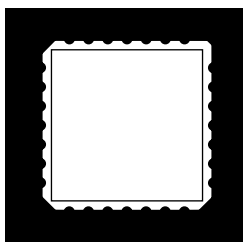


SURFACE MOUNT 1.0 AMP HIGH VOLTAGE NEGATIVE ADJUSTABLE REGULATOR



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

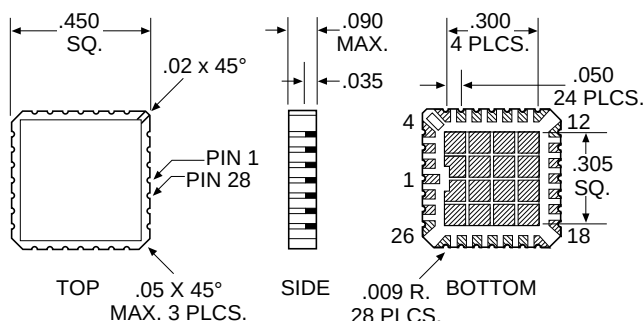
DESCRIPTION

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_D) (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 $-55^{\circ}\text{C} \leq T_A \leq 125^{\circ}\text{C}$, $I_L = 8\text{mA}$ (unless otherwise specified)

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