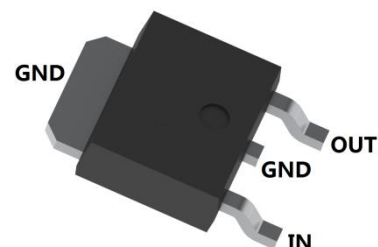
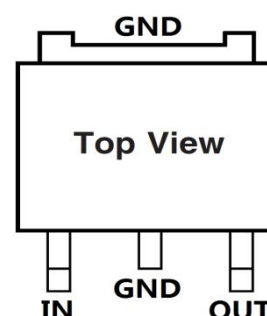


Three Terminal Positive Voltage Regulator

■ Features

- Maximum Output Current $I_o=500\text{mA}$
- Output Voltage $V_o=9\text{V}$
- Internal Thermal Overload Protection
- Internal Short Circuit Current Limiting
- Output Transistor Safe Operating Area Protection


TO-252


■ Absolute Maximum Ratings(unless otherwise noted)

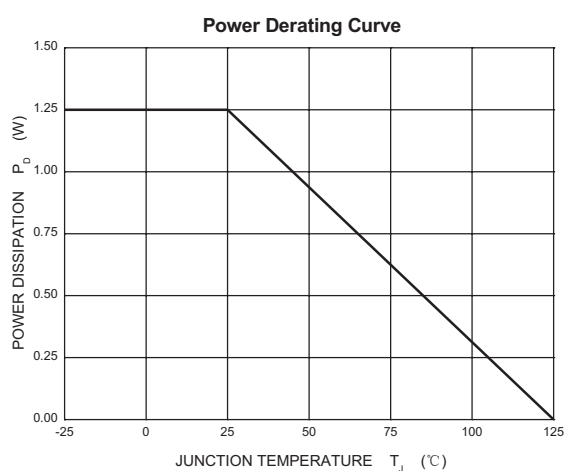
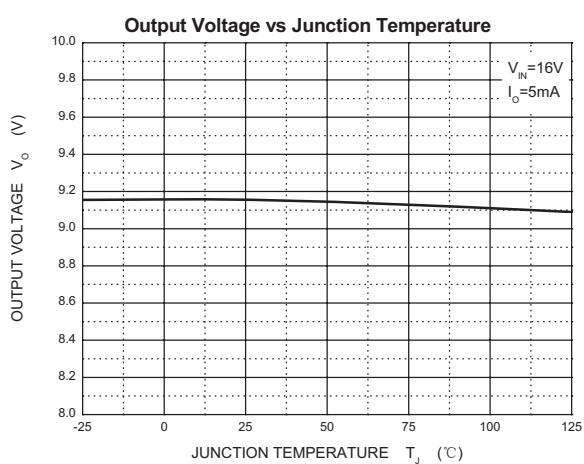
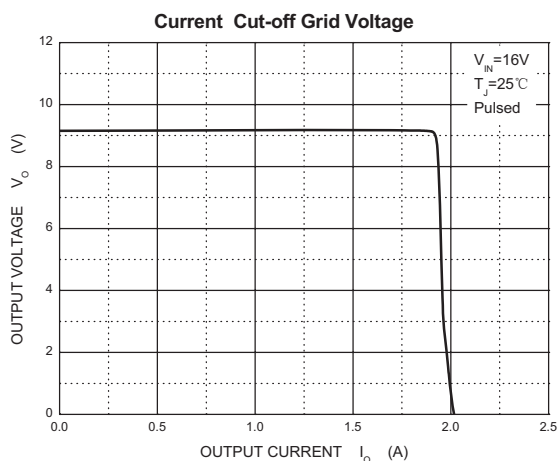
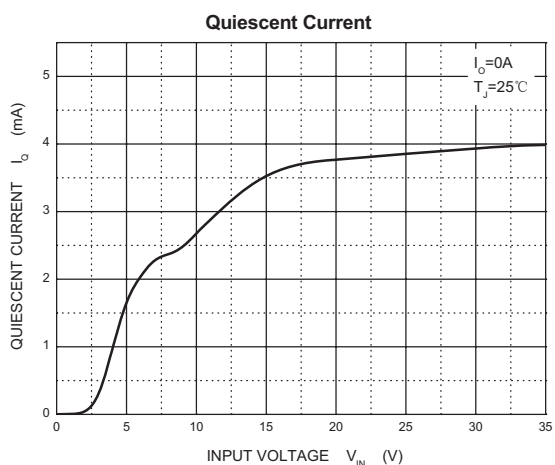
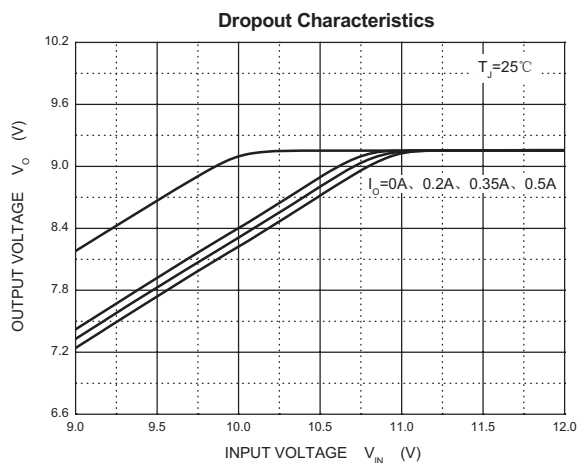
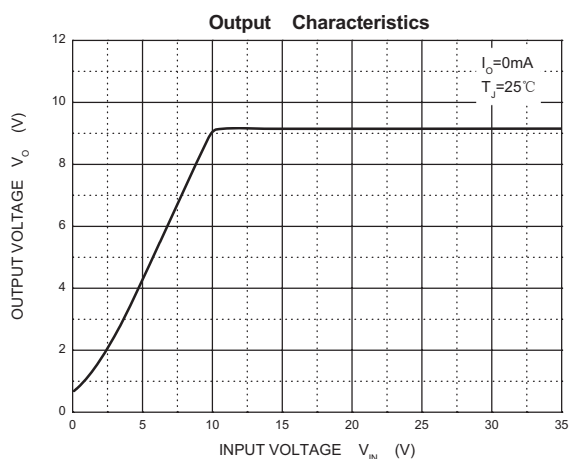
| Parameter | Symbol | Rating | Unit |
|---|------------|------------|------|
| Input Voltage | V_i | 35 | V |
| Maximum Output Current | I_o | 0.5 | A |
| Thermal Resistance, Junction-to-Ambient | R_{thJA} | 80 | °C/W |
| Thermal Resistance, Junction-to-Case | R_{thJC} | 5 | |
| Operating Junction Temperature | T_J | 0 to 125 | °C |
| Storage Temperature Range | T_{stg} | -65 to 150 | |

