free processes.
**Pb-Free (RoHS Exempt):** This component has a RoHS exemption for either 1) lead-based flip-chip solder bumps used between the die and package, or 2) lead-based die adhesive used between the die and leadframe. The component is otherwise considered Pb-Free (RoHS compatible) as defined above.
**Green (RoHS & no Sb/Br):** TI defines "Green" to mean Pb-Free (RoHS compatible), and free of Bromine (Br) and Antimony (Sb) based flame retardants (Br or Sb do not exceed 0.1% by weight in homogeneous material)

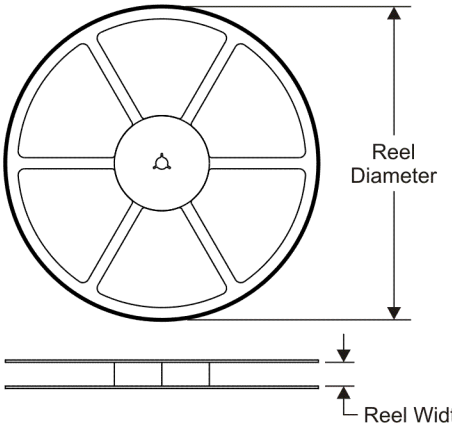
(3) MSL, Peak Temp. -- The Moisture Sensitivity Level rating according to the JEDEC industry standard classifications, and peak solder temperature.

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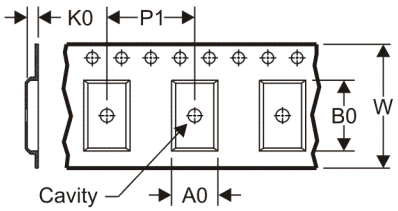
In no event shall TI's liability arising out of such information exceed the total purchase price of the TI part(s) at issue in this document sold by TI to Customer on an annual basis.

