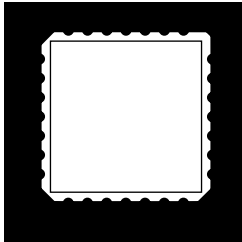


SURFACE MOUNT NEGATIVE ADJUSTABLE VOLTAGE REGULATOR



Three Terminal, Adjustable Voltage, 1.0 Amp Precision Negative 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 LM137
- Available Hi-Rel Screened

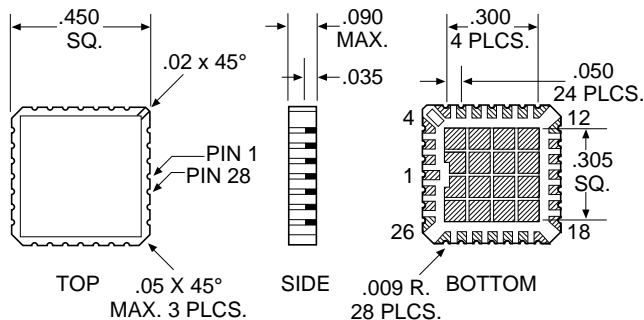
DESCRIPTION

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 -37 volts.

ABSOLUTE MAXIMUM RATINGS @ 25°C

Power Dissipation (P_D) (Internally Limited)	10 W
Input - Output Voltage Differential	40 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	13.5°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 $-55^{\circ}\text{C} \leq T_A \leq 125^{\circ}\text{C}$, $I_L = 8\text{mA}$ (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} = 3.0\text{V}$ $ V_{DIFF} = 40\text{V}$, $T_A = 25^{\circ}\text{C}$ $ V_{DIFF} = 40\text{V}$	• -1.30 • -1.30	-1.20 -1.20	V
Line Regulation (Note 1)	R_{LINE}	3.0 V $ V_{DIFF} $ 40V, $T_A = 25^{\circ}\text{C}$ 3.0 V $ V_{DIFF} $ 40V	• -12 • -25	12 25	mV
Load Regulation (Note 1)	R_{LOAD}	$ V_{DIFF} = 5.0\text{V}$, 8mA I_L 1.0A $ V_{DIFF} = 12\text{V}$, 8mA I_L 1.0A, $T_A = 25^{\circ}\text{C}$ $ V_{DIFF} = 40\text{V}$, 8mA I_L 200mA, $T_A = 25^{\circ}\text{C}$ $ V_{DIFF} = 40\text{V}$, 8mA I_L 100mA	• -30 • -30 • -30 • -30	30 30 30 30	mV
Thermal Regulation	V_{RTH}	$V_{IN} = -14.6\text{V}$, $I_L = 1.0\text{A}$ $P_d = 20$ Watts, $t = 20$ ms, $T_A = 25^{\circ}\text{C}$	• -16	16	mV
Ripple Rejection (Note 2)	R_N	$f = 120$ Hz, $V_{OUT} = V_{ref}$ $C_{Adj} = 10$ μF	• 66		dB
Adjustment Pin Current	I_{Adj}	$ V_{DIFF} = 3.0\text{V}$ $ V_{DIFF} = 40\text{V}$	• •	100 100	μA
Adjustment Pin Current Change	I_{Adj} (Line) I_{Adj} (Load)	3.0V $ V_{DIFF} $ 40V $ V_{DIFF} = 5\text{V}$, 8mA I_L 1.0A	• •	-10 10	μA μA
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)	• • •	10 10 10	mA
Current Limit (Note 2)	I_{CL}	$ V_{DIFF} = 40\text{V}$, $T_A = 25^{\circ}\text{C}$	• 0.24	1.2	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.