

# AT1117

## 1.0A Low Dropout Precision Regulator



Immense Advance Tech.

### FEATURES

- Space Saving SOT-223 Surface Mount Package
- 3-Terminal Adjustable or Fixed 1.5V, 1.8V, 2.5V, 3.3V, 5V
- Output Current of 1A
- Guaranteed Dropout Voltage at Multiple Current Levels
- Fast Transient Response
- Built-in Thermal Limiting
- Good Noise Rejection

### APPLICATION

- High Efficiency Linear Regulators
- Post Regulators for Switching Supplies
- Microprocessor Supply
- Hard Drive Controllers
- Battery Chargers
- Adjustable Power Supply

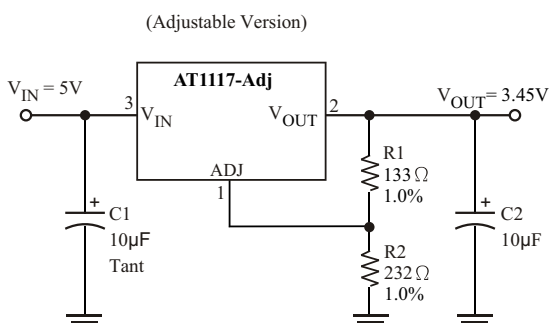
### DESCRIPTION

The AT1117 is a positive low dropout regulator designed to provide up to 1A of output current. The device is available in an adjustable version and fixed output voltages of 1.5V to 5V. All internal circuitry is designed to operate down to 1.3V input to output differential. Dropout voltage is guaranteed at a typical of 1.3V at 1A, decreasing at lower load currents. On chip trimming adjusts the reference/output voltage to within  $\pm 2\%$ . Current limit is also trimmed in order to minimize the stress on both the regulator and the power source circuitry under overload conditions.

The low profile surface mount SOT-223 package allows the device to be used in applications where space is limited. The AT1117 requires a output capacitance for stability. Output capacitors of this size or larger are normally included in most regulator designs.

Unlike PNP type regulators where up to 10% of the output current is wasted as quiescent current, the quiescent current of the AT1117 flows into the load, increasing efficiency.

### TYPICAL APPLICATION CIRCUITS



$$V_{OUT} = V_{REF} \cdot \left(1 + \frac{R2}{R1}\right) + I_{ADJ} \cdot R2$$

**Notes:**

1. C1 needed if device is far from filtercapacitors
2. C2 minimum value required for stability

