AT1085

3A Low Dropout Positive Voltage Regulator

Immense Advance Tech.

FEATURES

- Three-Terminal Adjustable or Fixed Output
- Output Current of 3A
- Operates Down to 1.3V Dropout at 3A Output Current
- Line Regulation: 0.04%
- Load Regulation: 0.2%
- Fast Tramsient Response
- OCP & OTP Protected

APPLICATION

- High Efficiency Linear Regulators
- Post Regulators for Switching Supplies
- Constant Current Regulators
- Battery Chargers

DESCRIPTION

The AT1085 series of positive adjustable regulators are designed to provide 3A with higher efficiency than currently available devices. All internal circuitry is designed to operate down to 1.3V input-to-output differential and the dropout voltage is fully specified as a function of load current. Dropout is guaranteed at a maximum of 1.5V at maximum output current, decreasing at lower load currents. On-chip trimming adjusts the reference voltage to 1%. Current limit is also trimmed, minimizing the stress on both the regulator and power source circuitry under overload conditions.

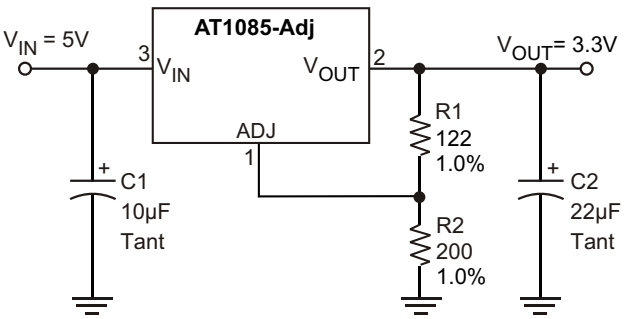
The AT1085 series are pin compatible with older three-terminal regulators. A 22μF output capacitor is required on these new devices. However, this is included in most regulator designs.

Unlike PNP regulators, where up to 10% of the output current is wasted as quiescent current, the AT1085 quiescent current flows into the load, increasing efficiency.

The regulator is available in TO-220, TO-263 and TO-252 packages.

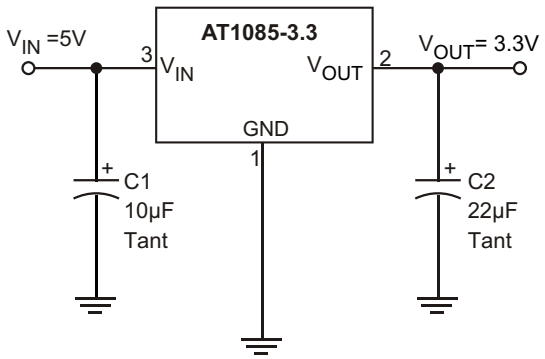
TYPICAL APPLICATION CIRCUITS

(Adjustable Version)



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

(Fixed Version)



Notes:

1. C1 needed if device is far from filter capacitors