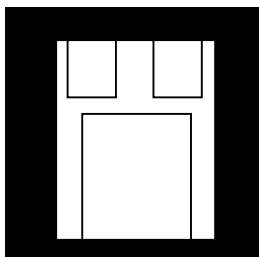


# HERMETIC SURFACE MOUNT ADJUSTABLE NEGATIVE VOLTAGE REGULATORS



## Three Terminal, Adjustable Voltage, 3.0 Amp Precision Negative Regulators In Hermetic Surface Mount Package

### FEATURES

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

### DESCRIPTION

These three terminal negative regulators are supplied in a hermetic 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 1.0% load regulation and .015% 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

$T_C$  ..... 28W

$T_A$  ..... 3W

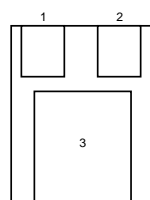
Thermal Resistance:

$\theta_{JC}$  ..... 3.5°C/W

$\theta_{JA}$  ..... 42°C/W

Lead Temperature at Case (5 sec) ..... 225°C

### PIN CONNECTION

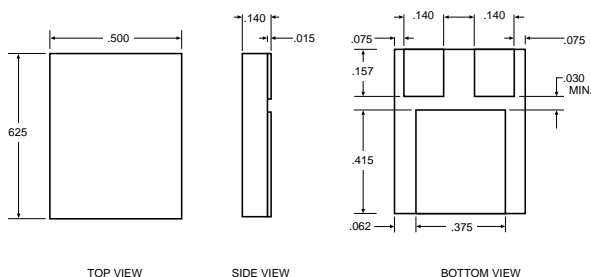


Pin 1: Adjust

Pin 2:  $V_{OUT}$

Pin 3:  $V_{IN}$

### MECHANICAL OUTLINE



TOP VIEW

SIDE VIEW

BOTTOM VIEW

3.5

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

Parameter	Symbol	Test Conditions	Min.	Max.	Unit
Reference Voltage	$V_{REF}$	$ V_{IN} - V_{OUT}  = 5\text{ V}, I_{OUT} = 5\text{ mA}, T_A = 25^\circ\text{C}$	-1.238	-1.262	V
		3 V $ V_{IN} - V_{OUT} $ 35 V	• -1.215	-1.285	
Line Regulation (Note 1)	$\frac{V_{OUT}}{V_{IN}}$	3 V $ V_{IN} - V_{OUT} $ 35 V		0.015	%V
			•	0.04	
Load Regulation (Note 1)	$\frac{V_{OUT}}{I_{OUT}}$	$ V_{OUT}  = 5\text{ V}, T_A = 25^\circ\text{C}$ 10 mA $I_{OUT}$ $I_{MAX.}$		50	mV
			•	75	
			$ V_{OUT}  = 5.0\text{ V}$ 10 mA $I_{OUT}$ $I_{MAX.}$		1.0
		•	1.5		
Thermal Regulation	-	30 ms pulse, $T_A = 25^\circ\text{C}$		0.02	%/W
Ripple Rejection (Note 2)	$\frac{V_{IN}}{V_{REF}}$	$ V_{OUT}  = -10\text{ V}, f = 120\text{ Hz}, C_{Adj} = 0$	56		dB
			• 53		
			$ V_{OUT}  = -10\text{ V}, f = 120\text{ Hz}, C_{Adj} = 10\text{ }\mu\text{F}$	70	
• 60					
Adjust Pin Current	$I_{Adj}$	$V_{DIFF} = 35\text{ V}, I_L = 10\text{ mA}$	•	100	$\mu\text{A}$
Adjust Pin Current Change	$I_{Adj}$	10 mA $I_{OUT}$ $I_{MAX.}$	•	2.0	$\mu\text{A}$
		3 V $ V_{IN} - V_{OUT} $ 35 V	•	5.0	
Minimum Load Current	$I_{Min}$	$ V_{IN} - V_{OUT} $ 35 V	•	5.0	mA
		$ V_{IN} - V_{OUT} $ 10 V	•	3.0	
Current Limit	$I_{Lim}$	$ V_{IN} - V_{OUT} $ 10 V		3.0	A
			•	3.0	
		$ V_{IN} - V_{OUT}  = 35\text{ V}$		0.5	2.5
		•	0.5		
Temperature Stability (Note 2)	$\frac{V_{OUT}}{T}$	-55°C $T_J$ +125°C	•	1.5	%
Long Term Stability (Note 2)	$\frac{V_{OUT}}{T}$	$T_A = +125^\circ\text{C}, t = 1000\text{ hrs}$		1.0	%

**Notes:**

- Line and Load Regulation are measured at a constant junction temperature using a low duty cycle pulse technique. Although power dissipation is internally limited, regulation is guaranteed up to the maximum power dissipation of 30 W. Power dissipation is determined by the input/output differential voltage and the output current. Guaranteed maximum power dissipation will not be available over the full input/output voltage range.
- Guaranteed by design, characterization or correlation to other tested parameters.
- The • denotes the specifications which apply over the full operating temperature range.