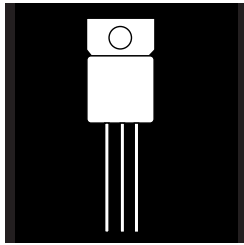


ISOLATED HERMETIC TO-257AA ADJUSTABLE VOLTAGE REGULATOR



Three Terminal, Adjustable Voltage, 3.0 Amp Precision Positive Regulator In A Hermetic JEDEC TO-257AA Package

FEATURES

- Isolated Hermetic Package, JEDEC TO-257AA Outline
- Reference Voltages Set To $\pm 2\%$ ($\pm 1\%$ Available)
- Built-In Thermal Overload Protection
- Short Circuit Current Limiting
- Product Is Available Screened To MIL-STD-883
- Similar To Industry Standard P/N LM150A

DESCRIPTION

These three terminal positive regulators are supplied in a hermetically sealed metal package whose outline is similar to the industry standard TO-220 plastic 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, 0.3% load regulation and 0.01% line regulation.

ABSOLUTE MAXIMUM RATINGS @ 25°C

Input Voltage	+35V
Operating Junction Temperature Range.....	-55°C to +150°C
Storage Temperature Range	-65° to +150°C
Typical Power/Thermal Characteristics:	
Rated Power @ 25°C	
T_C	25W
T_A	3W
Thermal Resistance	
α_{JC}	4.2°C/W
α_{JA}	42°C/W

3.3

Note: For $\pm 1\%$ device, add letter "A" in front of part number (e.g. OMA 7604ST).

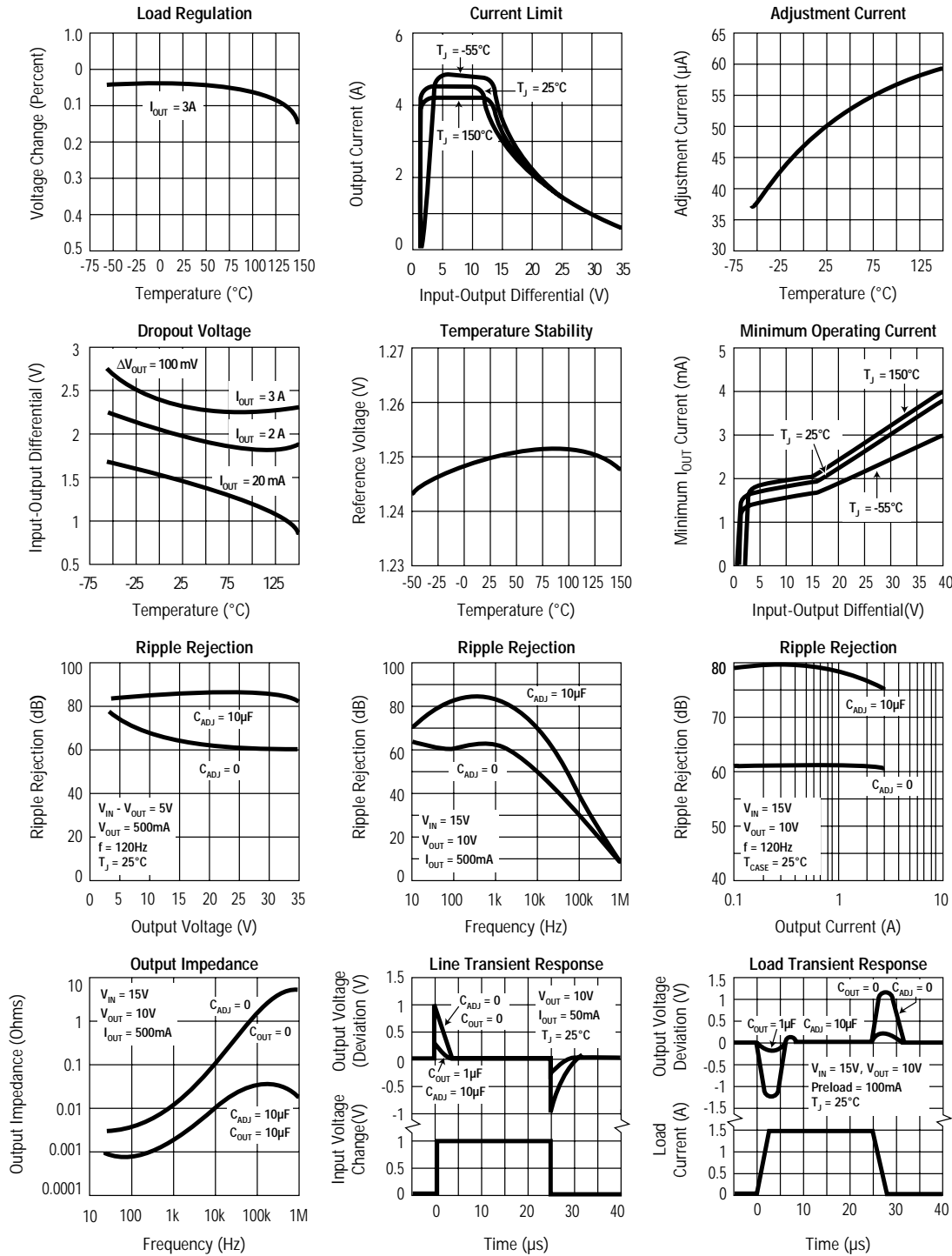
ELECTRICAL CHARACTERISTICS -55°C T_A 125°C (Note 1) unless otherwise specified

