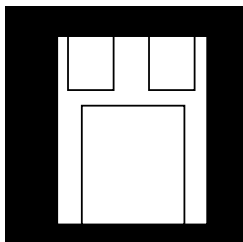


# HERMETIC SURFACE MOUNT ADJUSTABLE POSITIVE VOLTAGE REGULATOR



**Three Terminal, Adjustable Voltage, 3.0 Amp Precision Positive Regulator In Hermetic Surface Mount Package**

## FEATURES

- Hermetic Surface Mount Package
- Reference Voltage Set To  $\pm 2\%$
- Built-In Thermal Overload Protection
- Short Circuit Current Limiting
- Product Is Available Hi-Rel Screened
- Electrically Similar To Industry Standard Type LM150A

## DESCRIPTION

These three terminal positive regulators are supplied in a hermetically sealed surface mount package. All protective features are designed into the circuit including thermal shutdown, current limiting and safe-area control. With heat sinking, they can deliver over 3.0 amps of output current. These units feature 2% initial voltage tolerance, with 0.3% load regulation and .01% line regulation.

## ABSOLUTE MAXIMUM RATINGS

Input to Output Voltage Differential . . . . . +35 V  
 Operating Junction Temperature Range . . . . . - 55°C to + 150°C  
 Storage Temperature Range . . . . . - 55°C to + 150°C  
 Typical Power/Thermal Characteristics:

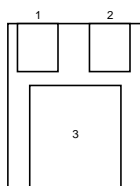
Rated Power @ 25°C

$T_C$  . . . . . 25W  
 $T_A$  . . . . . 3W

Thermal Resistance:

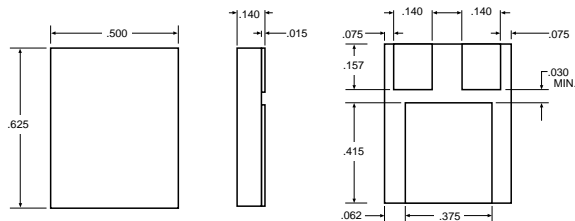
$\theta_{JC}$  . . . . . 3.5°C/W  
 $\theta_{JA}$  . . . . . 42°C/W  
 Lead Temperature at Case (5 sec) . . . . . 225°C

## PIN CONNECTION



Pin 1: Adjust  
 Pin 2:  $V_{IN}$   
 Pin 3:  $V_{OUT}$

## MECHANICAL OUTLINE



TOP VIEW                      SIDE VIEW                      BOTTOM VIEW

3.5



**ELECTRICAL CHARACTERISTICS** -55°C  $T_A$  125°C (Note 1) unless otherwise specified

Test	Symbol	Conditions	Limits		Unit
			Min.	Max.	
Reference Voltage	$V_{REF}$	$I_{OUT} = 10mA$ $T_A = 25^\circ C$	1.20	1.30	V
		3.0V ( $V_{IN} - V_{OUT}$ ) 35V, P 30W 10mA $I_{OUT}$ 3.0A (Note 2)	1.20	1.30	V
Line Regulation (Note 2)	$\frac{V_{OUT}}{V_{IN}}$	3.0V ( $V_{IN} - V_{OUT}$ ) 35V, $I_{OUT} = 10mA$ , $T_J = 25^\circ C$		0.01	%/V
		3.0V ( $V_{IN} - V_{OUT}$ ) 35V, $I_{OUT} = 10mA$		0.05	%/
Load Regulation (Note 2)	$\frac{V_{OUT}}{I_{OUT}}$	10mA $I_{OUT}$ 3.0A, $V_{OUT} = 5.0A$ , $T_J = 25^\circ C$		17.5	mV
		10mA $I_{OUT}$ 3.0A, $V_{OUT} = 5.0A$		50	mV
		10mA $I_{OUT}$ 3.0A, $V_{OUT} = 5.0A$ , $T_J = 25^\circ C$		0.35	%
		10mA $I_{OUT}$ 3.0A, $V_{OUT} = 5.0A$		1.0	%
Thermal Regulation		20ms pulse, $T_A = 25^\circ C$		0.01	%/W
Ripple Rejection (Note 3)	$\frac{V_{IN}}{V_{REF}}$	$V_{OUT} = 10V$ , $f = 120Hz$ $C_{ADJ} = 10\mu F$	66		dB
Adjust Pin Current	$I_{Adj}$			100	$\mu A$
Adjust Pin Current Change	$I_{Adj}$	10mA $I_{OUT}$ 3.0A, $I_{OUT} = 10mA$ 3.0V ( $V_{IN} - V_{OUT}$ ) 35V		5.0	$\mu A$
Minimum Load Current	$I_{MIN}$	$(V_{IN} - V_{OUT}) = 35V$		5.0	mA
Current Limit	$I_{CL}$	$(V_{IN} - V_{OUT}) = 10V$	3.0		A
		$(V_{IN} - V_{OUT}) = 30V$	0.3		A

**Notes:**

1. Unless otherwise specified, these specifications apply for  $(V_{IN} - V_{OUT}) = 5.0V$  and  $I_{OUT} = 1.5A$ . Although power dissipation is internally limited, these characteristics are applicable for power dissipation up to 30W.
2. Regulation is measured at a constant junction temperature using a pulse technique. Changes in output voltage due to heating effects are covered under the specification for thermal regulation.
3. Guaranteed if not tested to the limits specified.