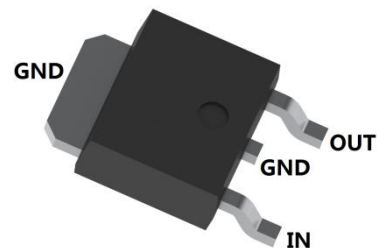


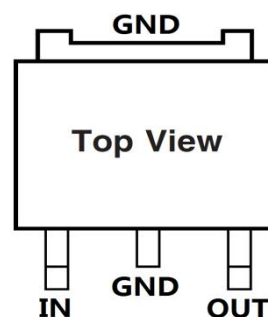
Three Terminal Positive Voltage Regulator

■ Features

- Maximum Output Current I_o : 500mA
- Output Voltage V_o : 6V
- Continuous Total Dissipation PD: 1.25 W ($T_a = 25\text{ }^\circ\text{C}$)



TO-252



■ Absolute Maximum Ratings Over Operating Temperature Range(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 | $^\circ\text{C}/\text{W}$ |
| Operating Junction Temperature Range | T_{opr} | -25 to 125 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{stg} | -65 to 150 | |

Three Terminal Positive Voltage Regulator

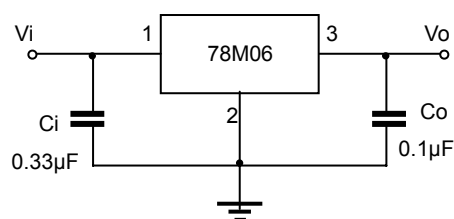
■ Electrical Characteristics at Specified Virtual Junction Temperature

($V_i=11V$, $I_o=350mA$, $C_i=0.33\mu F$, $C_o=0.1\mu F$, unless otherwise noted)

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|-----------------------------|--------------|---|----------------------|-----|------|-------------|
| Output Voltage | V_o | $25^\circ C$ | 5.75 | 6 | 6.25 | V |
| | | $8V \leq V_i \leq 21V$, $I_o = 5.0mA \sim 350mA$ | -25 to $125^\circ C$ | 5.7 | 6 | |
| Load Regulation | ΔV_o | $I_o = 5.0mA \sim 500mA$ | $25^\circ C$ | | 120 | mV |
| | | $I_o = 5.0mA \sim 200mA$ | $25^\circ C$ | | 60 | |
| Line Regulation | ΔV_o | $8V \leq V_i \leq 25V$, $I_o = 200mA$ | $25^\circ C$ | | 100 | mV |
| | | $9V \leq V_i \leq 25V$, $I_o = 200mA$ | $25^\circ C$ | | 50 | |
| Quiescent Current | I_q | $25^\circ C$ | | | 6 | mA |
| Quiescent Current Change | ΔI_q | $9V \leq V_i \leq 25V$, $I_o = 200mA$ | -25 to $125^\circ C$ | | 0.8 | |
| | | $5mA \leq I_o \leq 350mA$ | -25 to $125^\circ C$ | | 0.5 | |
| Output Noise Voltage | V_N | $10Hz \leq F \leq 100kHz$ | $25^\circ C$ | | 45 | $\mu V/V_o$ |
| Ripple Rejection | RR | $9V \leq V_i \leq 19V$, $F=120Hz$, $I_o=300mA$ | -25 to $125^\circ C$ | 59 | | dB |
| Dropout Voltage | V_d | $I_o=350mA$ | $25^\circ C$ | | 2 | V |
| Short Circuit Current Limit | I_{sc} | $V_i=11V$ | $25^\circ C$ | | 270 | mA |
| Peak Current | I_{pk} | | $25^\circ C$ | | 0.5 | A |

* Pulse test.

