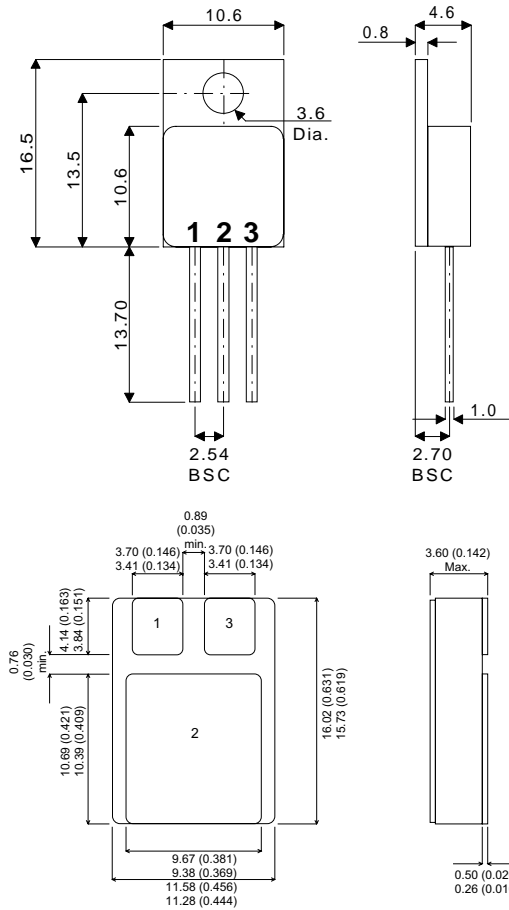


MECHANICAL DATA
Dimensions in mm

**POSITIVE
VOLTAGE REGULATOR
TO 220 M**



PIN 1 - Input PIN 2 -Ground PIN 3 - Output

TO220M -TO220 Metal Package - Isolated
SMD1 -Ceramic Surface Mount Package

FEATURES

- HERMETIC TO220 METAL OR CERAMIC SURFACE MOUNT PACKAGES
- SCREENING OPTIONS AVAILABLE
- ALL LEADS ISOLATED FROM CASE (METAL PACKAGE)
- OUTPUT CURRENT UP TO 1.5A
- OUTPUT VOLTAGES OF 5, 12, 15, 24V
- THERMAL OVERLOAD PROTECTION
- SHORT CIRCUIT PROTECTION
- OUTPUT TRANSISTOR SOA PROTECTION

ABSOLUTE MAXIMUM RATINGS ($T_{case} = 25^{\circ}C$ unless otherwise stated)

| | | |
|-----------|---|--------------------|
| V_I | DC Input Voltage (for $V_O = 5$ to 15V) (for $V_O = 24V$) | 35V 40V |
| I_O | Output Current | Internally limited |
| P_D | Power Dissipation | Internally limited |
| T_j | Junction Temperature | 0 to 125°C |
| T_{stg} | Storage Temperature | -65 to 150°C |

ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}C$ unless stated)

| OUTPUT VOLTAGE | | 5 | | | 12 | | | 15 | | | 24 | | | | |
|--|---|--------------------------|------|------|---------------------------|------|------|-----------------------|------|-------|---------------------|------|------|------------------|--|
| INPUT VOLTAGE (unless otherwise specified) | | 10 | | | 19 | | | 23 | | | 33 | | | | |
| Parameter | Test Conditions | Min. | Typ. | Max. | Min. | Typ. | Max. | Min. | Typ. | Max. | Min. | Typ. | Max. | Unit | |
| V_O Output Voltage | $T_j = 25^{\circ}C$ | 4.8 | 5 | 5.2 | 11.5 | 12 | 12.5 | 14.4 | 15 | 15.6 | 23 | 24 | 25 | V | |
| | $I_O = 5mA$ to 1A $P_O \leq 15W$ | 4.75 | 5 | 5.25 | 11.4 | 12 | 12.6 | 14.25 | 15 | 15.75 | 22.8 | 24 | 25.2 | | |
| ΔV_O Line Regulation | $T_j = 25^{\circ}C$ | 3 100 | | | 240 | | | 300 | | | 480 | | | mV | |
| | | $(V_I = 7$ to 25V) | | | $(V_I = 14.5$ to 30V) | | | $(V_I = 17.5$ to 30V) | | | $(V_I = 27$ to 38V) | | | | |
| ΔV_O Load Regulation | $T_j = 25^{\circ}C$ $I_O = 5mA$ to 1.5A | 1 50 | | | 120 | | | 150 | | | 240 | | | mV | |
| | | $(V_I = 8$ to 12V) | | | $(V_I = 16$ to 22V) | | | $(V_I = 20$ to 26V) | | | $(V_I = 30$ to 36V) | | | | |
| ΔV_O Load Regulation | $T_j = 25^{\circ}C$ $I_O = 250$ to 750 mA | 100 | | | 240 | | | 300 | | | 480 | | | mV | |
| | | 50 | | | 120 | | | 150 | | | 240 | | | | |
| I_d Quiescent Current | $T_j = 25^{\circ}C$ | 8 | | | 8 | | | 8 | | | 8 | | | mA | |
| ΔI_d Quiescent Current Change | $I_O = 5mA$ to 1A | 0.5 | | | 0.5 | | | 0.5 | | | 0.5 | | | mA | |
| | | 1.3 | | | 1 | | | 1 | | | 1 | | | mA | |
| $\frac{\Delta V_O}{\Delta T}$ Output Voltage Drift | | $I_O = 5mA$ | | | -1.1 | | | -1 | | | -1 | | | mV / $^{\circ}C$ | |
| e_N Output Noise Voltage | B = 10Hz to 100kHz $T_j = 25^{\circ}C$ | 40 | | | 75 | | | 90 | | | 170 | | | μV | |
| SVR Supply Voltage Rejection | f = 120Hz $I_O = 500mA$ | 62 $(V_I = 8$ to 18V) | | | 55 $(V_I = 15$ to 25V) | | | 54 | | | 50 | | | dB | |
| V_d Dropout Voltage | $T_j = 25^{\circ}C$ $I_O = 1A$ $\Delta V_O = 100mV$ | 2 | | | 2 | | | 2 | | | 2 | | | V | |
| I_{sc} Short Circuit Current | $T_j = 25^{\circ}C$ $V_I = 35V$ | 750 | | | 350 | | | 230 | | | 150 | | | mA | |
| I_{scp} Short Circuit Peak Current | $T_j = 25^{\circ}C$ $V_1 - V_0 < 10V$ 5mS | 2.2 | | | 2.2 | | | 2.1 | | | 2.1 | | | A | |

THERMAL DATA (for TO220M and SMD1)

| | | |
|----------------|---------------------------------------|------------------------|
| $R_{THj-case}$ | Thermal Resistance Junction – Case | Max. $3^{\circ}C / W$ |
| $R_{THj-amb}$ | Thermal Resistance Junction – Ambient | Max. $50^{\circ}C / W$ |