
Ultra Low-Noise High-PSRR 400mA LDO

FEATURES

- 2.5V to 5.5V input range
- 80dB PSRR @1kHz, $V_{IN} = V_{OUT} + 0.5V$
- 75dB PSRR @1kHz, $V_{IN} = V_{OUT} + 0.2V$
- < 1uA quiescent current at shutdown mode
- Fast turn on time: 150us (typical)
- 230mV maximum dropout voltage with 300mA load
- 30uVrms output noise from 10Hz to 100KHz
- Thermal shutdown and short-circuit current limit
- 1.5, 1.7, 1.8, 1.9, 2.0, 2.5V, 2.6V, 2.7V, 2.8V, 2.85V, 2.9V, 3.0V, 3.1V, 3.2V, 3.3V, 4.7V, 4.8V, 4.9V and 5.0V output standard
- Miniature SOT-23-5 package

APPLICATION

- CDMA/GSM mobile phones
- Cordless telephones
- WLAN and bluetooth appliances
- PDAs/MP3
- Battery powered portable devices

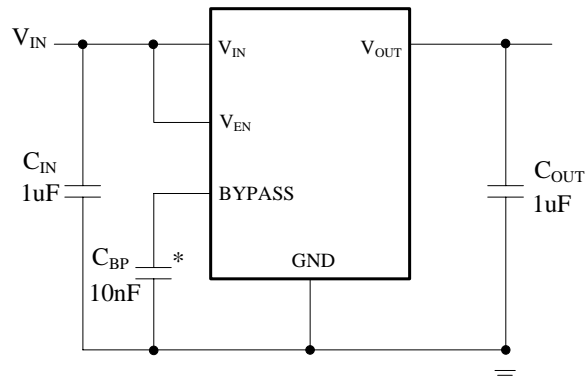
GENERAL DESCRIPTION

The PT5102 is a low-dropout voltage regulator designed for portable and wireless applications that require both low noise performance and board space. The PT5102 is stable with a small $1\mu F \pm 30\%$ ceramic or high-quality tantalum output capacitor.

With its remarkable better than 80dB PSRR at 1kHz, the PT5102's performance is ideal for battery powered systems for delivering ultra low noise, extremely low dropout voltage and low quiescent current. An optional external bypass capacitor reduces the output noise.

The device can be used for mobile phone and similar battery powered wireless applications. It provides up to 400mA, from a 2.5V to 5.5V input. The PT5102 consumes less than $0.1\mu A$ in shutdown mode and has fast turn-on time less than $150\mu s$. The PT5102 is available in 5 pin SOT-23 package. Selected performances are specified for $-40^{\circ}C$ to $+85^{\circ}C$ temperature range. The output voltage is available in the range of 1.5~2.0V, 2.5~3.3V, 4.7~5.0V.

TYPICAL APPLICATIONS



C_{OUT} : Recommended ceramic capacitor C_{BP} : The optional bypass capacitor for noise reduction