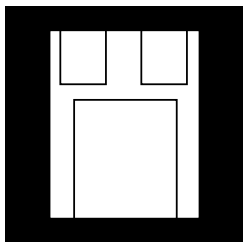


SURFACE MOUNT 1.5 AMP HIGH VOLTAGE NEGATIVE ADJUSTABLE REGULATOR



Three Terminal, High Voltage, Precision Adjustable Negative Voltage Regulator In 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

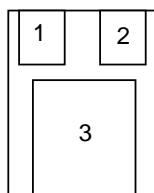
DESCRIPTION

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 over 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

Input to Output Voltage Differential	50 V
Operating Junction Temperature Range	- 55°C to + 150°C
Storage Temperature Range	- 55°C to + 150°C
Typical Power/Thermal Characteristics:	
Rated Power:	
T_C	17.5 W
T_A	3 W
Thermal Resistance:	
θ_{JC}	3.5 °C/W
θ_{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}

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}$	-1.275 • -1.30 •	-1.225 -1.20 -1.225 -1.20	V
Line Regulation (Note 1)	R_{LINE}	3.0 V $ V_{DIFF} = 50\text{V}, T_A = 25^\circ\text{C}$	• -10 • -25	10 25	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}$ $I_L = 1.5\text{A}, T_A = 25^\circ\text{C}$	• -25 • -25 • -45	25 25 45	mV
Thermal Regulation	V_{RTH}	$V_{IN} = -14.6\text{V}, I_L = 1.5\text{A}$ $P_d = 20\text{ Watts}, t = 10\text{ ms}, T_A = 25^\circ\text{C}$	-5	5	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	μA
Adjustment Pin Current Change	I_{Adj}	$ V_{DIFF} = 5\text{V}, 8\text{mA}$ $I_{OUT} = 1.5\text{A}$ 3V $ V_{DIFF} = 50\text{V}$	• -5 • -6	5 6	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) $ V_{DIFF} = 50\text{V}, V_{OUT} = -1.4\text{V}$ (forced)	• • • •	3.0 3.0 5.0 5.0	mA
Current Limit (Note 2)	I_{CL}	$ V_{DIFF} = 5\text{V}$ $ V_{DIFF} = 50\text{V}, T_A = 25^\circ\text{C}$	• 1.5 • 0.2	3.5 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.

MECHANICAL OUTLINE