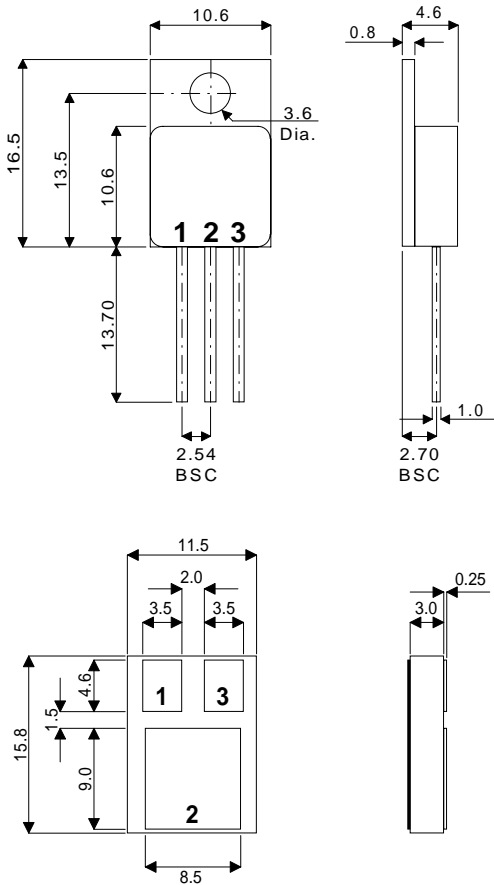


**MECHANICAL DATA**  
Dimensions in mm



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

**TO220M**      -TO220 Metal Package - Isolated  
**TO220SM**      -TO220 Ceramic Surface Mount Package

**POSITIVE  
VOLTAGE REGULATOR  
TO 220 M**

**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	
$\Delta V_O$ 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)						
$\Delta V_O$ 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)						
$\Delta V_O$ 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			
$\Delta I_d$ Quiescent Current Change	$I_O = 5mA$ to 1A			0.5	0.5		0.5		0.5		mA			
				1.3	1		1		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		55		54		50		dB				
		$(V_I = 8$ to 18V)		$(V_I = 15$ to 25V)										
$V_d$ 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 TO220SM)

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