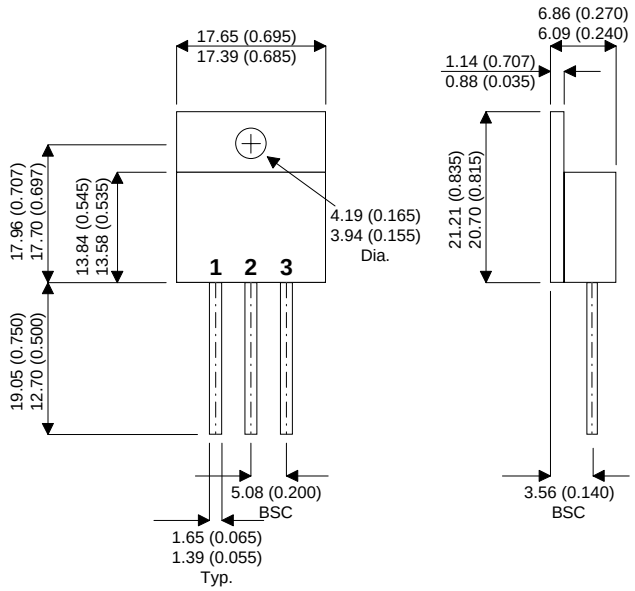
LM1084HN

MECHANICAL DATA
Dimensions in mm



TO–258 METAL PACKAGE

Pin 1– Adjust Pin 2 – Vout Pin 3 – Vin

5 AMP LOW DROPOUT POSITIVE ADJUSTABLE REGULATOR IN TO258 HERMETIC PACKAGE

FEATURES
- **Ajustable Output Voltage**
- **Output Voltage Tolerance ±1%**
- **Hermetic Isolated TO258**
- **Built in Thermal Overload Protection**
- **Short Circuit Current Limit**
- **Low Dropout Voltage**
- **Screening Options Available**

The LM1084HN low drop positive adjustable regulator is designed to provide 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:	
θjc (Isolated)	2.75°C/W
θjc (Non-Isolated)	2.3°C/W
Maximum Output Current	5.0A

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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 = 120H_z, 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
$^3I_{Adj}$	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 •	5.5			A
		$V_{IN} - V_{OUT}$ = 25V •	0.3			
$\frac{V_{OUT}}{T}$	Temperature Stability (Note 2)	Tj = -55 to +125°C •			1.5	%
$\frac{V_{OUT}}{T}$	Long Term Stability (Note 2)	T_A = +125°C, t = 1000hrs			1.0	

Notes:

1 Line and Load Regulation are measured at a constant junction temperature using a low duty cycle pulse technique. Power dissipation is internally limted. Regulation is guaranteed up to maximum power dissipation of 45 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.

2 Guaranteed by design, characterization or correlation to other tested parameters.

3 • Specification applies over the full operating temperature range.

4 I_{FL} is defined as the minimum value of current limit as a function of input to output voltage.