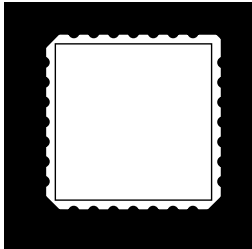


SURFACE MOUNT NEGATIVE ADJUSTABLE VOLTAGE REGULATOR



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

FEATURES

- Hermetic Surface Mount Package
- Adjustable Output Voltage
- Reference Voltage Set Internally to $\pm 2\%$
- Built-In Thermal Overload Protection
- Short Circuit Current Limiting
- Electrically Similar To Industry Standard Type LT1033
- Product Is Available Hi-Rel Screened

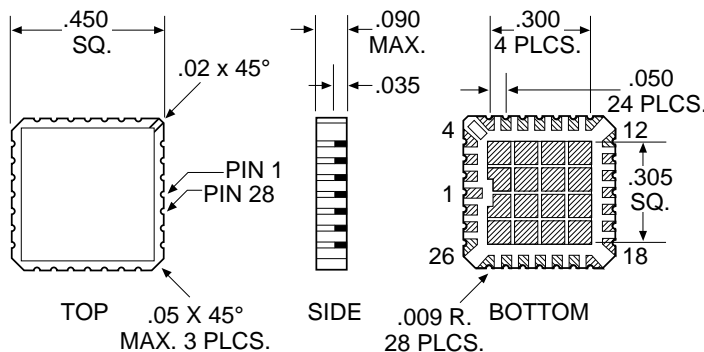
DESCRIPTION

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. This unit features 2% initial voltage tolerance, with 1.0% load regulation and .015% line regulation.

ABSOLUTE MAXIMUM RATINGS @ 25°C

| | |
|---|-----------------|
| Input Voltage..... | -35V |
| Operating Junction Temperature Range..... | -55°C to +150°C |
| Storage Temperature Range | -65° to +150°C |
| Typical Power/Thermal Characteristics: | |
| Rated Power @ 25°C..... | 15W |
| Thermal Resistance Junction-To-Case | 7.5°C/W |

MECHANICAL OUTLINE



Pin Connection
 Pin 1, 15 thru 28: OUT
 Pin 2, 3, 13 and 14: ADJ
 Pin 4 thru 12: IN

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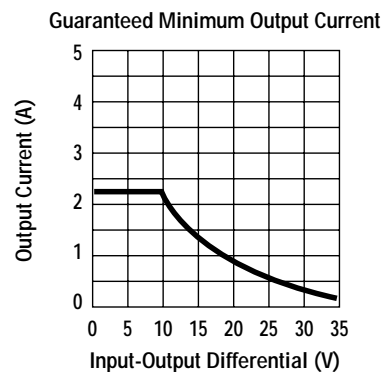
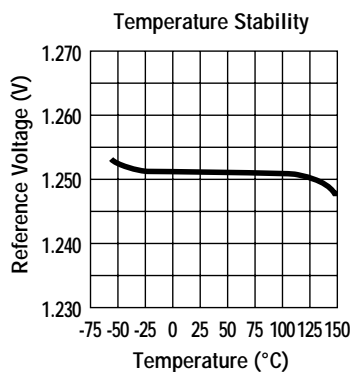
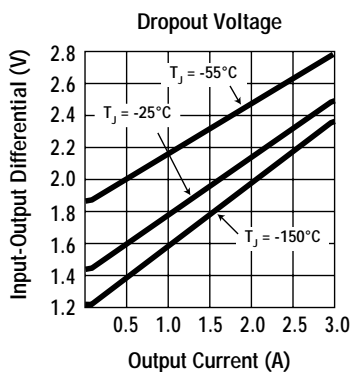
ELECTRICAL CHARACTERISTICS -55°C T_A +125°C (unless otherwise specified)

| Parameter | Symbol | Test Conditions | Min. | Max. | Unit | |
|-----------------------------------|---------------------------|---|----------|--------|---------------|---|
| Reference Voltage | V_{REF} | $ V_{IN} - V_{OUT} = 5\text{ V}, I_{OUT} = 5\text{ mA}, T_A = 25^\circ\text{ C}$ | -1.238 | -1.262 | V | |
| | | 3 V $ V_{IN} - V_{OUT} $ 35 V | • -1.215 | -1.285 | | |
| Line Regulation (Note 1) | $\frac{V_{OUT}}{V_{IN}}$ | 3 V $ V_{IN} - V_{OUT} $ 35 V | | 0.015 | %V | |
| | | | • | 0.04 | | |
| Load Regulation (Note 1) | $\frac{V_{OUT}}{I_{OUT}}$ | $ V_{OUT} $ 5 V, $T_A = 25^\circ\text{ C}$ 10 mA I_{OUT} $I_{MAX.}$ | | 50 | mV | |
| | | | • | 75 | | |
| | | $ V_{OUT} $ 5.0 V 10 mA I_{OUT} $I_{MAX.}$ | | 1.0 | % | |
| | | | • | 1.5 | | |
| Thermal Regulation | - | 30 ms pulse, $T_A = 25^\circ\text{ C}$ | | 0.02 | %/W | |
| Ripple Rejection (Note 2) | $\frac{V_{IN}}{V_{REF}}$ | $ V_{OUT} = -10\text{ V}, f = 120\text{ Hz}, C_{Adj} = 0$ | | 56 | dB | |
| | | | • | 53 | | |
| | | $ V_{OUT} = -10\text{ V}, f = 120\text{ Hz}, C_{Adj} = 10\text{ }\mu\text{F}$ | | 70 | dB | |
| | | | • | 60 | | |
| Adjust Pin Current | I_{Adj} | $V_{DIFF} = 35\text{ V}, I_L = 10\text{ mA}$ | • | 100 | μA | |
| Adjust Pin Current Change | I_{Adj} | 10 mA I_{OUT} $I_{MAX.}$ | • | 2.0 | μA | |
| | | 3 V $ V_{IN} - V_{OUT} $ 35 V | • | 5.0 | | |
| Minimum Load Current | I_{Min} | $ V_{IN} - V_{OUT} $ 35 V | • | 10.0 | mA | |
| | | $ V_{IN} - V_{OUT} $ 10 V | • | 5.0 | | |
| Current Limit | I_{Lim} | $ V_{IN} - V_{OUT} $ 10 V | | 2.2 | A | |
| | | | • | 2.2 | | |
| | | $ V_{IN} - V_{OUT} = 35\text{ V}$ | | .35 | 1.88 | A |
| | | | • | .35 | | |
| Temperature Stability (Note 2) | $\frac{V_{OUT}}{T}$ | -55°C T_J +125°C | • | 1.5 | % | |
| Long Term Stability (Note 2) | $\frac{V_{OUT}}{T}$ | $T_A = +125^\circ\text{ C}, t = 1000\text{ hrs}$ | | 1.0 | % | |

Notes:

- Line and Load Regulation are measured at a constant junction temperature using a low duty cycle pulse technique. Although power dissipation is internally limited, regulation is guaranteed up to the maximum power dissipation of 30 W. Power dissipation is determined by the input/output differential voltage and the output current. Guaranteed maximum power dissipation will not be available over the full input/output voltage range.
- Guaranteed by design, characterization or correlation to other tested parameters.
- The • denotes the specifications which apply over the full operating temperature range.

TYPICAL PERFORMANCE CURVES



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