## TAPE AND REEL INFORMATION

**REEL DIMENSIONS**

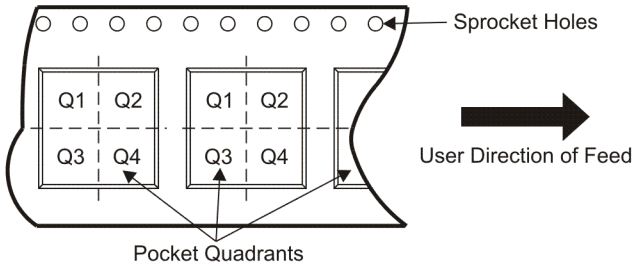



**TAPE DIMENSIONS**




| | |
|---|---|
| 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 |

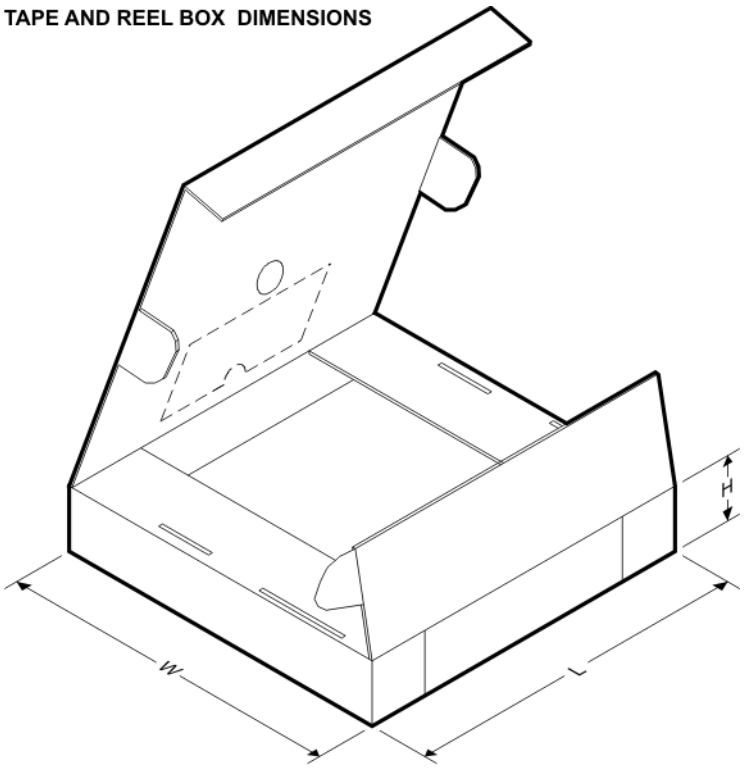
**QUADRANT ASSIGNMENTS FOR PIN 1 ORIENTATION IN TAPE**




*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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UC285TDKTTT-1 | DDPAK/ TO-263 | KTT | 5 | 50 | 330.0 | 24.4 | 10.6 | 15.6 | 4.9 | 16.0 | 24.0 | Q2 |
| UC285TDKTTT-3 | DDPAK/ TO-263 | KTT | 5 | 50 | 330.0 | 24.4 | 10.6 | 15.6 | 4.9 | 16.0 | 24.0 | Q2 |
| UC285TDKTTT-ADJ | DDPAK/ TO-263 | KTT | 5 | 50 | 330.0 | 24.4 | 10.6 | 15.6 | 4.9 | 16.0 | 24.0 | Q2 |
| UC385TDKTTT-1 | DDPAK/ TO-263 | KTT | 5 | 50 | 330.0 | 24.4 | 10.6 | 15.6 | 4.9 | 16.0 | 24.0 | Q2 |
| UC385TDKTTT-3 | DDPAK/ TO-263 | KTT | 5 | 50 | 330.0 | 24.4 | 10.6 | 15.6 | 4.9 | 16.0 | 24.0 | Q2 |
| UC385TDKTTT-ADJ | DDPAK/ TO-263 | KTT | 5 | 50 | 330.0 | 24.4 | 10.6 | 15.6 | 4.9 | 16.0 | 24.0 | Q2 |
| UC385TDTR-1 | DDPAK/ TO-263 | KTT | 5 | 500 | 330.0 | 24.4 | 10.6 | 15.6 | 4.9 | 16.0 | 24.0 | Q2 |
| UC385TDTR-3 | DDPAK/ TO-263 | KTT | 5 | 500 | 330.0 | 24.4 | 10.6 | 15.6 | 4.9 | 16.0 | 24.0 | Q2 |
| UC385TDTR-ADJ | DDPAK/ TO-263 | KTT | 5 | 500 | 330.0 | 24.4 | 10.6 | 15.6 | 4.9 | 16.0 | 24.0 | Q2 |

