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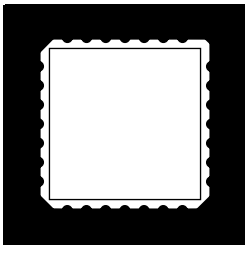
SURFACE MOUNT LOW DROPOUT FIXED VOLTAGE POSITIVE REGULATORS



Three Terminal, +5V, Low Dropout Precision Positive Regulator In Hermetic Surface Mount Package

FEATURES

- +5V Output Voltage
- Operates Down To 1V Dropout
- .015% Line Regulation / .01% Load Regulation Typically
- Output Voltage Trimmed to ±1%
- Hermetic Surface Mount Package
- Available Hi-Rel Screened

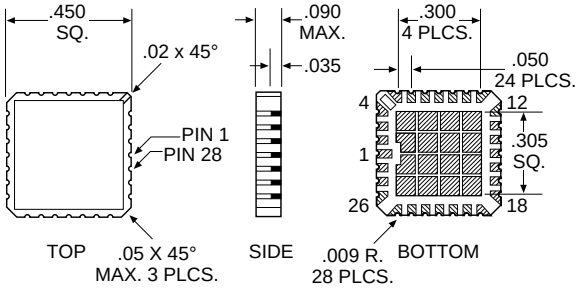
DESCRIPTION

These three terminal positive fixed voltage regulators are designed to provide 2.0 Amps and 1.0 Amp with higher efficiency than conventional voltage regulators. The devices are designed to operate to 1 Volt input to output differential and the dropout voltage is specified as a function of load current. All devices are pin compatible with older three terminal regulators. Supplied in easy-to-use hermetic surface mount packages.

ABSOLUTE MAXIMUM RATINGS @ 25°C

Input Voltage	35 V
Operating Junction Temperature Range	- 55°C to + 150°C
Storage Temperature Range	- 55°C to + 150°C
Output Current - OM185-5SM	2.0 A
OM186-5SM	1.0 A
Thermal Resistance - OM185-5SM	9°C/W
OM186-5SM	14°C/W
Lead Temperature (Soldering 10 Seconds)	280°C

MECHANICAL OUTLINE



Pin Connection

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

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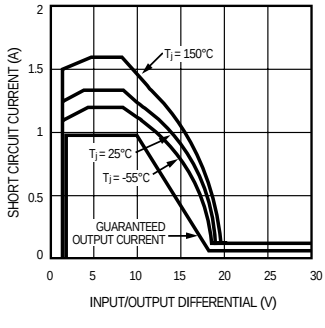
ELECTRICAL CHARACTERISTICS (T_J = -55°C to +125°C)

Parameter	Conditions	Min.	Max.	Units
Output Voltage [3] OM185/6-5SM	I_{OUT} = 0 mA, T_J = 25°C, V_{IN} = 8 V, 0 ≤ I_{OUT} ≤ $I_{FULL\ LOAD}$, 6.5 V ≤ V_{IN} ≤ 30 V	4.90	5.10	V
Line Regulation [1,2] OM185/6-5SM	I_{OUT} = 0 mA, T_J = 25°C, 6.5 V ≤ V_{IN} < 20V		12 20	mV
Load Regulation [1, 2, 3] OM185/6-5SM	V_{IN} ≤ 8 V, 0 ≤ I_{OUT} ≤ $I_{FULL\ LOAD}$, T_J = 25°C		25 40	mV
Current Limit OM185-5SM OM186-5SM	V_{IN} = 10 V	 2.0 1.0		 A A
Dropout Voltage OM185/6-5SM	ΔV_{OUT} = 50 mV, I_{OUT} = $I_{FULL\ LOAD}$		6.5	V
Quiescent Current	V_{IN} ≤ 30V		20.0	mA
Thermal Regulation OM185/6-5SM	T_A = 25°C, 30 ms pulse		0.01	%/
Ripple Rejection	f = 120 Hz, C_{OUT} = 25 µF Tantalum I_{OUT} = $I_{FULL\ LOAD}$, V_{IN} = 8 V	 60		 dB
Temperature Stability			1.0	%
Long Term Stability	T_A = 125°C, 1000 Hrs.		1.0	%

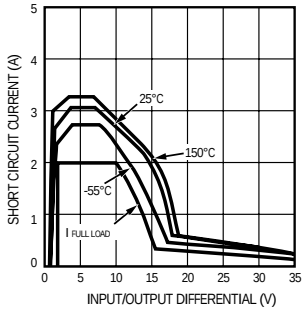
Note 1: Load and line regulation are measured at a constant junction temperature by low duty cycle pulse testing.
Note 2: Line and load regulation are guaranteed up to the maximum power dissipation (OM185-5/20W, OM186-5/10W). Power dissipation is determined by the input/output differential and the output current. Guaranteed maximum power dissipation will not be available over the full input/output voltage range.
Note 3: $I_{FULL\ LOAD}$ curve is defined as the minimum value of current limit as a function of input to output voltage. Note that power dissipation is only achievable over a limited range of input to output voltage.

TYPICAL PERFORMANCE CHARACTERISTICS

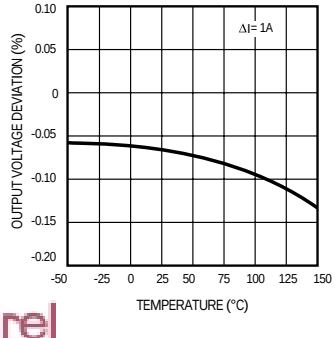
OM186-5SM SHORT CIRCUIT CURRENT



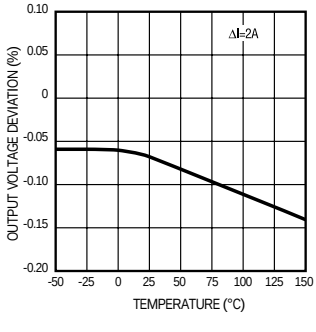
OM185-5SM SHORT CIRCUIT CURRENT



OM186-5SM LOAD REGULATION



OM185-5SM LOAD REGULATION



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