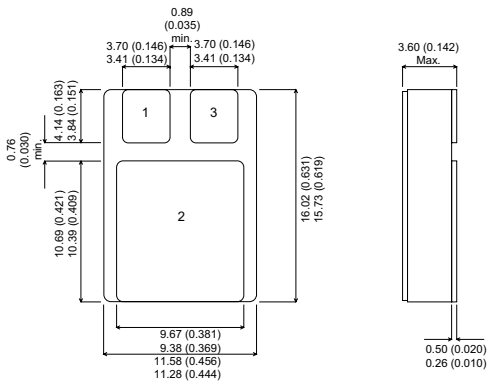
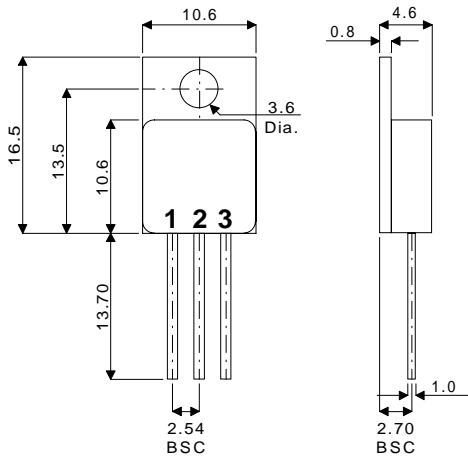


**MECHANICAL DATA**  
 Dimensions in mm

**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

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Prelim. 7/00

**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 ( $V_I = 7$ to 20V)	11.4 12 12.6 ( $V_I = 14.5$ to 27V)	14.25 15 15.75 ( $V_I = 17.5$ to 30V)	22.8 24 25.2 ( $V_I = 27$ to 38V)		
$\Delta V_O$ Line Regulation	$T_j = 25^{\circ}C$	3 100 ( $V_I = 7$ to 25V)	240 ( $V_I = 14.5$ to 30V)	300 ( $V_I = 17.5$ to 30V)	480 ( $V_I = 27$ to 38V)	mV	
		1 50 ( $V_I = 8$ to 12V)	120 ( $V_I = 16$ to 22V)	150 ( $V_I = 20$ to 26V)	240 ( $V_I = 30$ to 36V)		
$\Delta V_O$ Load Regulation	$T_j = 25^{\circ}C$ $I_O = 5mA$ to 1.5A		100	240	300	480	mV
	$T_j = 25^{\circ}C$ $I_O = 250$ to 750 mA		50	120	150	240	
$I_d$ Quiescent Current	$T_j = 25^{\circ}C$		8	8	8	8	mA
$\Delta I_d$ Quiescent Current Change	$I_O = 5mA$ to 1A		0.5	0.5	0.5	0.5	mA
			1.3 ( $V_I = 7$ to 25V)	1 ( $V_I = 14.5$ to 30V)	1 ( $V_I = 17.5$ to 30V)	1 ( $V_I = 27$ to 38V)	1
$\frac{\Delta V_O}{\Delta T}$ Output Voltage Drift	$I_O = 5mA$		-1.1	-1	-1	-1.5	mV / $^{\circ}C$
$e_N$ Output Noise Voltage	B = 10Hz to 100kHz $T_j = 25^{\circ}C$		40	75	90	170	$\mu V$
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