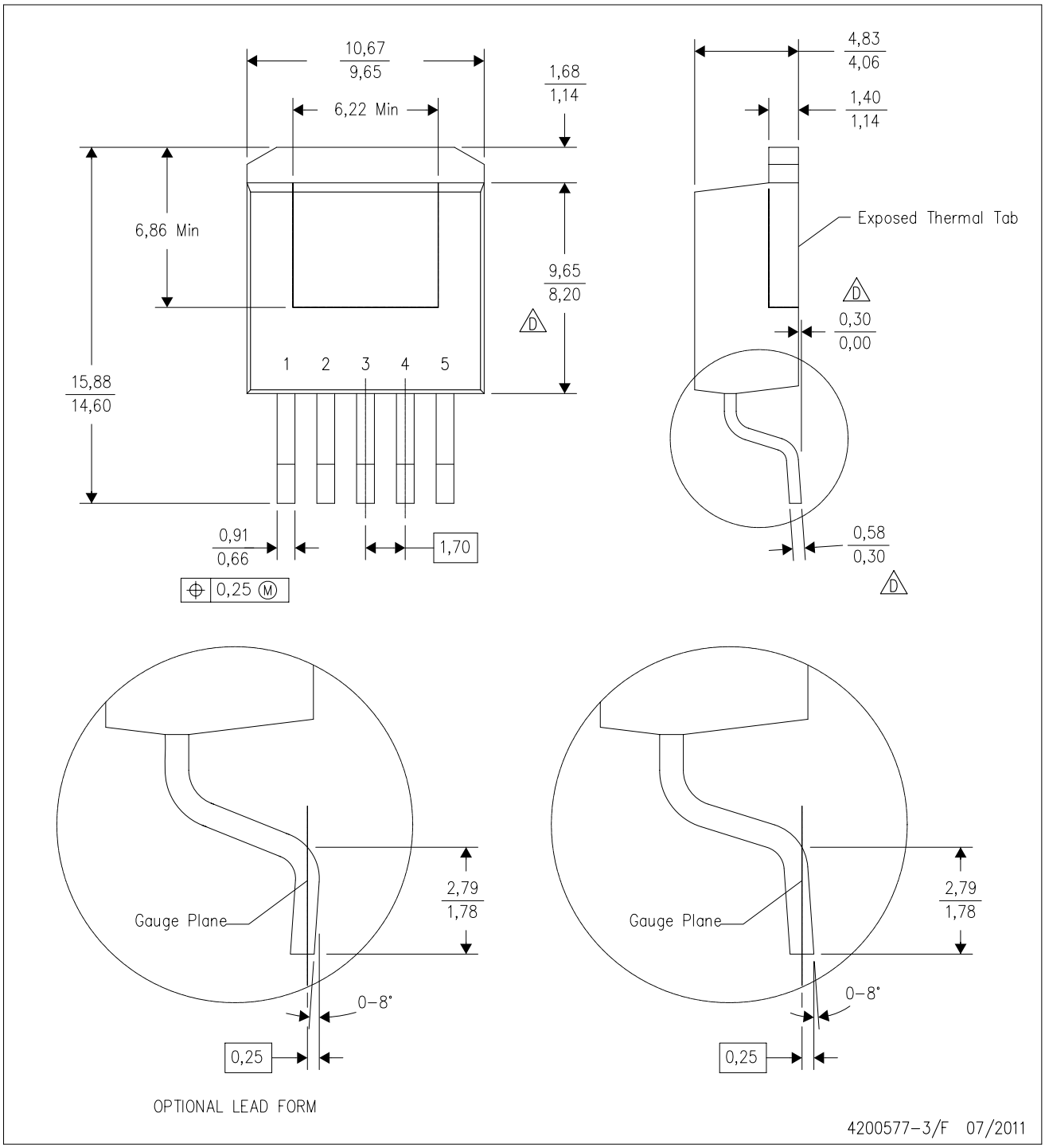
**TAPE AND REEL BOX DIMENSIONS**




*All dimensions are nominal

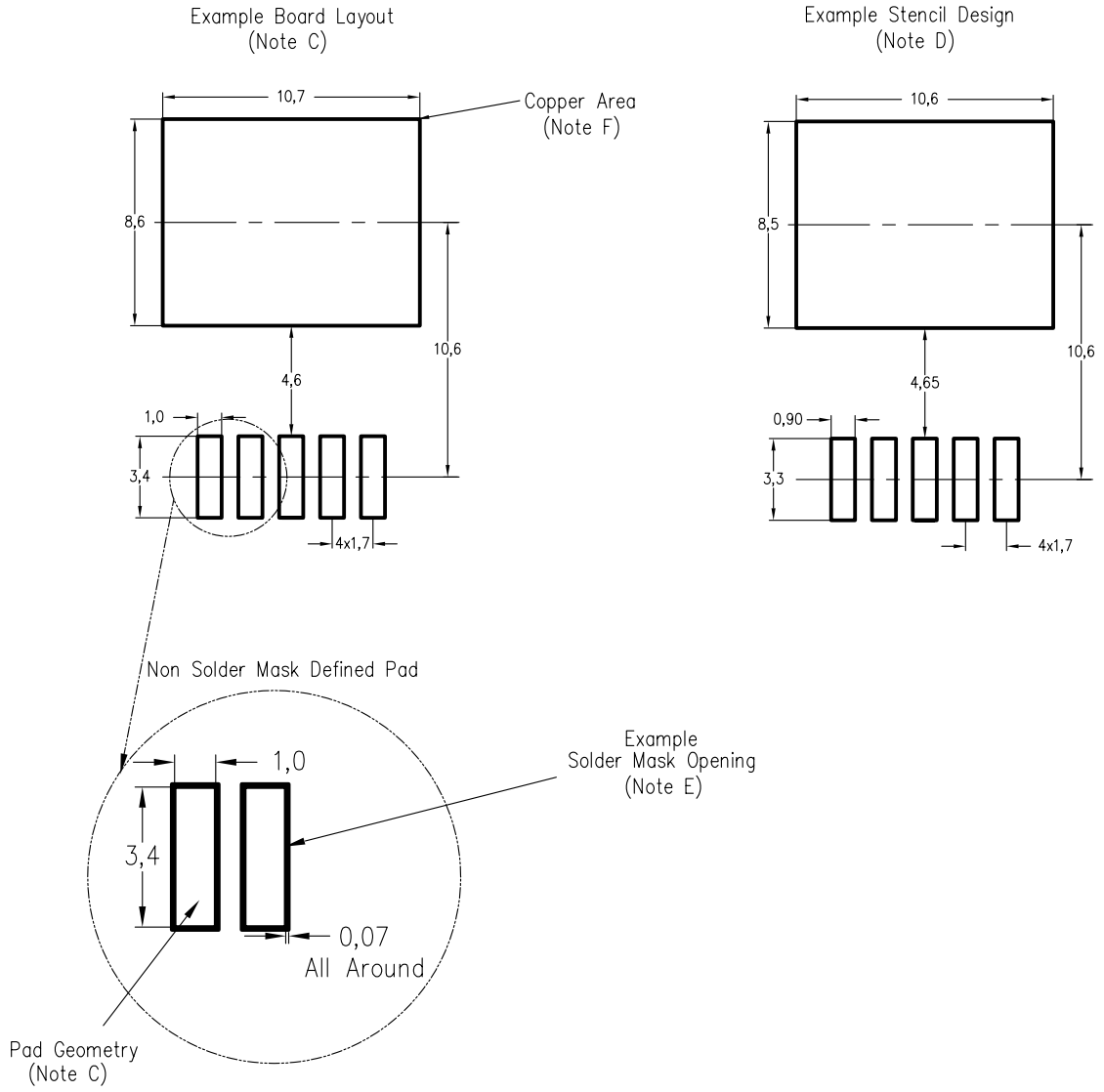
| Device | Package Type | Package Drawing | Pins | SPQ | Length (mm) | Width (mm) | Height (mm) |
|---|---|---|---|---|---|---|---|
| UC285TDKTTT-1 | DDPAK/TO-263 | KTT | 5 | 50 | 346.0 | 346.0 | 41.0 |
| UC285TDKTTT-3 | DDPAK/TO-263 | KTT | 5 | 50 | 346.0 | 346.0 | 41.0 |
| UC285TDKTTT-ADJ | DDPAK/TO-263 | KTT | 5 | 50 | 346.0 | 346.0 | 41.0 |
| UC385TDKTTT-1 | DDPAK/TO-263 | KTT | 5 | 50 | 346.0 | 346.0 | 41.0 |
| UC385TDKTTT-3 | DDPAK/TO-263 | KTT | 5 | 50 | 346.0 | 346.0 | 41.0 |
| UC385TDKTTT-ADJ | DDPAK/TO-263 | KTT | 5 | 50 | 346.0 | 346.0 | 41.0 |
| UC385TDTR-1 | DDPAK/TO-263 | KTT | 5 | 500 | 346.0 | 346.0 | 41.0 |
| UC385TDTR-3 | DDPAK/TO-263 | KTT | 5 | 500 | 346.0 | 346.0 | 41.0 |
| UC385TDTR-ADJ | DDPAK/TO-263 | KTT | 5 | 500 | 346.0 | 346.0 | 41.0 |

