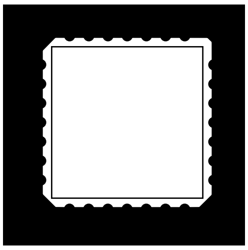
OM185SM/SR/NR
OM186SM/SR/NR

SURFACE MOUNT LOW DROPOUT POSITIVE ADJUSTABLE REGULATOR



Three Terminal, Adjustable Low Dropout 2.0 Amp And 1.0 Amp Positive Voltage Regulators

FEATURES

- Hermetic Surface Mount Package
- Operates Down To 1V Dropout, 1.5V @ Max. Current
- .020% Line Regulation Typically
- .050% Load Regulation Typically
- 1% Reference Voltage
- Electrically Equivalent To LT1085 And LT1086
- Available Hi-Rel Screened

DESCRIPTION

These three terminal positive adjustable voltage regulators in a surface mount package 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. These devices are ideally suited for Hi-Rel applications where surface mount, small size, hermeticity and high reliability are required.

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 -	OM185SM	2.0 A
	OM186SM	1.0 A
Thermal Resistance -	OM185SM	9°C/W
	OM186SM	14°C/W
Lead Temperature (Soldering 10 Seconds)		280°C

3.5

Omnirel

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

Parameter	Conditions		Min.	Max.	Units
Reference Voltage	I_{OUT} = 10mA, T_j = 25°C $(V_{IN} - V_{OUT})$ = 3V		1.238	1.262	V
	10mA ≤ I_{OUT} ≤ $I_{FULL\ LOAD}$ 1.5V ≤ $(V_{IN} - V_{OUT})$ ≤ 25 V (Note 3)	•	1.220	1.270	V
Line Regulation	I_{LOAD} = 10mA, 1.5V ≤ $(V_{IN} - V_{OUT})$ ≤ 15V, T_j = 25°C			0.25	%
	15V ≤ $(V_{IN} - V_{OUT})$ ≤ 35V (Notes 1 & 2)	•		0.6	%
Load Regulation	$(V_{IN} - V_{OUT})$ = 3V 10mA ≤ I_{OUT} ≤ $I_{FULL\ LOAD}$ T_j = 25°C (Notes 1, 2, & 3)			1.0	%
		•		1.2	%
Dropout Voltage	ΔV_{REF} = 1%, I_{OUT} = $I_{FULL\ LOAD}$	•		1.5	V
Current Limit					
OM185SM	$(V_{IN} - V_{OUT})$ = 5V	•	2.0		A
	$(V_{IN} - V_{OUT})$ = 25V	•	0.10		A
OM186SM	$(V_{IN} - V_{OUT})$ = 5V	•	1.0		A
	$(V_{IN} - V_{OUT})$ = 25V	•	0.05		A
Minimum Load Current	$(V_{IN} - V_{OUT})$ = 25V	•		15	mA
Thermal Regulation	T_A = 25°C, 30 ms pulse				
OM185SM				0.025	%/W
OM186SM				0.055	%/W
Ripple Rejection	f = 120Hz C_{ADJ} = 25µF Tantalum I_{OUT} - $I_{FULL\ LOAD}$ $(V_{IN} - V_{OUT})$ = 3V		60		dB
Adjust Pin Current	T_J = 25°C			120	µA
Adjust Pin Current Change	10mA ≤ I_{OUT} ≤ $I_{FULL\ LOAD}$ 1.5V ≤ $(V_{IN} - V_{OUT})$ ≤ 25V	•		5	µA
Temperature Stability	-55°C ≤ T_J ≤ +150°C			1	%
Long Term Stability	T_A = 125°C, 1000 Hrs.			1	%

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 (OM185/20W, OM186/10W). 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.

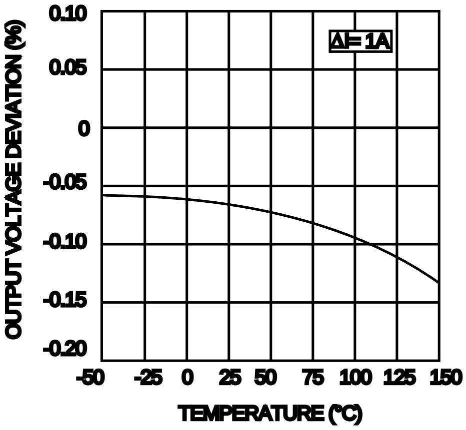
Note 3: $I_{FULL\ LOAD}$ curve is defined as the minimum value of current limit as a function of input to output voltage. Note that power dissipation is only achievable over a limited range of input to output voltage.

Note 4: Dropout voltage is specified over the full output current range of the device.

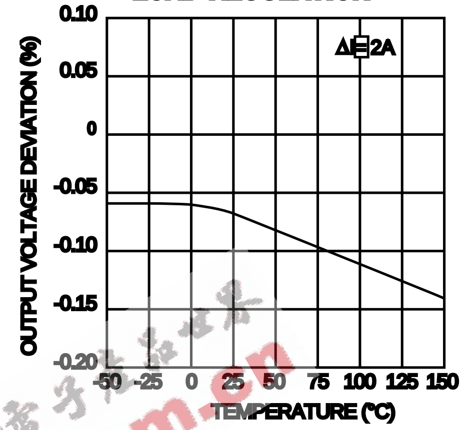
The • denotes the specifications which apply over the full operating temperature range.

