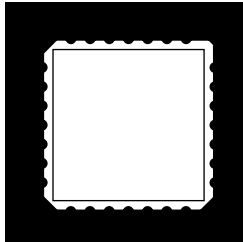


SURFACE MOUNT NEGATIVE FIXED VOLTAGE REGULATOR



Three Terminal, Fixed Voltage, 1.0 Amp Precision Negative 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

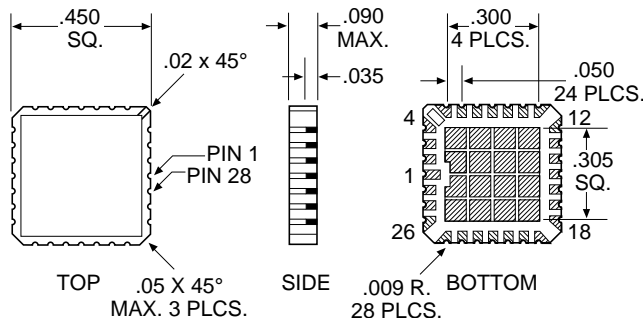
DESCRIPTION

This three terminal 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 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: OUT
 Pin 2, 3, 13, and 14: GND
 Pin 4 thru 12: IN

3.5

ELECTRICAL CHARACTERISTICS $I_O = 500\text{mA}$, $-55^\circ\text{C} \leq T_A \leq 125^\circ\text{C}$ (unless otherwise specified.)
 OM7905SM: $V_{IN} = -10\text{V}$; OM7912SM: $V_{IN} = -19\text{V}$; OM7915SM: $V_{IN} = -23\text{V}$.

Parameter	Part Number	Conditions	Min.	Max.	Units
Output Voltage, V_{OUT}	OM7905SM	$V_{IN} = -7.5\text{V to } -20\text{V}$	• -5.15	-4.85	V
	OM7912SM	$V_{IN} = -14.5\text{V to } -27\text{V}$	• -12.36	-11.64	V
	OM7915SM	$V_{IN} = -17.5\text{V to } -30\text{V}$	• -15.45	-14.55	V
Line Regulation, V_{RLINE} (Note 1)	OM7905SM	$V_{IN} = -7.5\text{V to } -20\text{V}$	•	20	mV
		$V_{IN} = -8.0\text{V to } -12\text{V}$	•	35	mV
	OM7912SM	$V_{IN} = -14.5\text{V to } -27\text{V}$	•	12	mV
		$V_{IN} = -16\text{V to } -22\text{V}$	•	20	mV
	OM7915SM	$V_{IN} = -17.5\text{V to } -30\text{V}$	•	33	mV
		$V_{IN} = -20\text{V to } -26\text{V}$	•	80	mV
Load Regulation, V_{RLOAD} (Note 1)	OM7905SM	$I_O = -5\text{mA to } -1.0\text{Amp}$	•	24	mV
		$I_O = -250\text{mA to } -750\text{mA}$	•	70	mV
	OM7912SM	$I_O = -5\text{mA to } -1.0\text{Amp}$	•	41	mV
		$I_O = -250\text{mA to } -750\text{mA}$	•	82	mV
	OM7915SM	$I_O = -5\text{mA to } -1.0\text{Amp}$	•	36	mV
		$I_O = -250\text{mA to } -750\text{mA}$	•	60	mV
Standby Current Drain, I_{SCD}	OM7905SM		•	35	mV
			•	50	mV
	OM7912SM		•	25	mV
			•	45	mV
	OM7915SM		•	55	mV
			•	70	mV
Standby Current Drain Change With Line, I_{SCD} (Line)	OM7905SM	$V_{IN} = -7.0\text{V to } -20\text{V}$	•	0.6	mA
	OM7912SM	$V_{IN} = -14.5\text{V to } -27\text{V}$	•	1.0	mA
	OM7915SM	$V_{IN} = -17.5\text{V to } -30\text{V}$	•	1.0	mA
Standby Current Drain Change With Load, I_{SCD} (Load)		$I_O = 5\text{mA to } 1000\text{mA}$	•	0.6	mA
Dropout Voltage		$V_{OUT} = 100\text{mV}$, $I_O = 1.0\text{A}$	•	2.5	V
Peak Output Current, $I_{O(pk)}$		$T_A = 25^\circ\text{C}$	• .70	2.0	A
Short Circuit Current, I_{DS} (Note 2)		$V_{IN} = -35\text{V}$	•	1.0	A
Ripple Rejection $\frac{V_{IN}}{V_{OUT}}$	OM7905SM	$f = 120\text{Hz}$, $V_{IN} = -10\text{V}$	• 63		dB
			• 60		dB
	OM7912SM	$f = 120\text{Hz}$, $V_{IN} = 10\text{V}$	• 56		dB
OM7915SM	$f = 120\text{Hz}$, $V_{IN} = 10\text{V}$	• 53		dB	
		• 50		dB	
RMS Output Noise, N_O (Note 3)		$T_A = 25^\circ\text{C}$, $f = 10\text{Hz to } 100\text{kHz}$		40	$\mu\text{V/V rms}$
Long Term Stability (Note 3) $\frac{V_{IN}}{t}$	OM7905SM	$T_A = 25^\circ\text{C}$, $t = 1000\text{ hrs.}$		75	mV
	OM7912SM			120	mV
	OM7915SM			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 $T_A = 25^\circ\text{C}$