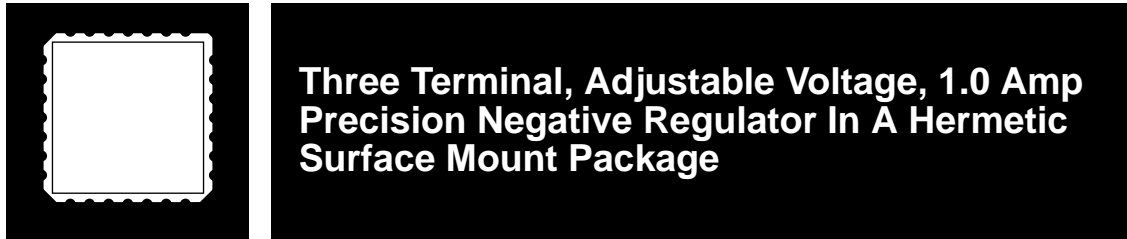


SURFACE MOUNT NEGATIVE ADJUSTABLE VOLTAGE REGULATOR



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

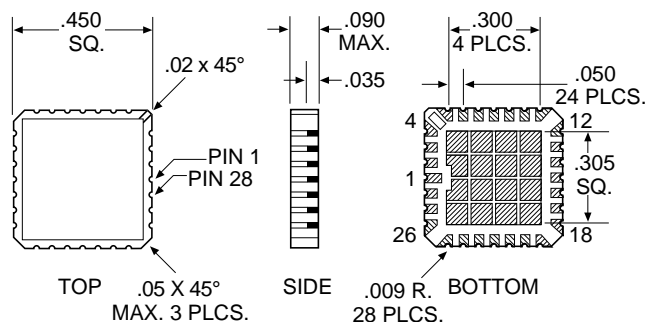
DESCRIPTION

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°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}$, $T_A = 25^\circ\text{C}$	•	-1.30	-1.20	V
		$ V_{DIFF} = 40\text{V}$, $T_A = 25^\circ\text{C}$	•	-1.30	-1.20	
Line Regulation (Note 1)	R_{LINE}	3.0 V $ V_{DIFF} $ 40V, $T_A = 25^\circ\text{C}$	•	-12	12	mV
		3.0 V $ V_{DIFF} $ 40V	•	-25	25	
Load Regulation (Note 1)	R_{LOAD}	$ V_{DIFF} = 5.0\text{V}$, 8mA I_L 1.0A	•	-30	30	mV
		$ V_{DIFF} = 12\text{V}$, 8mA I_L 1.0A, $T_A = 25^\circ\text{C}$	•	-30	30	
		$ V_{DIFF} = 40\text{V}$, 8mA I_L 200mA, $T_A = 25^\circ\text{C}$	•	-30	30	
		$ V_{DIFF} = 40\text{V}$, 8mA I_L 100mA	•	-30	30	
Thermal Regulation	V_{RTH}	$V_{IN} = -14.6\text{V}$, $I_L = 1.0\text{A}$ $P_d = 20\text{ Watts}$, $t = 20\text{ ms}$, $T_A = 25^\circ\text{C}$		-16	16	mV
Ripple Rejection (Note 2)	R_N	$f = 120\text{ Hz}$, $V_{OUT} = V_{ref}$ $C_{Adj} = 10\text{ }\mu\text{F}$	•	66		dB
Adjustment Pin Current	I_{Adj}	$ V_{DIFF} = 3.0\text{V}$	•		100	μA
		$ V_{DIFF} = 40\text{V}$	•		100	
Adjustment Pin Current Change	$I_{Adj}(\text{Line})$	3.0V $ V_{DIFF} $ 40V	•	-10	10	μA
	$I_{Adj}(\text{Load})$	$ V_{DIFF} = 5\text{V}$, 8mA I_L 1.0A	•	-10	10	μA
Mimimum Load Current	I_{Lmin}	$ V_{DIFF} = 3.0\text{V}$, $V_{OUT} = -1.4\text{V}$ (forced)	•		10	mA
		$ V_{DIFF} = 10\text{V}$, $V_{OUT} = -1.4\text{V}$ (forced)	•		10	
		$ V_{DIFF} = 40\text{V}$, $V_{OUT} = -1.4\text{V}$ (forced)	•		10	
Current Limit (Note 2)	I_{CL}	$ V_{DIFF} = 40\text{V}$, $T_A = 25^\circ\text{C}$		0.24	1.2	A

Notes:

1. 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.
2. If not tested, shall be guaranteed to the specified limits.
3. The • denotes the specifications which apply over the full operating temperature range.