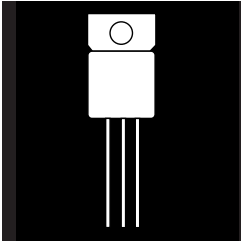


(COTS) COMMERCIAL OFF-THE-SHELF 1.5 AMP NEGATIVE, ADJUSTABLE VOLTAGE REGULATOR IN TO-257 PKG



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

FEATURES

- Built In Thermal Overload Protection
- Short Circuit Current Limiting

DESCRIPTION

These three terminal negative 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

3.3

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

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ELECTRICAL CHARACTERISTICS -55°C T_A 125°C, I_L = 8mA (unless otherwise specified)

Parameter	Symbol	Test Conditions	Min.	Max.	Unit
Reference Voltage	V _{REF}	V _{DIFF} Ⓢ= 3.0V, T _A = 25°C	-1.275	-1.225	V
		V _{DIFF} Ⓢ= 3.0V	-1.30	-1.20	
		V _{DIFF} Ⓢ= 40V, T _A = 25°C	-1.275	-1.225	
		V _{DIFF} Ⓢ= 40V	-1.30	-1.20	
Line Regulation (Note 1)	R _{LINE}	3.0 V V _{DIFF} Ⓢ 40V, T _A = 25°C	-9	9	m V
		3.0 V V _{DIFF} Ⓢ 40V	-23	23	
Load Regulation (Note 1)	R _{LOAD}	V _{DIFF} Ⓢ= 5.0V, 8mA I _L 1.5A	-25	25	m V
		V _{DIFF} Ⓢ= 12V, 8mA I _L 1.5A, T _A = 25°C	-25	25	
		V _{DIFF} Ⓢ= 40V, 8mA I _L 200mA, T _A = 25°C	-25	25	
		V _{DIFF} Ⓢ= 40V, 8mA I _L 100mA	-25	25	
Thermal Regulation	V _{RTH}	V _h = -14.6V, I _L = 1.5A P _d = 20 Watts, t = 10 ms, T _A = 25°C	-5	5	m V
Ripple Rejection (Note 2)	R _N	f = 120 Hz, V _{oL} = V _{ref} C _{Adj} = 10 μF	66		dB
Adjustment Pin Current	I _{Adj}	V _{DIFF} Ⓢ= 3.0V		100	μA
		V _{DIFF} Ⓢ= 40V		100	
Adjustment Pin Current Change	I _{Adj} (Line)	3.0V V _{DIFF} Ⓢ 40V	-5	5	μA
	I _{Adj} (Load)	V _{DIFF} Ⓢ= 5V, 8mA I _L 1.5A	-5	5	μA
Minimum Load Current	I _{min}	V _{DIFF} Ⓢ= 3.0V, V _{oL} = -1.4V (forced)		3.0	m A
		V _{DIFF} Ⓢ= 10V, V _{oL} = -1.4V (forced)		3.0	
		V _{DIFF} Ⓢ= 40V, V _{oL} = -1.4V (forced)		5.0	
Current Limit (Note 2)	I _L	V _{DIFF} Ⓢ 5V	1.5	3.5	A
		V _{DIFF} Ⓢ= 40V, T _A = 25°C	0.24	1.2	

- 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.

MECHANICAL OUTLINE

PIN CONNECTION

TO-257AA

