

SURFACE MOUNT POSITIVE ADJUSTABLE 3.0 AMP VOLTAGE REGULATOR



Isolated Hermetic Surface Mount Package 3.0 Amp, Positive Adjustable Voltage Regulator

FEATURES

- Isolated Hermetic Surface Mount Package
- Reference Voltage Set To $\pm 2\%$ ($\pm 1\%$ Available)
- Built-In Thermal Overload Protection
- Short Circuit Current Limiting
- Product Is Available Hi-Rel Screened
- Electrically Similar To Industry Standard Type LM150A

DESCRIPTION

These three terminal positive regulators are supplied in a hermetic metal 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 over 3.0 amps of output current. These units feature 2% initial voltage tolerance, with 0.3% load regulation and .01% line regulation.

ABSOLUTE MAXIMUM RATINGS @ 25°C

Input to Output Voltage Differential	+35V
Operating Junction Temperature Range	- 55°C to + 150°C
Storage Temperature Range	- 55°C to + 150°C

Typical Power/Thermal Characteristics:

Rated Power @ 25°C

T_C	25W
T_A	3W

Thermal Resistance:

θ_{JC}	4.2°C/W
θ_{JA}	42°C/W
Lead Temperature at Case (5 sec)	225°C

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Note: For $\pm 1\%$ device, add letter "A" in front of part number (e.g. OMA7637SM).

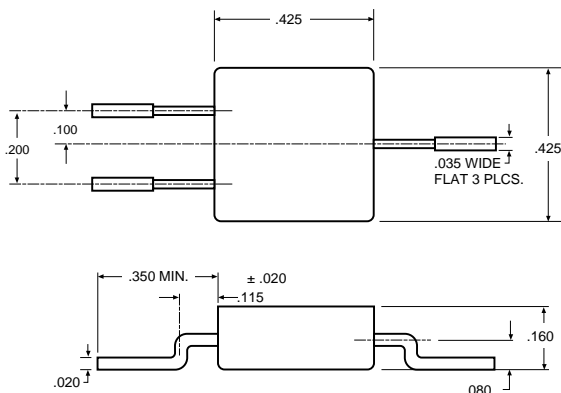
ELECTRICAL CHARACTERISTICS -55°C T_A 125°C (Note 1) unless otherwise specified

Test	Symbol	Conditions	Limits		Unit
			Min.	Max.	
Reference Voltage	V _{REF}	I _{OUT} = 10mA T _A = 25°C	1.20	1.30	V
		3.0V (V _{IN} - V _{OUT}) 35V, P 30W 10mA I _{OUT} 3.0A (Note 2)	1.20	1.30	V
Line Regulation (Note 2)	$\frac{V_{OUT}}{V_{IN}}$	3.0V (V _{IN} - V _{OUT}) 35V, I _{OUT} = 10mA, T _J = 25°C		0.01	%/V
		3.0V (V _{IN} - V _{OUT}) 35V, I _{OUT} = 10mA		0.05	%/V
Load Regulation (Note 2)	$\frac{V_{OUT}}{I_{OUT}}$	10mA I _{OUT} 3.0A, V _{OUT} 5.0A, T _J = 25°C		17.5	mV
		10mA I _{OUT} 3.0A, V _{OUT} 5.0A		50	mV
		10mA I _{OUT} 3.0A, V _{OUT} 5.0A, T _J = 25°C		0.35	%
		10mA I _{OUT} 3.0A, V _{OUT} 5.0A		1.0	%
Thermal Regulation		20ms pulse, T _A = 25°C		0.01	%/W
Ripple Rejection (Note 3)	$\frac{V_{IN}}{V_{REF}}$	V _{OUT} = 10V, f = 120Hz C _{ADJ} = 10μF	66		dB
Adjust Pin Current	I _{Adj}			100	μA
Adjust Pin Current Change	I _{Adj}	10mA I _{OUT} 3.0A, I _{OUT} = 10mA 3.0V (V _{IN} - V _{OUT}) 35V		5.0	μA
Minimum Load Current	I _{MIN}	(V _{IN} - V _{OUT}) = 35V		5.0	mA
Current Limit	I _{CL}	(V _{IN} - V _{OUT}) 10V	3.0		A
		(V _{IN} - V _{OUT}) = 30V	0.3		A

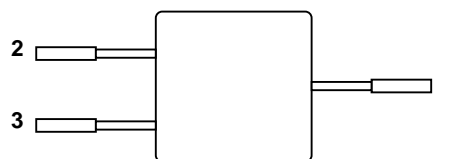
Notes:

1. Unless otherwise specified, these specifications apply for (V_{IN} - V_{OUT}) = 5.0V and I_{OUT} = 1.5A. Although power dissipation is internally limited, these characteristics are applicable for power dissipation up to 30W.
2. Regulation is measured at a constant junction temperature using a pulse technique. Changes in output voltage due to heating effects are covered under the specification for thermal regulation.
3. Guaranteed if not tested to the limits specified.

MECHANICAL OUTLINE



PIN CONNECTION



Pin 1: V_{OUT}
 Pin 2: Adjust
 Pin 3: V_{IN}
 Case: Isolated

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