



### **AS317L 3-Terminal Adjustable Regulator**

Design to be interchangeable  
with **LM317L** and **TL317C**

#### **Features**

- Output Voltage Range Adjustable From 1,2 v to 32 v When Used With an External Resistor Driver
- Output Current Capability of 100 mA
- Line Regulation Typically 0,01% Per Input-Voltage Change
- Load Regulation Typically 0,5%
- Ripple Rejection Typically 74 dB

#### **General Description**

The AS317L is an adjustable 3-terminal positive-voltage regulator capable of supplying 100 mA over an output-voltage range of 1,2 v to 32 v. It is exceptionally easy to use and requires only two external resistors to set the output voltage. Both input and output regulation are better than standard fixed regulators. The device is packaged in standard package, that are easily mounted and handled.

#### **Absolute Maximum Ratings**

Absolute maximum ratings over operating free-air temperature range

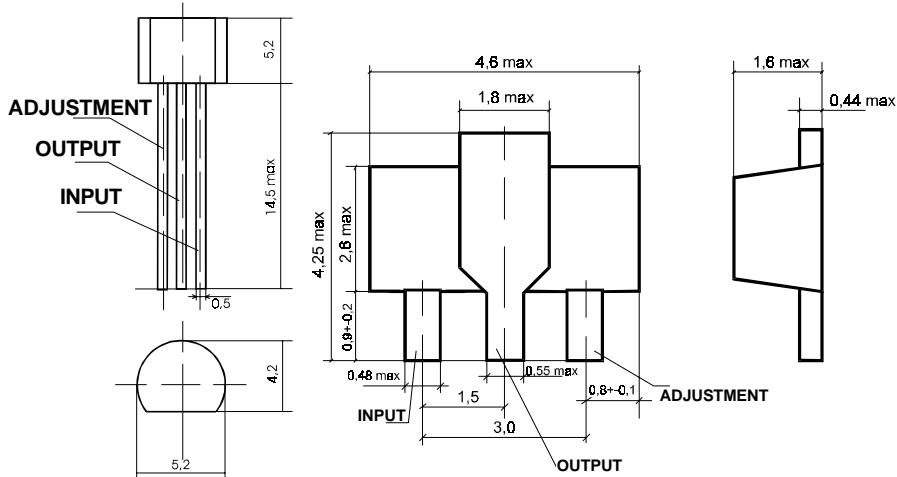
- Input-to-output voltage,  $V_i-V_o$  35 v
- Output current 100 mA
- Storage temperature range  $-65^{\circ}\text{C}$  to  $150^{\circ}\text{C}$
- Lead temperature 1,6 mm from cases for 10 sec  $260^{\circ}\text{C}$
- Operating free-air temperature range  $-10^{\circ}\text{C}$  to  $85^{\circ}\text{C}$

Recommended Operating Conditions

- Input-to-Output voltage differential,  $V_i-V_o$  max 30 v
- Output current,  $I_o$  (5 - 100) mA



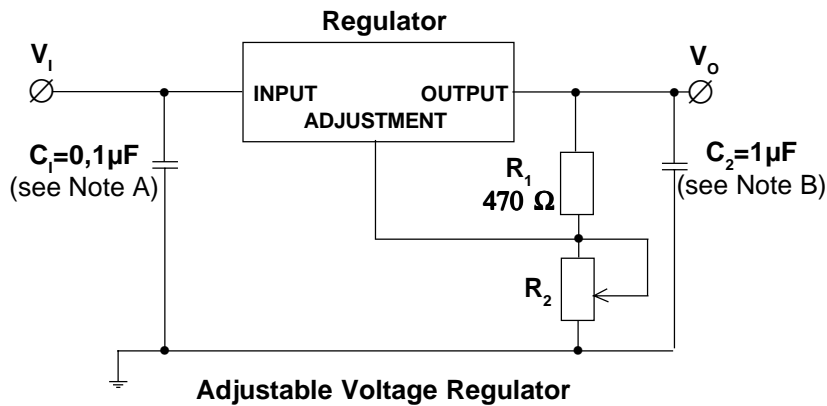
Connection Diagrams



Package: 3-lead plastic TO-92

3-lead plastic SOT 89

APPLICATION INFORMATION

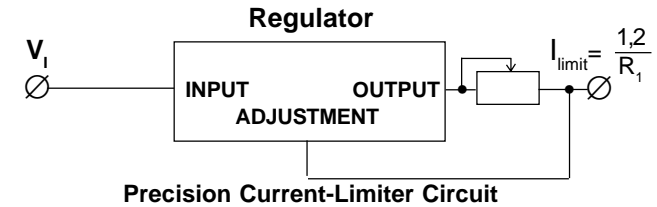


Adjustable Voltage Regulator



- Notes: A. Use of an input bypass capacitor is recommended if regulator is far from the filter capacitors.  
B. Use of an output capacitor improves transient response but is optional.  
C. Output voltage is calculated from the equation:

$$V_o = V_{ref} \left(1 + \frac{R_2}{R_1}\right) + I_{ADJ} R_2$$



Precision Current-Limiter Circuit

Electrical characteristics at specified free-air temperature

Parametr	Test conditions	T <sub>A</sub> *	Min	Typ	Max	Unit
Reference voltage	V <sub>1</sub> -V <sub>o</sub> =3 v to 30 v, I <sub>o</sub> =5 mA to 100 mA P ≤ 625 mW	25°C	1.2	1.25	1.3	V
Line regulation	V <sub>1</sub> -V <sub>o</sub> =3 v to 30 v, I <sub>o</sub> ≤ 20 mA	25°C Full range		0.01 0.02	0.04 0.07	%/V
Load regulation	V <sub>1</sub> -V <sub>o</sub> =5 v, I <sub>o</sub> =5 mA to 100 mA	25°C Full range		0.1 0.3	0.5 1.5	%
Adjustment current	V <sub>1</sub> -V <sub>o</sub> =5v, I <sub>o</sub> =40mA	Full range		50	100	μA
Change it adjustment current	V <sub>1</sub> -V <sub>o</sub> =5 v to 30 v, I <sub>o</sub> =5 mA to 100 mA	Full range		0.2	5	μA
Temperature stabilizing	T <sub>MIN</sub> ≤ T <sub>A</sub> ≤ T <sub>MAX</sub>			0.65		%
Minimum load current	3v ≤ V <sub>1</sub> -V <sub>o</sub> ≤ 15 v V <sub>1</sub> -V <sub>o</sub> ≤ 30 v	Full range		1.5 3.5	2.5 5.0	mA
Current limit	3v ≤ V <sub>1</sub> -V <sub>o</sub> ≤ 13 v V <sub>1</sub> -V <sub>o</sub> ≤ 30 v	Full range	100 25	200 50	300 150	mA
Output noise voltage % of V <sub>OUT</sub>	10Hz ≤ f ≤ 10kHz	25°C		0.003		%
Ripple regulation	V <sub>o</sub> =10 v, F=120Hz, C <sub>ADJ</sub> =0 V <sub>o</sub> =10 v, F=120Hz, C <sub>ADJ</sub> =10mkF			65 66	74	dB

\* Full range is 0°C to +70°C