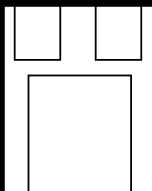


SURFACE MOUNT NEGATIVE ADJUSTABLE VOLTAGE REGULATOR



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

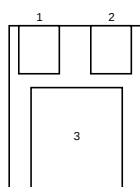
Thermal Resistance:

θ_{JC} 3.5°C/W

θ_{JA} 42°C/W

Lead Temperature at Case (5 sec). 225°C

PIN CONNECTION

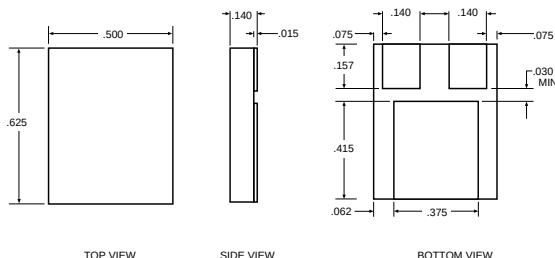


Pin 1: Adjust

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_{\text{DIFF}} = 3.0\text{V}$, $T_A = 25^{\circ}\text{C}$ $ V_{\text{DIFF}} = 3.0\text{V}$ $ V_{\text{DIFF}} = 40\text{V}$, $T_A = 25^{\circ}\text{C}$ $ V_{\text{DIFF}} = 40\text{V}$	• •	-1.275 -1.30 -1.275 -1.30	-1.225 -1.20 -1.225 -1.20	V
Line Regulation (Note 1)	R_{LINE}	$3.0\text{V} \leq V_{\text{DIFF}} \leq 40\text{V}$, $T_A = 25^{\circ}\text{C}$ $3.0\text{V} \leq V_{\text{DIFF}} \leq 40\text{V}$	•	-9 -23	9 23	mV
Load Regulation (Note 1)	R_{LOAD}	$ V_{\text{DIFF}} = 5.0\text{V}$, $8\text{mA} \leq I_L \leq 1.5\text{A}$ $ V_{\text{DIFF}} = 12\text{V}$, $8\text{mA} \leq I_L \leq 1.5\text{A}$, $T_A = 25^{\circ}\text{C}$ $ V_{\text{DIFF}} = 40\text{V}$, $8\text{mA} \leq I_L \leq 200\text{mA}$, $T_A = 25^{\circ}\text{C}$ $ V_{\text{DIFF}} = 40\text{V}$, $8\text{mA} \leq I_L \leq 100\text{mA}$	• •	-25 -25 -25 -25	25 25 25 25	mV
Thermal Regulation	V_{RTH}	$V_{\text{in}} = -14.6\text{V}$, $I_L = 1.5\text{A}$ $P_d = 20\text{ Watts}$, $t = 20\text{ ms}$, $T_A = 25^{\circ}\text{C}$		-5	5	mV
Ripple Rejection (Note 2)	R_N	$f = 120\text{ Hz}$, $V_{\text{out}} = V_{\text{ref}}$ $C_{\text{Adj}} = 10\text{ }\mu\text{F}$	•	66		dB
Adjustment Pin Current	I_{Adj}	$ V_{\text{DIFF}} = 3.0\text{V}$ $ V_{\text{DIFF}} = 40\text{V}$	• •		100 100	μA
Adjustment Pin Current Change	$\Delta I_{\text{Adj}} (\text{Line})$	$3.0\text{V} \leq V_{\text{DIFF}} \leq 40\text{V}$	•	-5	5	μA
	$\Delta I_{\text{Adj}} (\text{Load})$	$ V_{\text{DIFF}} = 5\text{V}$, $8\text{mA} \leq I_L \leq 1.5\text{A}$	•	-5	5	μA
Mimumum 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)	• • •		3.0 3.0 5.0	mA
Current Limit (Note 2)	I_{CL}	$ V_{\text{DIFF}} \leq 5\text{V}$ $ V_{\text{DIFF}} = 40\text{V}$, $T_A = 25^{\circ}\text{C}$	•	1.5 0.24	3.5 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.