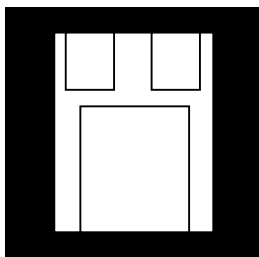


SURFACE MOUNT NEGATIVE ADJUSTABLE VOLTAGE REGULATOR



Three Terminal, Adjustable Voltage, 1.0 Amp Precision Negative Regulator In A Hermetic Surface Mount Package

FEATURES

- Surface Mount Hermetic 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

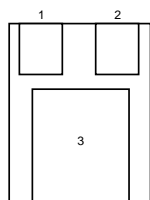
DESCRIPTION

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 1.5 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

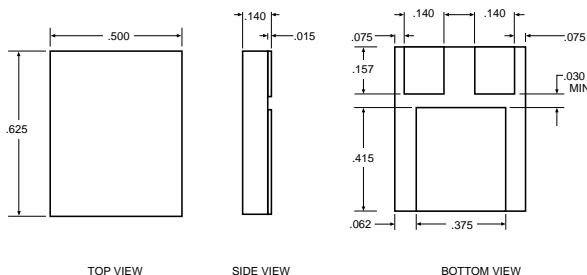
Input to Output Voltage Differential	40 V
Operating Junction Temperature Range	- 55°C to + 150°C
Storage Temperature Range	- 55°C to + 150°C
Typical Power/Thermal Characteristics:	
Rated Power @ 25°C	
T_C	17.5W
T_A	3W
Thermal Resistance:	
θ_{JC}	3.5°C/W
θ_{JA}	42°C/W
Lead Temperature at Case (5 sec)	225°C

PIN CONNECTION



Pin 1: Adjust
Pin 2: V_{OUT}
Pin 3: V_{IN}

MECHANICAL OUTLINE



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}$, $T_A = 25^{\circ}\text{C}$	-1.275	-1.225	V
		$ V_{DIFF} = 3.0\text{V}$	• -1.30	-1.20	
		$ V_{DIFF} = 40\text{V}$, $T_A = 25^{\circ}\text{C}$	-1.275	-1.225	
		$ V_{DIFF} = 40\text{V}$	• -1.30	-1.20	
Line Regulation (Note 1)	R_{LINE}	$3.0\text{V} \leq V_{DIFF} \leq 40\text{V}$, $T_A = 25^{\circ}\text{C}$	-9	9	mV
		$3.0\text{V} \leq V_{DIFF} \leq 40\text{V}$	• -23	23	
Load Regulation (Note 1)	R_{LOAD}	$ V_{DIFF} = 5.0\text{V}$, $8\text{mA} \leq I_L \leq 1.5\text{A}$	• -25	25	mV
		$ V_{DIFF} = 12\text{V}$, $8\text{mA} \leq I_L \leq 1.5\text{A}$, $T_A = 25^{\circ}\text{C}$	-25	25	
		$ V_{DIFF} = 40\text{V}$, $8\text{mA} \leq I_L \leq 200\text{mA}$, $T_A = 25^{\circ}\text{C}$	-25	25	
		$ V_{DIFF} = 40\text{V}$, $8\text{mA} \leq I_L \leq 100\text{mA}$	• -25	25	
Thermal Regulation	V_{RTH}	$V_{in} = -14.6\text{V}$, $I_L = 1.5\text{A}$ $P_d = 20\text{ Watts}$, $t = 20\text{ ms}$, $T_A = 25^{\circ}\text{C}$	-5	5	mV
Ripple Rejection (Note 2)	R_N	$f = 120\text{ Hz}$, $V_{out} = V_{ref}$ $C_{Adj} = 10\text{ }\mu\text{F}$	• 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	$I_{Adj}(\text{Line})$	$3.0\text{V} \leq V_{DIFF} \leq 40\text{V}$	• -5	5	μA
	$I_{Adj}(\text{Load})$	$ V_{DIFF} = 5\text{V}$, $8\text{mA} \leq I_L \leq 1.5\text{A}$	• -5	5	μA
Minimum Load Current	I_{Lmin}	$ V_{DIFF} = 3.0\text{V}$, $V_{out} = -1.4\text{V}$ (forced)	•	3.0	mA
		$ V_{DIFF} = 10\text{V}$, $V_{out} = -1.4\text{V}$ (forced)	•	3.0	
		$ V_{DIFF} = 40\text{V}$, $V_{out} = -1.4\text{V}$ (forced)	•	5.0	
Current Limit (Note 2)	I_{CL}	$ V_{DIFF} = 5\text{V}$	• 1.5	3.5	A
		$ V_{DIFF} = 40\text{V}$, $T_A = 25^{\circ}\text{C}$	0.24	1.2	

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.