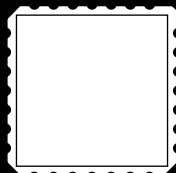


SURFACE MOUNT NEGATIVE ADJUSTABLE VOLTAGE REGULATOR



Three Terminal, Adjustable Voltage, 1.0 Amp Precision Negative 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 LM137
- Available Hi-Rel Screened

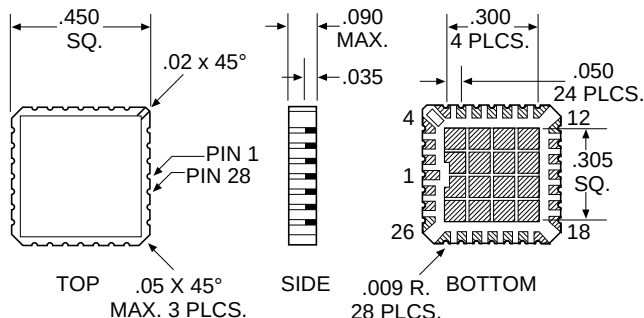
DESCRIPTION

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 $-55^{\circ}\text{C} \leq T_A \leq 125^{\circ}\text{C}$, $I_L = 8\text{mA}$ (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}$	• -1.30 • -1.30	-1.20 -1.20	V
Line Regulation (Note 1)	R_{LINE}	$3.0\text{V} \leq V_{\text{DIFF}} \leq 40\text{V}$, $T_A = 25^{\circ}\text{C}$ $3.0\text{V} \leq V_{\text{DIFF}} \leq 40\text{V}$	-12 -25	12 25	mV
Load Regulation (Note 1)	R_{LOAD}	$ V_{\text{DIFF}} = 5.0\text{V}$, $8\text{mA} \leq I_L \leq 1.0\text{A}$ $ V_{\text{DIFF}} = 12\text{V}$, $8\text{mA} \leq I_L \leq 1.0\text{A}$, $T_A = 25^{\circ}\text{C}$ $ 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}$, $8\text{mA} \leq I_L \leq 100\text{mA}$	• -30 -30 -30 • -30	30 30 30 30	mV
Thermal Regulation	V_{RTH}	$V_{\text{IN}} = -14.6\text{V}$, $I_L = 1.0\text{A}$ $P_d = 20\text{ Watts}$, $t = 20\text{ ms}$, $T_A = 25^{\circ}\text{C}$	-16	16	mV
Ripple Rejection (Note 2)	R_N	$f = 120\text{ Hz}$, $V_{\text{OUT}} = V_{\text{ref}}$ $C_{\text{Adj}} = 10\text{ }\mu\text{F}$	• 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	$\Delta I_{\text{Adj}}(\text{Line})$	$3.0\text{V} \leq V_{\text{DIFF}} \leq 40\text{V}$	• -10	10	μA
	$\Delta I_{\text{Adj}}(\text{Load})$	$ V_{\text{DIFF}} = 5\text{V}$, $8\text{mA} \leq I_L \leq 1.0\text{A}$	• -10	10	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)	• • •	10 10 10	mA
Current Limit (Note 2)	I_{CL}	$ V_{\text{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.