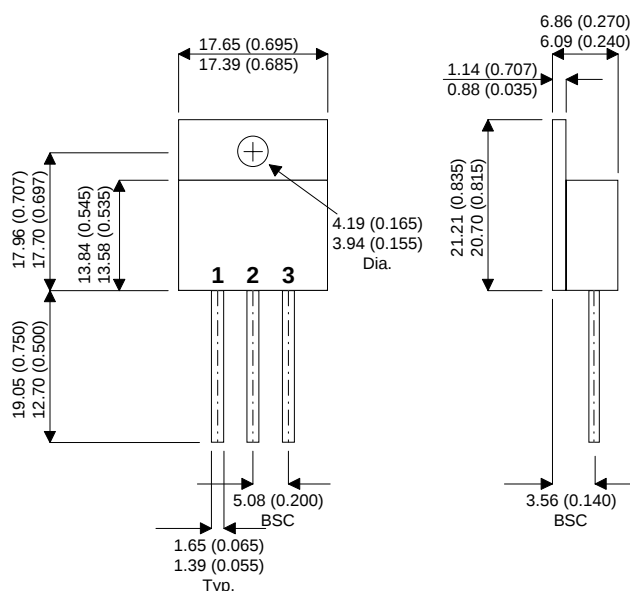


MECHANICAL DATA

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:	
θ_{jc} (Isolated)	2.75°C/W
θ_{jc} (Non-Isolated)	2.3°C/W
Maximum Output Current	5.0A

ELECTRICAL CHARACTERISTICS (Per Diode)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V _{REF} Reference Voltage	V _{IN} - V _{OUT} = 3.0V I _{OUT} = 10mA T _A = 25°C	1.238		1.262	V
	1.5V ≤ V _{IN} - V _{OUT} ≤ 25V 10mA ≤ I _{OUT} ≤ I _{FL} •	1.225		1.270	
$\frac{V_{OUT}}{V_{IN}}$ Line Regulation (Note 1)	1.5 ≤ V _{IN} - V _{OUT} ≤ 15V I _{OUT} = 10mA T _A = 25°C •			0.2	%
	15V ≤ V _{IN} - V _{OUT} ≤ 35V I _{OUT} = 10mA			0.5	
$\frac{V_{OUT}}{V_{IN}}$ Load Regulation	V _{IN} - V _{OUT} = 3.0V T _A = 25°C 10mA ≤ I _{OUT} ≤ I _{FL} •			0.3	%
	•			0.4	
V _{DO} Dropout Voltage	I _{OUT} = I _{FL} ΔV _{REF} = 1% •			1.5	V
Thermal Regulation	30ms pulse T _A = +25°C			0.015	%W
$\frac{V_{IN}}{V_{OUT}}$ Ripple Rejection	f = 120Hz, C _{Adj} = 25μF C _{OUT} = 25μF (tantalum), I _{FL} = 3.0A • V _{IN} - V _{OUT} = 3.0V	60			dB
I _{Adj} Ajust Pin Current	1.5V ≤ V _{IN} - V _{OUT} ≤ 25V 10mA ≤ I _{OUT} ≤ I _{FL} •			120	μA
³ I _{Adj} Ajust Pin Current Change	1.5V ≤ V _{IN} - V _{OUT} ≤ 25V 10mA ≤ I _{OUT} ≤ I _{FL} •			5.0	μA
I _{Min} Minimum Load Current	V _{IN} - V _{OUT} = 25V •			10	mA
I _{Lim} Current Limit	V _{IN} - V _{OUT} = 5.0V •	8.0			A
	V _{IN} - V _{OUT} = 25V •	0.4			
$\frac{V_{OUT}}{T}$ Temperature Stability (Note 2)	T _j = -55 to +125°C •			1.5	%
$\frac{V_{OUT}}{T}$ Long Term Stability (Note 2)	T _A = +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_{FL} is defined as the minimum value of current limit as a function of input to output voltage.