TYPICAL PERFORMANCE CHARACTERISTICS

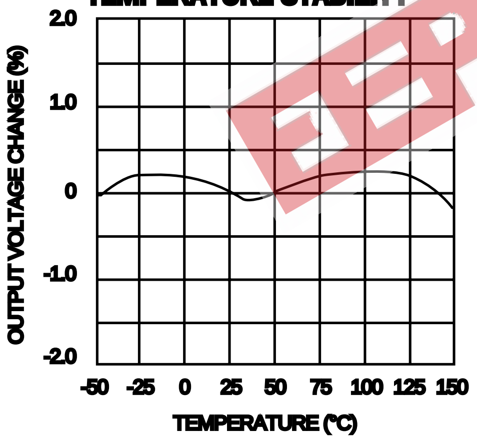
OM186SM
LOAD REGULATION



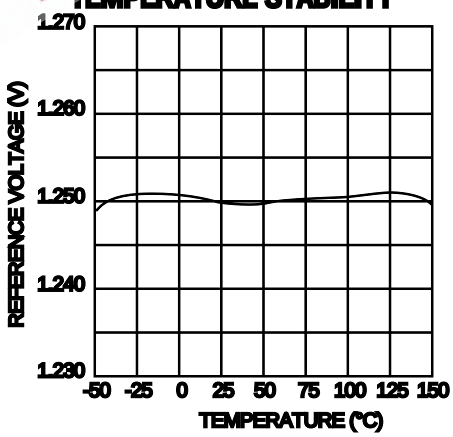
OM185SM
LOAD REGULATION



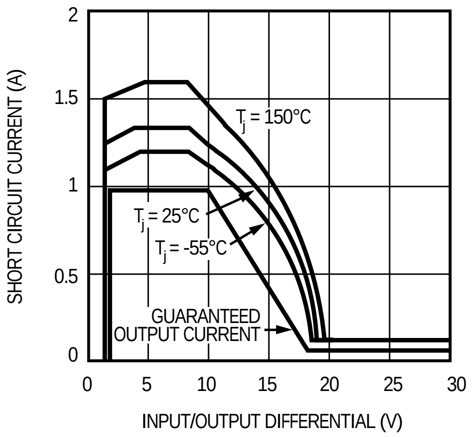
OM186SM
TEMPERATURE STABILITY



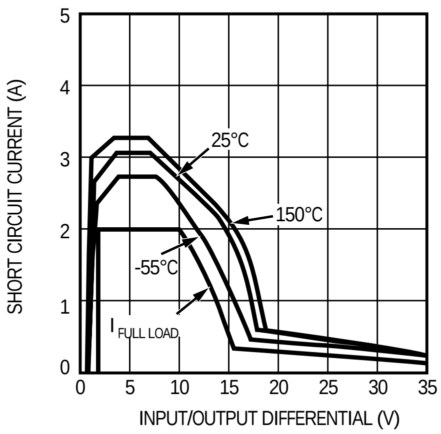
OM185SM
TEMPERATURE STABILITY



OM186SM
SHORT CIRCUIT CURRENT



OM185SM
SHORT CIRCUIT CURRENT

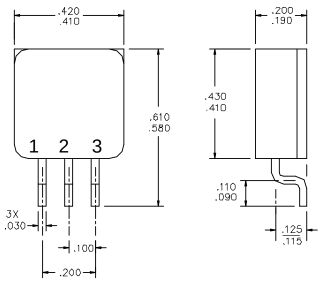


3.5

Omnirel

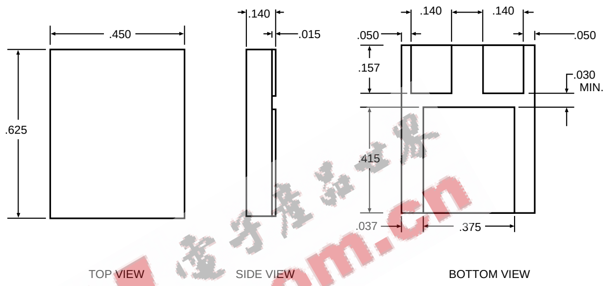
MECHANICAL OUTLINES

D2

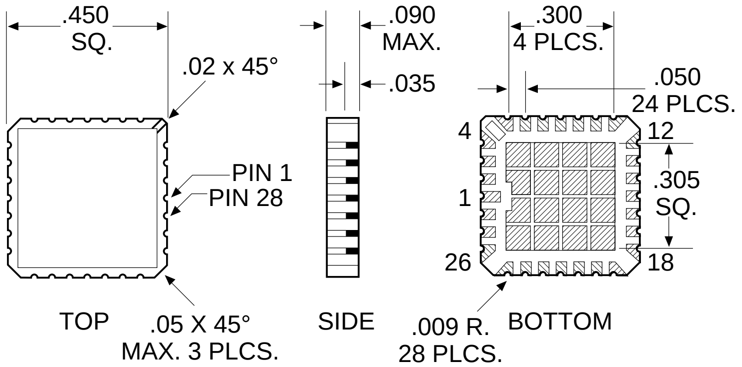


1. ADJ
2. Vout
3. Vin

SMD-1



LCC-28



Pin Connection

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