



5A LOW DROPOUT POSITIVE REGULATOR

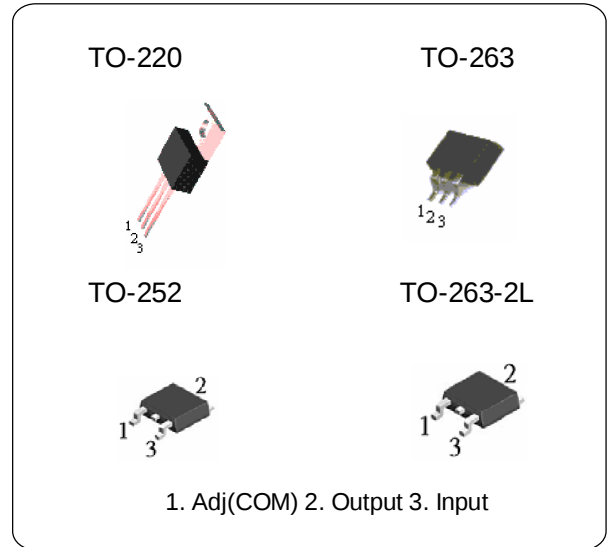
LM1084-XX

Features

1. Dropout Voltage 1.3V at 5A Output Current.
2. Fast Transient Response.
3. Extremely Tight Line and Load Regulation.
4. Current Limiting and Thermal Protection.
5. Adjustable Output Voltage or Fixed 1.5V, 1.8V, 2.5V, 3.3V, 5.0V.
6. Standard 3-Pin Power Packages.

DESCRIPTION

The LM1084 is a low dropout three terminal regulator with 5A output current capability. The output voltage is adjustable with the use of a resistor divider or fixed 1.5V, 1.8V, 2.5V, 3.3V and 5.0V. Dropout voltage is guaranteed to be at maximum of 1.4V with the maximum output current. Its low dropout voltage and fast transient response make it ideal for low voltage microprocessor applications. Current limit and thermal protection provide protection against any overload condition that would create excessive junction temperatures.



Electrical Characteristics (Ta = 25 °C)

(VIN=5V, TJ=25° C, IO=10mA, unless otherwise specified) (Note1)

PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reference Voltage	LM1084 (ADJ)	1.225	1.25	1.275	
Output Voltage	LM1084-15, VIN=4.5V	1.470	1.50	1.530	V
	LM1084-18, VIN=4.8V	1.764	1.80	1.836	
	LM1084-25, VIN=5.5V	2.450	2.50	2.55	
	LM1084-33, VIN=6.3V	3.235	3.30	3.365	
	LM1084-50, VIN=7.0V	4.90	5.00	5.10	
Line Regulation	ADJ : $2.65V \leq V_{IN} \leq 7V$ $V_{OUT}=1.25V$	-	0.015	0.2	%
	Fix : $V_{OUT}+1.4V \leq V_{IN} \leq 7V$				
Load Regulation	$10mA < I_O < 5A$			0.6	%
Dropout Voltage	$\Delta V_{OUT}, \Delta V_{REF}=1\%$ $10mA \leq I_O \leq 5A$		1.3	1.4	V
Current Limit		5.0	6.0		A
GND Current (Fix)	$2.65V \leq V_{IN} \leq 7V$	2.0		10	mA
Adjusted Pin Current	$2.65V \leq V_{IN} \leq 7V$		55	120	uA
Adjusted Pin Current Change (Δ IADJ)	$2.65V \leq V_{IN} \leq 7V$		0.2	5.0	uA
Temperature Stability	$I_O=0.5A$		0.5		%
Minimum Load Current			5.0	10	mA
RMS Output Noise (% of VOUT)			0.003		%
Ripple Rejection Ratio	120Hz input ripple $C_{OUT}=25 \mu F$ $(V_{IN}-V_{OUT})=3V$	60	72		dB

Note:

Specifications are production tested at TA=25° C. Specifications over the -40° C to 85° C operating temperature range are assured by design, characterization and correlation with Statistical Quality Controls (SQC).