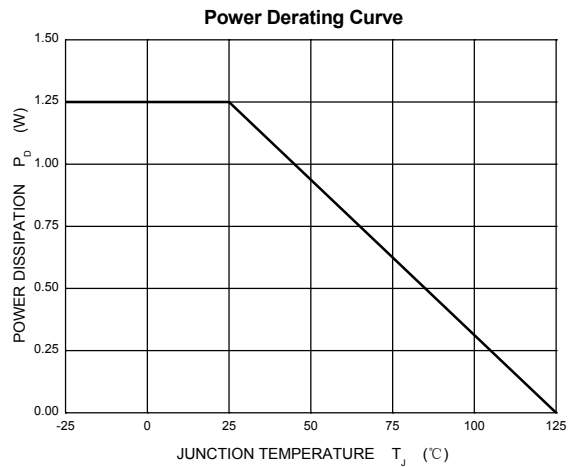
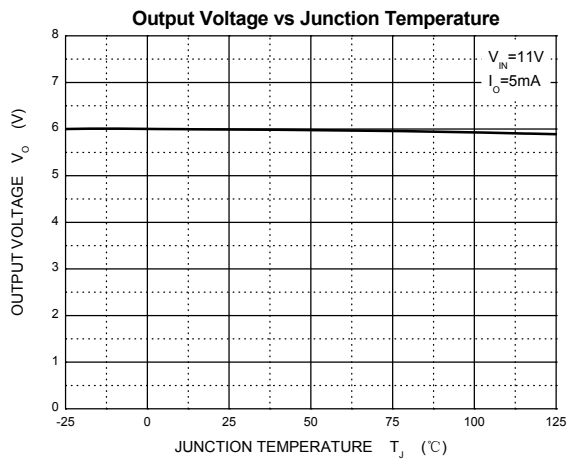
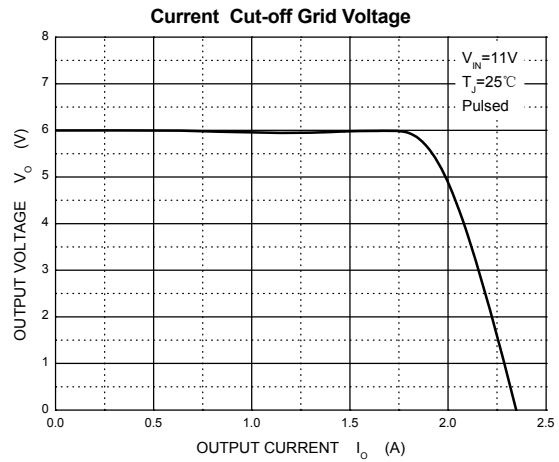
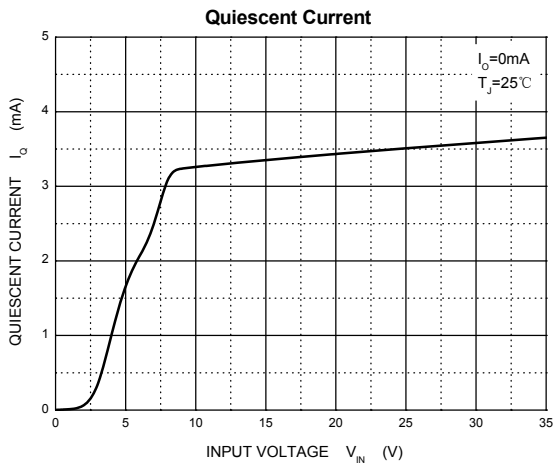
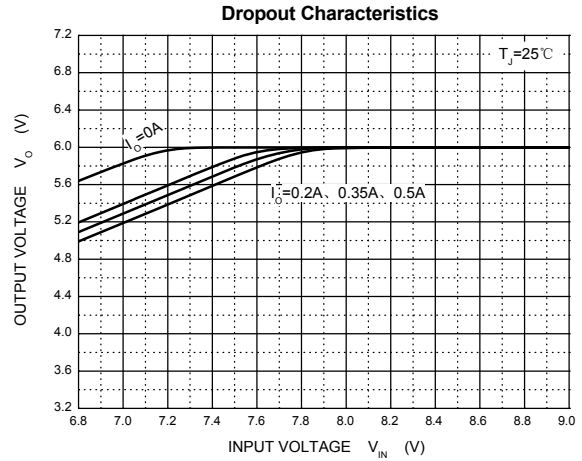
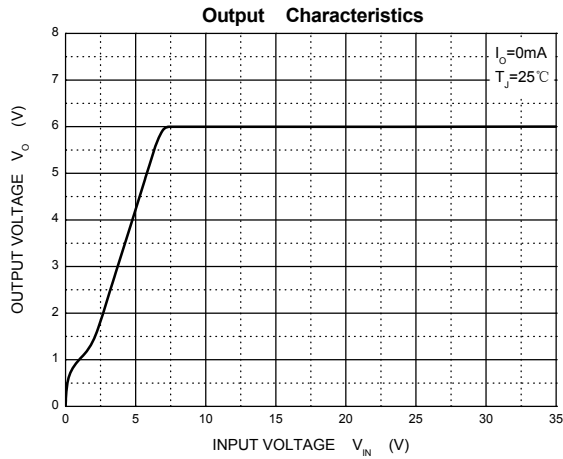
■ Typical Application



Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

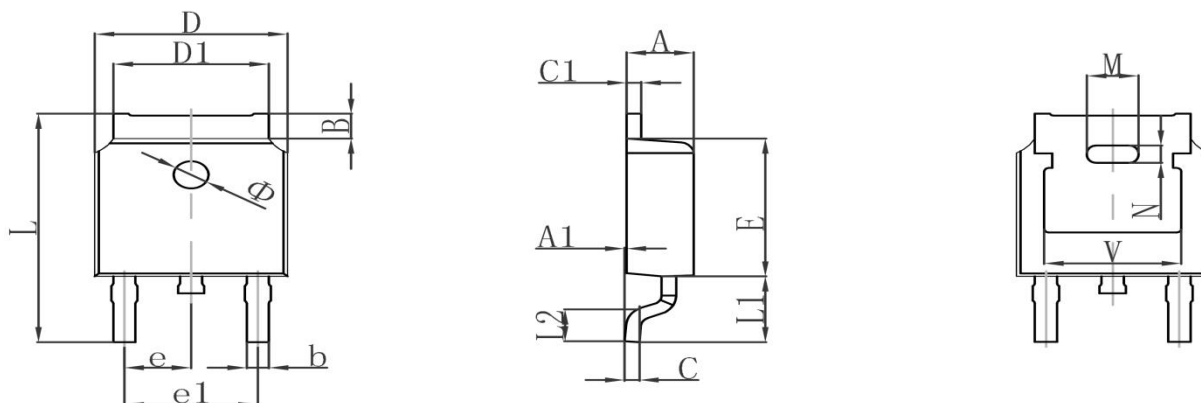
Three Terminal Positive Voltage Regulator

■ Typical Characteristics



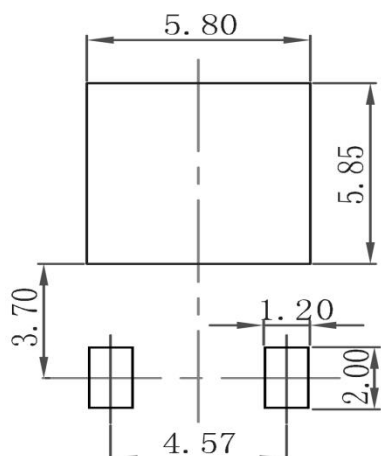
Three Terminal Positive Voltage Regulator

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