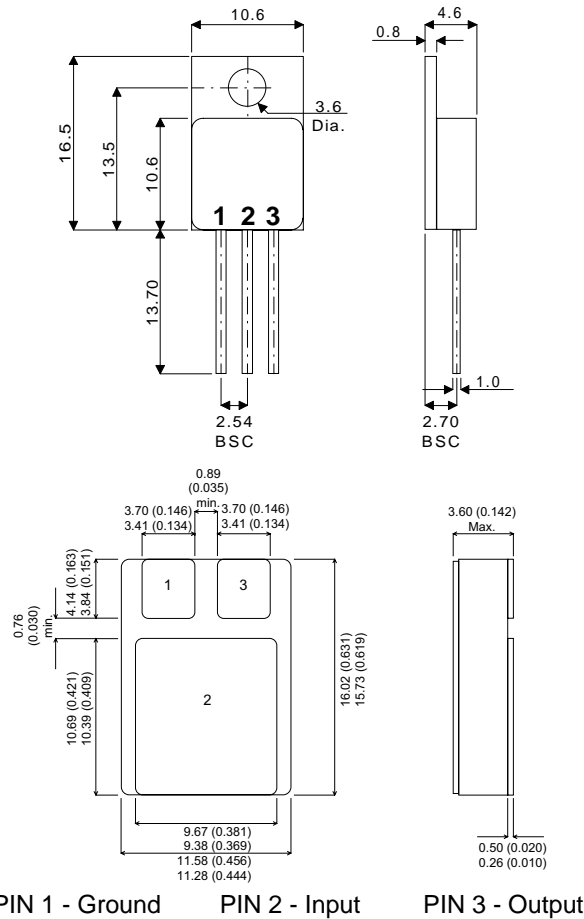


MECHANICAL DATA
 Dimensions in mm

**NEGATIVE
 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
- 1% VOLTAGE TOLERANCE OPTION

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

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	150°C
T_{stg}	Storage temperature	-65 to 150°C

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Prelim. 7/00

ELECTRICAL CHARACTERISTICS ($T_{\text{case}} = 25^{\circ}\text{C}$ 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.	Unit							
V_O Output Voltage	$T_j = 25^{\circ}\text{C}$	-4.8	-5	-5.2	-11.5	-12	-12.5	-14.4	-15	-15.6	-23	-24	-25	V	
	$I_O = 5\text{mA to } 1\text{A}$ $P_O \leq 15\text{W}$	-4.75	-5	-5.25	-11.4	-12	-12.6	-14.3	-15	-15.7	-22.8	-24	-25.2		
ΔV_O Line Regulation	$T_j = 25^{\circ}\text{C}$			100			240			300			480	mV	
				50		120		150		240					
ΔV_O Load Regulation	$T_j = 25^{\circ}\text{C}$ $I_O = 5\text{mA to } 1.5\text{A}$			100			240			300			480	mV	
	$T_j = 25^{\circ}\text{C}$ $I_O = 250\text{ to } 750\text{ mA}$			50			120			150			240		
I_d Quiescent Current	$T_j = 25^{\circ}\text{C}$			2			3			3			3	mA	
ΔI_d Quiescent Current Change	$I_O = 5\text{mA to } 1\text{A}$			0.5			0.5			0.5			0.5	mA	
				1.3		1		1		1		1			
$\frac{\Delta V_O}{\Delta T}$ Output Voltage Drift	$I_O = 5\text{mA}$			-0.4			-0.8			-0.9			-1	mV / $^{\circ}\text{C}$	
e_N Output Noise Voltage	$T_j = 25^{\circ}\text{C}$ $B = 10\text{Hz to } 100\text{kHz}$			100			200			250			400	μV	
SVR Supply Voltage Rejection	$f = 100\text{Hz}$ $\Delta V_O = 100\text{mV}$	54	60		54	60		54	60		54	60		dB	
V_d Dropout Voltage	$T_j = 25^{\circ}\text{C}$ $I_O = 1\text{A}$ $\Delta V_O = 100\text{mV}$			2			1.1			1.1			1.1	V	
I_{sc} Short Circuit Current	$T_j = 25^{\circ}\text{C}$ $V_I = 35\text{V}$			2.1			1.5			1.3			1.1	mA	
I_{scp} Short Circuit Peak Current	$T_j = 25^{\circ}\text{C}$			2.5			2.5			2.2			2.2	A	

THERMAL DATA (for TO220M and SMD1)

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