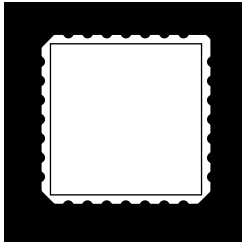


# SURFACE MOUNT 1.0 AMP HIGH VOLTAGE NEGATIVE ADJUSTABLE REGULATOR



**Three Terminal, High Voltage, Precision Adjustable Negative Voltage Regulator In A Hermetic Surface Mount Package**

## FEATURES

- Hermetic Surface Mount Package
- Adjustable Output Voltage
- Built-In Thermal Overload Protection
- Short Circuit Current Limiting
- Product Is Available Hi-Rel Screened
- Electrically Similar To Industry Standard Type LM137HV

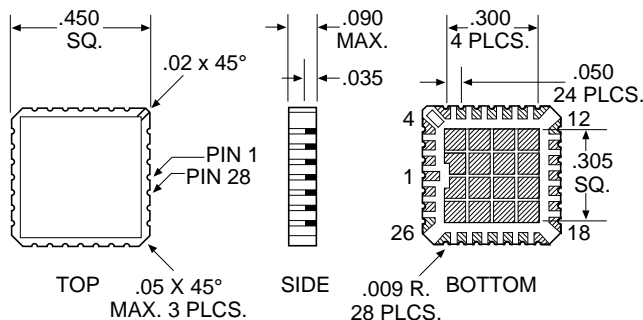
## DESCRIPTION

This three terminal negative regulator is 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 1.0 amp of output current. This unit features output voltages that can be trimmed using external resistors, from -1.2 volts to -47 volts.

## ABSOLUTE MAXIMUM RATINGS @ 25°C

Power Dissipation (P <sub>d</sub> ) (Internally Limited)	10 W
Input - Output Voltage Differential	50 V
Operating Junction Temperature Range	- 55°C to + 150°C
Storage Temperature Range	- 65°C to + 150°C
Lead Temperature (Soldering 10 Seconds)	280°C
Thermal Resistance: Junction-to-Case	10.5°C/W

## MECHANICAL OUTLINE



### Pin Connection

Pin 1, 15 thru 28: OUT  
 Pin 2, 3, 13, and 14: ADJ  
 Pin 4 thru 12: IN

3.5

**ELECTRICAL CHARACTERISTICS** -55°C  $T_A$  125°C,  $I_L = 8\text{mA}$  (unless otherwise specified)

Parameter	Symbol	Test Conditions	Min.	Max.	Unit
Reference Voltage	$V_{REF}$	$ V_{DIFF}  = 3.0\text{V}, T_A = 25^\circ\text{C}$ $ V_{DIFF}  = 3\text{V}$ $ V_{DIFF}  = 50\text{V}, T_A = 25^\circ\text{C}$ $ V_{DIFF}  = 50\text{V}$	-1.30 -1.30 -1.30 -1.30	-1.20 -1.20 -1.20 -1.20	V
Line Regulation (Note 1)	$R_{LINE}$	$3.0\text{V}  V_{DIFF}  50\text{V}, T_A = 25^\circ\text{C}$	-12 -30	12 30	mV
Load Regulation (Note 1)	$R_{LOAD}$	$ V_{DIFF}  = 50\text{V}, 8\text{mA} I_L 110\text{mA}$ $T_A = 25^\circ\text{C}$ $ V_{DIFF}  = 5\text{V}, 8\text{mA} I_L 1.0\text{A}, T_A = 25^\circ\text{C}$	-30 -30 -50	30 30 50	mV
Thermal Regulation	$V_{RTH}$	$V_{IN} = -14.6\text{V}, I_L = 1.0\text{A}$ $P_d = 20\text{ Watts}, t = 10\text{ ms}, T_A = 25^\circ\text{C}$	-16	16	mV
Ripple Rejection (Note 2)	$R_N$	$f = 120\text{ Hz}, V_{OUT} = V_{ref}$ $C_{Adj} = 10\text{ }\mu\text{F}, I_{OUT} = 100\text{ mA}$	66		dB
Adjustment Pin Current	$I_{Adj}$	$ V_{DIFF}  = 3.0\text{V}$ $ V_{DIFF}  = 40\text{V}$ $ V_{DIFF}  = 50\text{V}$		100 100 100	$\mu\text{A}$
Adjustment Pin Current Change	$I_{Adj}$	$ V_{DIFF}  = 5\text{V}, 8\text{mA} I_{OUT} 1.0\text{A}$ $3\text{V}  V_{DIFF}  50\text{V}$	-10 -10	10 10	$\mu\text{A}$
Minimum Load Current	$I_{Lmin}$	$ V_{DIFF}  = 3.0\text{V}, V_{OUT} = -1.4\text{V (forced)}$ $ V_{DIFF}  = 10\text{V}, V_{OUT} = -1.4\text{V (forced)}$ $ V_{DIFF}  = 40\text{V}, V_{OUT} = -1.4\text{V (forced)}$ $ V_{DIFF}  = 50\text{V}, V_{OUT} = -1.4\text{V (forced)}$		10 10 10 10	mA
Current Limit (Note 2)	$I_{CL}$	$ V_{DIFF}  = 50\text{V}, T_A = 25^\circ\text{C}$	0.2	1.0	A

**Notes:**

- Load and Line Regulation are specified at a constant junction temperature. Pulse testing with low duty cycle is used. Changes in output voltage due to heating effects must be taken into account separately.
- If not tested, shall be guaranteed to the specified limits.
- The • denotes the specifications which apply over the full operating temperature range.