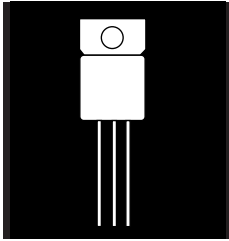


(COTS) COMMERCIAL OFF-THE-SHELF 1.5 AMP POSITIVE ADJUSTABLE VOLTAGE REGULATOR IN TO-257 PACKAGE



Three Terminal, Precision Adjustable Positive Voltage Regulator In TO-257 Package

FEATURES

- Built In Thermal Overload Protection
- Short Circuit Current Limiting

DESCRIPTION

These three terminal positive regulators are supplied in hermetically sealed packages. All protective features are designed into the circuit, including thermal shutdown, current-limiting, and safe-area control. With heat sinking, these devices can deliver up to 1.5 amps of output current. The unit also features output voltages that can be fixed from 1.2 volts to 37 volts using external resistors.

ABSOLUTE MAXIMUM RATINGS  $T_c @ 25^\circ C$

Power Dissipation

TO-257	.....	.....
. 20 W		
Input - Output Voltage Differential	.....	40
V Operating Junction Temperature Range	.....	- 55°C to + 150°C
Storage Temperature Range	.....	- 65°C to + 150°C
Lead Temperature (Soldering 10 seconds)	.....	.....
300°C Thermal Resistance, Junction to Case:	.....	.....
.....	.4.2°C/W	
Maximum Output Current:	.....	.....
.1.5 A		

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Recommended Operating Conditions:

Output Voltage Range	.....	1.2 to 37 VDC
Ambient Operating Temperature Range ( $T_A$ )	.....	- 55°C to + 125°C
Input Voltage Range	.....	4.25 to 41.25 VDC

ELECTRICAL CHARACTERISTICS -55°C T<sub>A</sub> 125°C, I<sub>L</sub> = 8mA (unless otherwise specified)

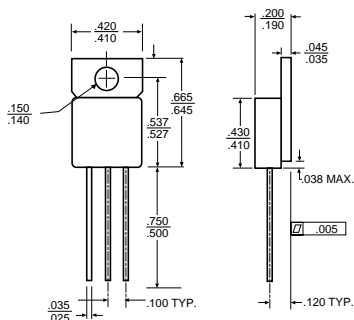
Parameter	Symbol	Test Conditions	Min.	Max.	Unit
Reference Voltage	V <sub>REF</sub>	V <sub>DIFF</sub> = 3.0V, T <sub>A</sub> = 25°C V <sub>DIFF</sub> = 3.3V V <sub>DIFF</sub> = 40V	1.20 • 1.20 • 1.20	1.30 1.30 1.30	V
Line Regulation (Note 1)	R <sub>LINE</sub>	3.0V V <sub>DIFF</sub> 40V, V <sub>oL</sub> = V <sub>ref</sub> , T <sub>A</sub> = 25°C 3.3V V <sub>DIFF</sub> 40V, V <sub>oL</sub> = V <sub>ref</sub>	-9 • -23	9 23	mV
Load Regulation (Note 1)	R <sub>LOAD</sub>	V <sub>DIFF</sub> = 3.0V, 10mA I <sub>L</sub> 1.5A, T <sub>A</sub> = 25°C V <sub>DIFF</sub> = 3.3V, 10mA I <sub>L</sub> 1.5A V <sub>DIFF</sub> = 40V, 10mA I <sub>L</sub> 300mA, T <sub>A</sub> = 25°C V <sub>DIFF</sub> = 40V, 10mA I <sub>L</sub> 195mA	-15 • -15 -15 • -15	15 15 15 15	mV
Thermal Regulation	V <sub>RTH</sub>	V <sub>in</sub> = 14.6V, I <sub>L</sub> = 1.5A P <sub>d</sub> = 20 Watts, t = 20 ms, T <sub>A</sub> = 25°C	-16	16	mV
Ripple Rejection (Note 2)	R <sub>N</sub>	f = 120 Hz, V <sub>oL</sub> = V <sub>ref</sub> C <sub>Adj</sub> = 10 μF	• 66		dB
Adjustment Pin Current	I <sub>Adj</sub>	V <sub>DIFF</sub> = 3.0V, T <sub>A</sub> = 25°C V <sub>DIFF</sub> = 3.3V V <sub>DIFF</sub> = 40V	• •	100 100 100	μA
Adjustment Pin Current Change	ΔI <sub>Adj</sub>	V <sub>DIFF</sub> = 3.0V, 10mA I <sub>L</sub> 1.5A, T <sub>A</sub> = 25°C V <sub>DIFF</sub> = 3.3V, 10mA I <sub>L</sub> 1.5A V <sub>DIFF</sub> = 40V, 10mA I <sub>L</sub> 300mA, T <sub>A</sub> = 25°C V <sub>DIFF</sub> = 40V, 10mA I <sub>L</sub> 195mA 3.0V V <sub>DIFF</sub> 40V, T <sub>A</sub> = 25°C 3.3V V <sub>DIFF</sub> 40V	• -5 • -5 • -5 • -5 • -5	5 5 5 5 5	μA
Minimum Load Current	I <sub>min</sub>	V <sub>DIFF</sub> = 3.0V, V <sub>OUT</sub> = 1.4V (forced) V <sub>DIFF</sub> = 3.3V, V <sub>OUT</sub> = 1.4V (forced) V <sub>DIFF</sub> = 40V, V <sub>OUT</sub> = 1.4V (forced)	• • •	5.0 5.0 5.0	mA
Current Limit (Note 2)	I <sub>L</sub>	V <sub>DIFF</sub> = 15V V <sub>DIFF</sub> = 40V, T <sub>A</sub> = 25°C	• 1.5 0.18	3.5 1.5	A

Notes:

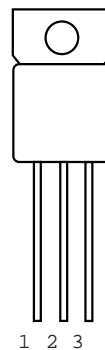
1. Load and Line Regulation are specified at a constant junction temperature. Pulse testing with low duty cycle is used. Changes in output voltage due to heating effects must be taken into account separately.
2. If not tested, shall be guaranteed to the specified limits.
3. The • denotes the specifications which apply over the full operating temperature range.

3.3

MECHANICAL OUTLINE TO-257AA



PIN CONNECTION



Front View  
 Pin 1: Adjust  
 Pin 2: Output  
 Pin 3: Input  
 Tab: Isolated