■ Electrical Characteristics ($0^\circ\text{C} \leq T_J \leq 125^\circ\text{C}$, $I_o=500\text{mA}$, $V_i=15\text{V}$, $C_i=0.33\mu\text{F}$, $C_o=0.1\mu\text{F}$, unless otherwise noted)

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|-----------------------------|--------------|--|------|-----|------|------------------|
| Output Voltage | V_o | $T_J=25^\circ\text{C}$ | 8.65 | 9.0 | 9.35 | V |
| | | $5.0\text{mA} \leq I_o \leq 0.5\text{A}$, $P_D \leq 10\text{W}$, $11.5\text{V} \leq V_i \leq 24\text{V}$ | 8.6 | 9.0 | 9.4 | |
| Line Regulation | ΔV_o | $T_J=25^\circ\text{C}$, $11.5\text{V} \leq V_i \leq 25\text{V}$ | | | 180 | mV |
| | | $T_J=25^\circ\text{C}$, $12\text{V} \leq V_i \leq 18\text{V}$ | | | 90 | |
| Load Regulation | ΔV_o | $T_J=25^\circ\text{C}$, $5.0\text{mA} \leq I_o \leq 0.5\text{A}$ | | | 180 | mV |
| | | $T_J=25^\circ\text{C}$, $250\text{mA} \leq I_o \leq 750\text{mA}$ | | | 90 | |
| Quiescent Current | I_q | $T_J=25^\circ\text{C}$ | | | 8.0 | mA |
| Quiescent Current Change | ΔI_q | $5\text{mA} \leq I_o \leq 0.5\text{A}$ | | | 0.5 | |
| | | $11.5\text{V} \leq V_i \leq 26\text{V}$ | | | 1.3 | |
| Output Noise Voltage | V_N | $T_A=25^\circ\text{C}$, $10\text{Hz} \leq f \leq 100\text{kHz}$ | | 58 | | μV |
| Ripple Rejection | R_R | $f=120\text{Hz}$, $13\text{V} \leq V_i \leq 23\text{V}$ | 56 | | | dB |
| Dropout Voltage | V_d | $I_o=0.5\text{A}$, $T_J=25^\circ\text{C}$ | | 2 | | V |
| Output Resistance | R_o | $f=1\text{kHz}$ | | 17 | | $\text{m}\Omega$ |
| Short Circuit Current Limit | I_{sc} | $V_i=35\text{V}$, $T_A=25^\circ\text{C}$ | | 250 | | mA |
| Peak Output Current | I_{pk} | $T_J=25^\circ\text{C}$ | | 2.2 | | A |