KTT (R–PSFM–G5) PLASTIC FLANGE–MOUNT PACKAGE



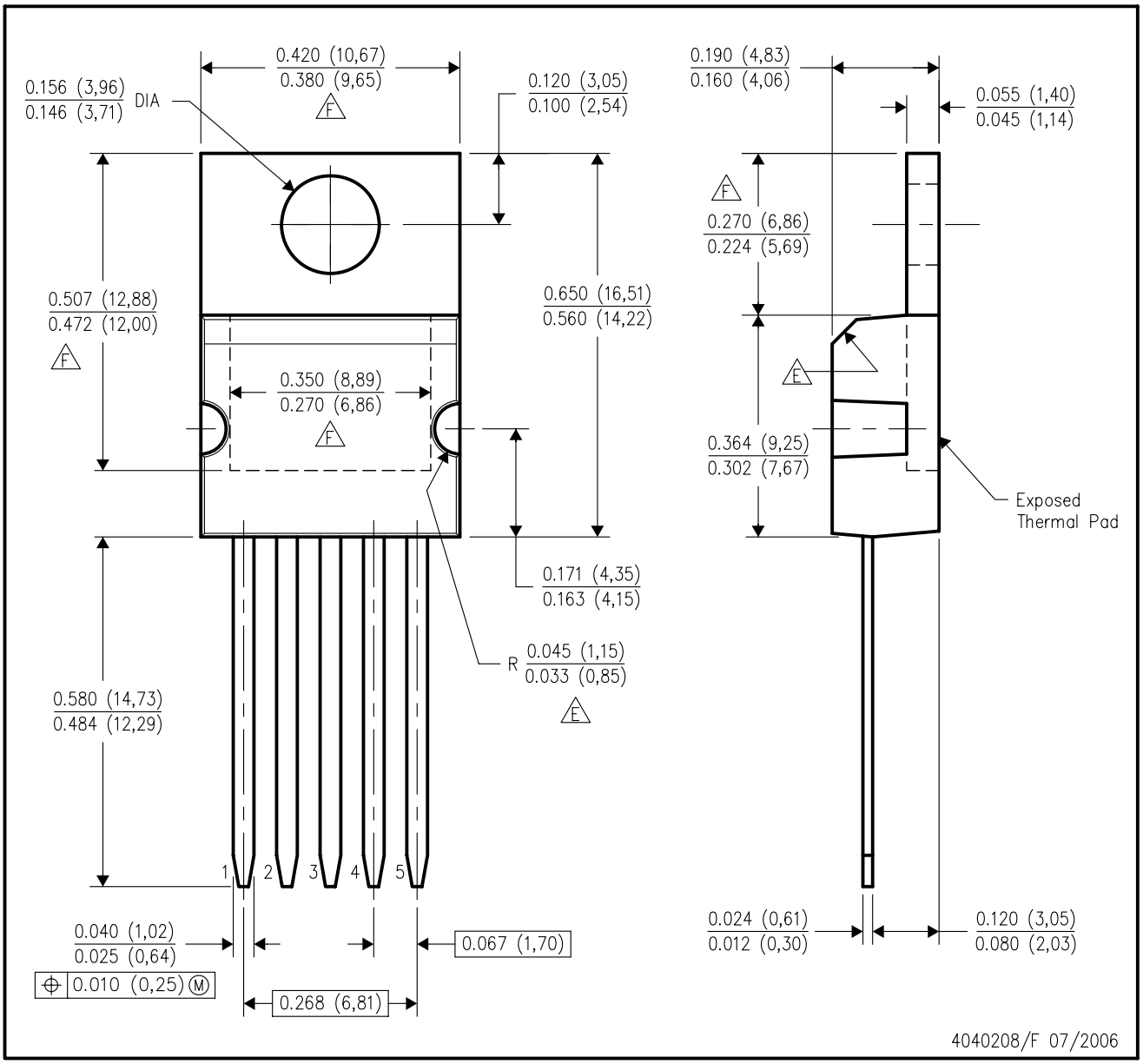

NOTES:
A. All linear dimensions are in millimeters.
B. This drawing is subject to change without notice.
C. Body dimensions do not include mold flash or protrusion. Mold flash or protrusion not to exceed 0.005 (0,13) per side.
D. Falls within JEDEC TO–263 variation BA, except minimum lead thickness, maximum seating height, and minimum body length.

# KTT (R–PSFM–G5)




NOTES:
A. All linear dimensions are in millimeters.
B. This drawing is subject to change without notice.
C. Publication IPC–SM–782 is recommended for alternate designs.
D. Laser cutting apertures with trapezoidal walls and also rounding corners will offer better paste release. Customers should contact their board assembly site for stencil design recommendations. Refer to IPC–7525.
E. Customers should contact their board fabrication site for solder mask tolerances between and around signal pads.
F. This package is designed to be soldered to a thermal pad on the board. Refer to the Product Datasheet for specific thermal information, via requirements, and recommended thermal pad size. For thermal pad sizes larger than shown a solder mask defined pad is recommended in order to maintain the solderable pad geometry while increasing copper area.

## KC (R–PSFM–T5) PLASTIC FLANGE–MOUNT PACKAGE




NOTES:
A. All linear dimensions are in inches (millimeters).
B. This drawing is subject to change without notice.
C. All lead dimensions apply before solder dip.
D. The center lead is in electrical contact with the mounting tab.
E. These features are optional.
F. Thermal pad contour optional within these dimensions.

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