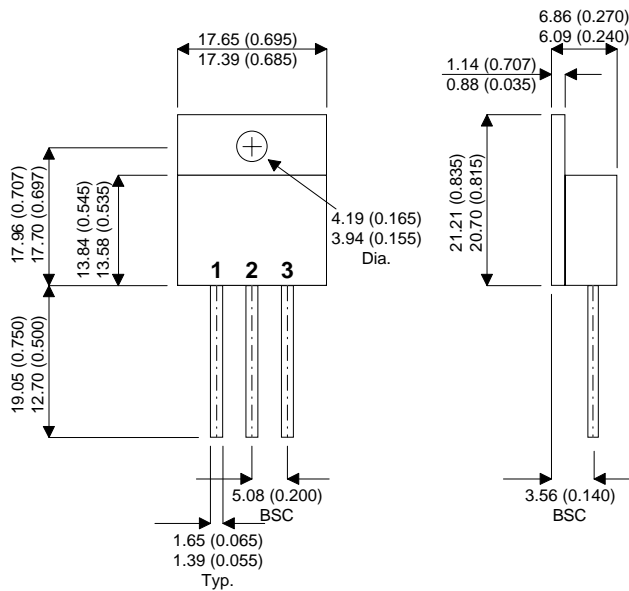


**MECHANICAL DATA**

Dimensions in mm



**TO-258 METAL PACKAGE**

Pin 1 – Adjust

Pin 2 – Vout

Pin 3 – Vin

**7.5 AMP LOW DROPOUT POSITIVE ADJUSTABLE REGULATOR IN TO258 HERMETIC PACKAGE**

**FEATURES**

- Adjustable Output Voltage
- Output Voltage Tolerance  $\pm 1\%$
- Hermetic Isolated TO258
- Built in Thermal Overload Protection
- Short Circuit Current Limit
- Low Dropout Voltage
- Screening Options Available

The LM1083HN low drop positive adjustable regulator is designed to provide 7.5A with higher efficiency than a standard device. All internal circuitry is designed to operate down to 1V input/output differential.

**ABSOLUTE MAXIMUM RATINGS @25°C**

Power Dissipation (Pd)	Internally Limited
Input - Output Voltage Differential	35V
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:	
$\theta_{jc}$ (Isolated)	2.75°C/W
$\theta_{jc}$ (Non-Isolated)	2.3°C/W
Maximum Output Current	5.0A

**ELECTRICAL CHARACTERISTICS** (Per Diode)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V <sub>REF</sub> Reference Voltage	V <sub>IN</sub> - V <sub>OUT</sub> = 3.0V I <sub>OUT</sub> = 10mA T <sub>A</sub> = 25°C	1.238		1.262	V
	1.5V ≤ V <sub>IN</sub> - V <sub>OUT</sub> ≤ 25V 10mA ≤ I <sub>OUT</sub> ≤ I <sub>FL</sub> •	1.225		1.270	
V <sub>OUT</sub> / V <sub>IN</sub> Line Regulation (Note 1)	1.5 ≤ V <sub>IN</sub> - V <sub>OUT</sub> ≤ 15V I <sub>OUT</sub> = 10mA T <sub>A</sub> = 25°C •			0.2	%
	15V ≤ V <sub>IN</sub> - V <sub>OUT</sub> ≤ 35V I <sub>OUT</sub> = 10mA			0.5	
V <sub>OUT</sub> / V <sub>IN</sub> Load Regulation	V <sub>IN</sub> - V <sub>OUT</sub> = 3.0V T <sub>A</sub> = 25°C 10mA ≤ I <sub>OUT</sub> ≤ I <sub>FL</sub> •			0.3	%
				0.4	
V <sub>DO</sub> Dropout Voltage	I <sub>OUT</sub> = I <sub>FL</sub> ΔV <sub>REF</sub> = 1% •			1.5	V
Thermal Regulation	30ms pulse T <sub>A</sub> = +25°C			0.015	%W
V <sub>IN</sub> / V <sub>OUT</sub> Ripple Rejection	f = 120Hz, C <sub>Adj</sub> = 25μF C <sub>OUT</sub> = 25μF (tantalum), I <sub>FL</sub> = 3.0A • V <sub>IN</sub> - V <sub>OUT</sub> = 3.0V	60			dB
I <sub>Adj</sub> Ajust Pin Current	1.5V ≤ V <sub>IN</sub> - V <sub>OUT</sub> ≤ 25V 10mA ≤ I <sub>OUT</sub> ≤ I <sub>FL</sub> •			120	μA
<sup>3</sup> I <sub>Adj</sub> Ajust Pin Current Change	1.5V ≤ V <sub>IN</sub> - V <sub>OUT</sub> ≤ 25V 10mA ≤ I <sub>OUT</sub> ≤ I <sub>FL</sub> •			5.0	μA
I <sub>Min</sub> Minimum Load Current	V <sub>IN</sub> - V <sub>OUT</sub> = 25V •			10	mA
I <sub>Lim</sub> Current Limit	V <sub>IN</sub> - V <sub>OUT</sub> = 5.0V •	8.0			A
	V <sub>IN</sub> - V <sub>OUT</sub> = 25V •	0.4			
V <sub>OUT</sub> / T Temperature Stability (Note 2)	T <sub>j</sub> = -55 to +125°C •			1.5	%
V <sub>OUT</sub> / T Long Term Stability (Note 2)	T <sub>A</sub> = +125°C, t = 1000hrs			1.0	

**Notes:**

- Line and Load Regulation are measured at a constant junction temperature using a low duty cycle pulse technique. Power dissipation is internally limited. Regulation is guaranteed up to maximum power dissipation of 60 W. Power dissipation is determined by the input/output differential voltage and the output current. Guaranteed maximum power dissipation is not available over the full input/output voltage range.
- Guaranteed by design, characterization or correlation to other tested parameters.
- Specification applies over the full operating temperature range.
- I<sub>FL</sub> is defined as the minimum value of current limit as a function of input to output voltage.