Test	Symbol	Conditions	Limits		Unit
			Min.	Max.	
Reference Voltage	V_{REF}	$I_{OUT} = 10\text{mA}$ $T_A = 25^\circ\text{C}$	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)	$\frac{\Delta V_{OUT}}{\Delta V_{IN}}$	3.0V ($V_{IN} - V_{OUT}$) 35V, $I_{OUT} = 10\text{mA}$, $T_J = 25^\circ\text{C}$		0.01	%/V
		3.0V ($V_{IN} - V_{OUT}$) 35V, $I_{OUT} = 10\text{mA}$		0.05	%/V
Load Regulation (Note 2)	$\frac{\Delta V_{OUT}}{\Delta I_{OUT}}$	10mA I_{OUT} 3.0A, V_{OUT} 5.0A, $T_J = 25^\circ\text{C}$		17.5	mV
		10mA I_{OUT} 3.0A, V_{OUT} 5.0A		50	mV
		10mA I_{OUT} 3.0A, V_{OUT} 5.0A, $T_J = 25^\circ\text{C}$		0.35	%
		10mA I_{OUT} 3.0A, V_{OUT} 5.0A		1.0	%
Thermal Regulation		20ms pulse, $T_A = 25^\circ\text{C}$		0.01	%/W
Ripple Rejection (Note 3)	$\frac{\Delta V_{IN}}{\Delta V_{REF}}$	$V_{OUT} = 10\text{V}$, $f = 120\text{Hz}$ $C_{ADJ} = 10\mu\text{F}$	66		dB
Adjust Pin Current	I_{Adj}			100	μA
Adjust Pin Current Change	ΔI_{Adj}	10mA I_{OUT} 3.0A, $I_{OUT} = 10\text{mA}$ 3.0V ($V_{IN} - V_{OUT}$) 35V		5.0	μA
Minimum Load Current	I_{MIN}	$(V_{IN} - V_{OUT}) = 35\text{V}$		5.0	mA
Current Limit	I_{CL}	$(V_{IN} - V_{OUT}) = 10\text{V}$	3.0		A
		$(V_{IN} - V_{OUT}) = 30\text{V}$	0.3		A

Notes:

1. Unless otherwise specified, these specifications apply for $(V_{IN} - V_{OUT}) = 5.0\text{V}$ and $I_{OUT} = 1.5\text{A}$. 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.

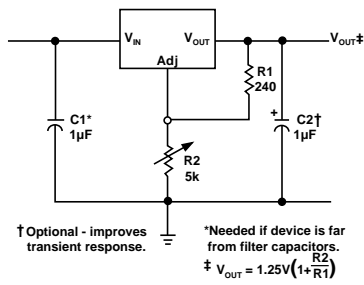
TYPICAL PERFORMANCE CHARACTERISTICS



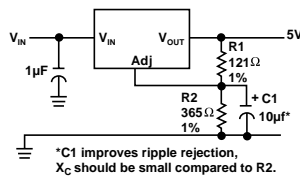
3.3

TYPICAL APPLICATIONS

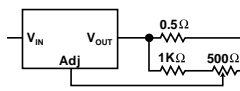
1.2 - 2.5V Adjustable Regulator



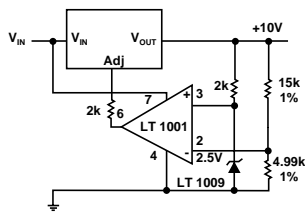
Improving Ripple Rejection



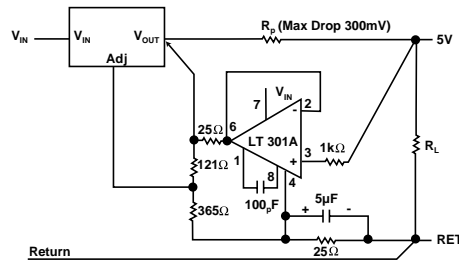
Adjustable Current Limiter



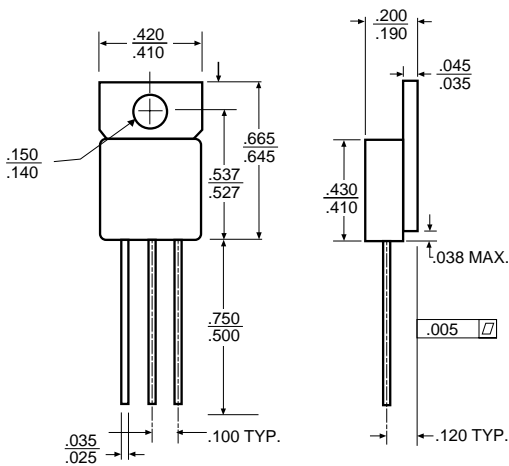
Precision High Current Reference



Remote Sensing



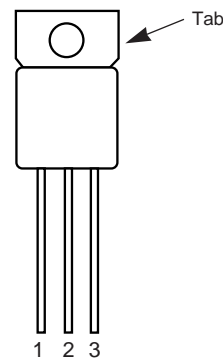
MECHANICAL OUTLINE



NOTES

- Case is metal/hermetically sealed
- Isolated Tab

PIN CONNECTION



- Front View
 Pin 1: Adjust
 Pin 2: V_{OUT}
 Pin 3: V_{IN}
 Tab: Isolated