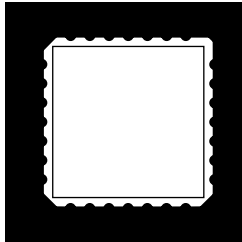


SURFACE MOUNT POSITIVE FIXED VOLTAGE REGULATOR



Three Terminal, Fixed Voltage, 1.0 Amp Precision Positive Regulator In A Hermetic Surface Mount Package

FEATURES

- Hermetic Surface Mount Package
- Output Voltages: +5V, +12V, +15V
- Output Voltages Set Internally To $\pm 2\%$
- Built-In Thermal Overload Protection
- Short Circuit Current Limiting
- Product Is Available Hi-Rel Screened

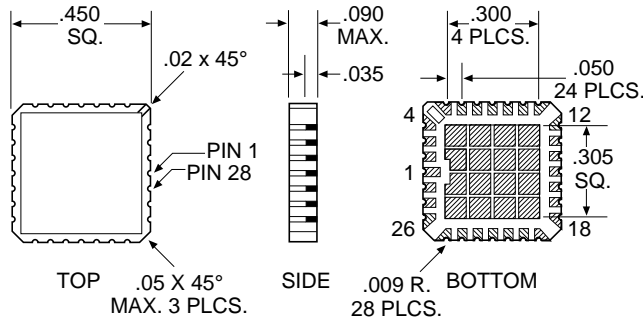
DESCRIPTION

This three terminal positive 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 internally trimmed voltages to $\pm 2\%$ of nominal voltage. Standard voltages are +5V, +12V, and +15V. These units are ideally suited for Military applications where a hermetic surface mount package is required.

ABSOLUTE MAXIMUM RATINGS @ 25°C

Power Dissipation (P_D) (Internally Limited).....	10 W
Input - Output Voltage Differential	35 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.....	18°C/W

MECHANICAL OUTLINE



Pin Connection

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

3.5

ELECTRICAL CHARACTERISTICS $I_O = 500\text{mA}$, -55°C T_A 125°C (unless otherwise specified.)
 OM7805SM: $V_{IN} = 10\text{V}$; OM7812SM: $V_{IN} = 19\text{V}$; OM7815SM: $V_{IN} = 23\text{V}$.

Parameter	Part Number	Conditions	Min.	Max.	Units
Output Voltage, V_{OUT}	OM7805SM	$V_{IN} = 7.5\text{V to }20\text{V}$	• 4.85	5.15	V
	OM7812SM	$V_{IN} = 14.5\text{V to }27\text{V}$	• 11.64	12.36	V
	OM7815SM	$V_{IN} = 18.5\text{V to }30\text{V}$	• 14.55	15.45	V
Line Regulation, V_{RLINE} (Note 1)	OM7805SM	$V_{IN} = 7.5\text{V to }20\text{V}$	•	10	mV
		$V_{IN} = 8.0\text{V to }12\text{V}$	•	24	mV
	OM7812SM	$V_{IN} = 14.5\text{V to }27\text{V}$	•	8	mV
		$V_{IN} = 16\text{V to }22\text{V}$	•	20	mV
	OM7815SM	$V_{IN} = 17.5\text{V to }30\text{V}$	•	36	mV
		$V_{IN} = 20\text{V to }26\text{V}$	•	100	mV
Load Regulation, V_{RLOAD} (Note 1)	OM7805SM	$I_O = 5\text{mA to }1.0\text{Amp}$	•	16	mV
		$I_O = 250\text{mA to }750\text{mA}$	•	33	mV
	OM7812SM	$I_O = 5\text{mA to }1.5\text{Amp}$	•	15	mV
		$I_O = 250\text{mA to }750\text{mA}$	•	30	mV
	OM7815SM	$I_O = 5\text{mA to }1.0\text{Amp}$	•	42	mV
		$I_O = 250\text{mA to }750\text{mA}$	•	80	mV
Standby Current Drain, I_{SCD}			•	46	mV
			•	86	mV
Standby Current Drain Change With Line, I_{SCD} (Line)	OM7805SM	$V_{IN} = 7.5\text{V to }20\text{V}$	•	40	mV
	OM7812SM	$V_{IN} = 15\text{V to }30\text{V}$	•	80	mV
	OM7815SM	$V_{IN} = 18.5\text{V to }30\text{V}$	•	80	mV
Standby Current Drain Change With Load, I_{SCD} (Load)		$I_O = 5\text{mA to }1000\text{mA}$	•	80	mV
Dropout Voltage		$T_A = 25^\circ\text{C}$, $V_{OUT} = 100\text{mV}$, $I_O = 1.0\text{A}$		7.2	mA
Peak Output Current, $I_{O(pk)}$		$T_A = 25^\circ\text{C}$	•	8.0	mA
Short Circuit Current, I_{DS} (Note 2)		$V_{IN} = 35\text{V}$	•	1.0	mA
			•	2.0	mA
			•	2.0	mA
Ripple Rejection $\frac{V_{IN}}{V_{OUT}}$	OM7805SM	$f = 120\text{Hz}$, $V_{IN} = 10\text{V}$	• 63		dB
	OM7812SM	$f = 120\text{Hz}$, $V_{IN} = 10\text{V}$	• 60		dB
	OM7815SM	$f = 120\text{Hz}$, $V_{IN} = 10\text{V}$	• 59		dB
RMS Output Noise, N_O (Note 3)		$T_A = 25^\circ\text{C}$, $f = 10\text{Hz to }100\text{kHz}$		54	dB
Long Term Stability (Note 3) $\frac{V_{IN}}{t}$	OM7805SM	$T_A = 25^\circ\text{C}$, $t = 1000$ hrs.		52	dB
	OM7812SM			40	$\mu\text{V/V rms}$
	OM7815SM			75	mV
				120	mV
				150	mV

Note 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.

Note 2: Short Circuit protection is only assured up to $V_{IN} = 35\text{V}$

Note 3: If not tested, shall be guaranteed to the specified limits.

The • denotes the specifications which apply over the full operating temperature range. If not noted $T_A = 25^\circ\text{C}$