

## 2.25MHz 1A, Synchronous Step-Down Regulator

### General Description

EML3025 is a high efficiency step down DC/DC converter. It features an extremely low quiescent current, which is suitable for reducing standby power consumption, especially for portable applications.

The device can accept input voltage from 2.5V to 5.5V and deliver up to 1A output current. High 2.25MHz switching frequency allows the use of small surface mount inductors and capacitors to reduce overall PCB board space. Furthermore, the built-in synchronous switch improves efficiency and eliminates external Schottky diode. EML3025 uses different modulation algorithms for various loading conditions: (1) Pulse Width Modulation (PWM) for low output voltage ripple and fixed frequency noise, (2) Pulse Frequency Modulation (PFM) for improving light load efficiency, and (3) Low Dropout (LDO) Mode for providing 100% duty cycle operation during heavy loading. Adopting low reference voltage design reduces regulated output to 0.6V. The adjustable version of this device is available in SOT-23-5 package.

### Features

- Achieve 97% efficiency
- Input voltage : 2.5V to 5.5V
- Output current up to 1A
- Reference voltage: 0.6V
- Quiescent current 17  $\mu$ A with no load
- Internal switching frequency: 2.25MHz
- No Schottky diode needed
- Low dropout operation: 100% duty cycle
- Shutdown current < 1  $\mu$ A
- Excellent line and load transient response
- Over-temperature protection

### Applications

- Blue-Tooth devices
- Cellular and Smart Phones
- Personal Multi-media Player (PMP)
- Wireless networking
- Digital Still Cameras
- Portable applications

### Typical Application

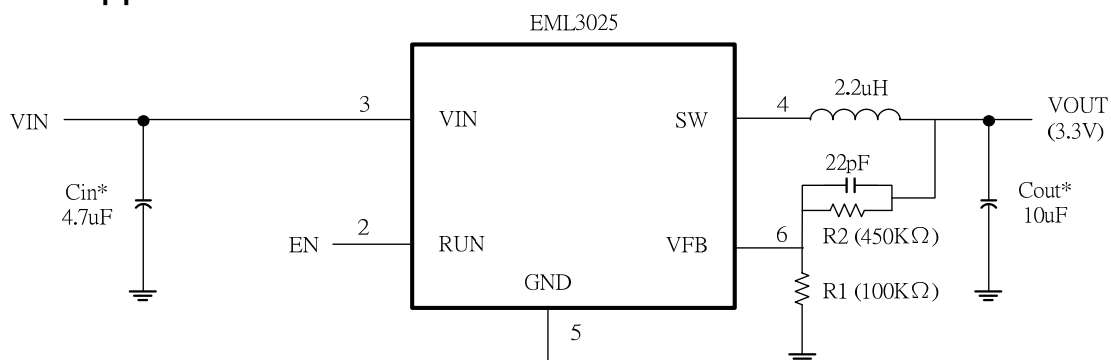


Fig. 1