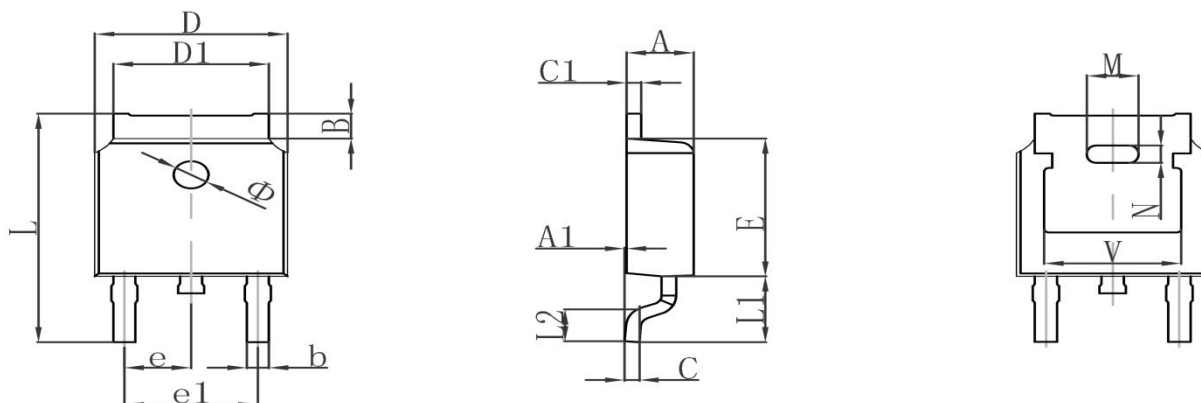
Three Terminal Positive Voltage Regulator

■ Typical Characteristics



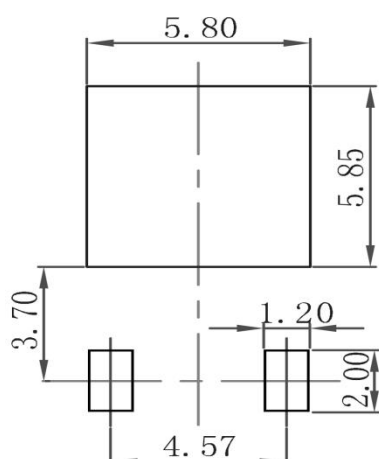
Three Terminal Positive Voltage Regulator

TO-252 Package Outline Dimensions



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|--------|----------------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 2.200 | 2.380 | 0.087 | 0.094 |
| A1 | 0.000 | 0.100 | 0.000 | 0.004 |
| B | 0.800 | 1.400 | 0.031 | 0.055 |
| b | 0.710 | 0.810 | 0.028 | 0.032 |
| c | 0.460 | 0.560 | 0.018 | 0.022 |
| c1 | 0.460 | 0.560 | 0.018 | 0.022 |
| D | 6.500 | 6.700 | 0.256 | 0.264 |
| D1 | 5.130 | 5.460 | 0.202 | 0.215 |
| E | 6.000 | 6.200 | 0.236 | 0.244 |
| e | 2.286TYP | | 0.090TYP | |
| e1 | 4.327 | 4.727 | 0.170 | 0.186 |
| M | 1.778REF | | 0.070REF | |
| N | 0.762REF | | 0.018REF | |
| L | 9.800 | 10.400 | 0.386 | 0.409 |
| L1 | 2.9REF | | 0.114REF | |
| L2 | 1.400 | 1.700 | 0.055 | 0.067 |
| V | 4.830REF | | 0.190REF | |
| Φ | 1.100 | 1.300 | 0.043 | 0.051 |

TO-252 Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters
2. General tolerance: $\pm 0.05\text{mm}$
3. The pad layout is for reference purposes only