

100 mA Adjustable Output Positive Voltage Regulator

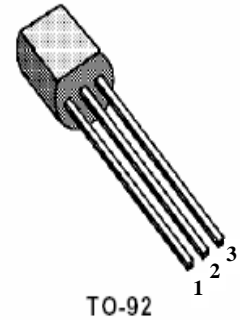
LM317L

The LM317L is an adjustable 3-terminal positive voltage regulator capable of supplying in excess of 100 mA over an output voltage range of 1.2 V to 37 V. This voltage regulator is exceptionally easy to use and requires only two external resistors to set the output voltage. Further, it employs internal current limiting, thermal shutdown and safe area compensation, making them essentially blow-out proof.

The LM317L serves a wide variety of applications including local, on card regulation. This device can also be used to make a programmable output regulator, or by connecting a fixed resistor between the adjustment and output, the LM317L can be used as a precision current regulator.

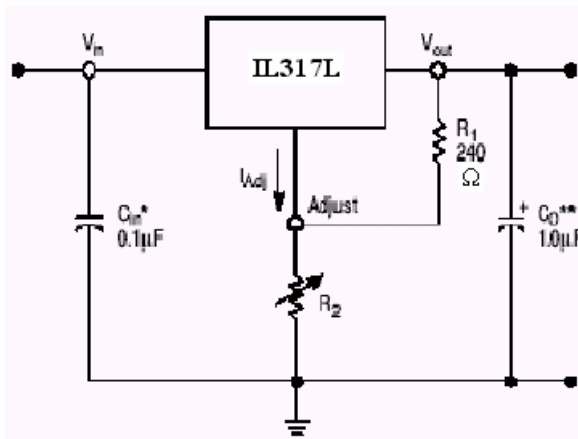
Features

- Output Current in Excess of 100 mA
- Output Adjustable Between 1.2 V and 37 V
- Internal Thermal Overload Protection
- Internal Short Circuit Current Limiting
- Output Transistor Safe-Area Compensation
- Floating Operation for High Voltage Applications
- Standard 3-Lead Transistor Package
- Eliminates Stocking Many Fixed Voltages



Pin 1. Adjust
2. Vout
3. Vin

Simplified Application



*Cin is required if regulator is located an appreciable distance from power supply filter.

**Co is not needed for stability, however, it does improve transient response.

$$V_{out} = 1.25 V (1 + R_2/R_1) + I_{adj}R_2$$

Since I_{adj} is controlled to less than 100µA, the error associated with this term is negligible in most applications.

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Input-Output Differential	$V_I - V_O$	40	Vdc
Power Dissipation Case TO-92 $T_A = 25^\circ\text{C}$	P_D	Internally Limited	W
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	160	$^\circ\text{C/W}$
Thermal Resistance, Junction-to-Case Case SOIC-8 (Note 1) $T_A = 25^\circ\text{C}$	$R_{\theta JC}$	83	$^\circ\text{C/W}$
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	180	$^\circ\text{C/W}$
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	45	$^\circ\text{C/W}$
Operating Junction Temperature Range	T_j	-10 to +125	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-65 to +150	$^\circ\text{C}$

