

350 mA valley current limit adjustable step-down regulator based on the PM6644

Data brief



Description

This product evaluation board is based on STMicroelectronics' PM6644. The device combines a 350 mA valley current limit step-down regulator with a high accuracy 3.3 V voltage reference in a small DFN10 3x3 package.

The switching regulator is based on a CoT (constant on time) architecture that assures fast load transient response. The embedded voltage feed-forward provides nearly constant switching frequency operation. Pulse-skipping is employed to increase efficiency at very light load. The switching frequency can be adjusted from 200 kHz to 600 kHz by means of a simple resistor.

The switching regulator can be programmed to regulate a fixed value of 3.43 V or it can deliver an adjustable voltage, depending on the FB pin setup. The high precision integrated 3.3 V reference can source up to 5 mA.

Features

- 4.5 V to 25 V input voltage range
- Fixed 3.43 V or adjustable 0.9 V to 5 V
- Reference accuracy = $\pm 1\%$, $T_j=0\text{ }^{\circ}\text{C}$ to $85\text{ }^{\circ}\text{C}$
- 380 mA maximum output current
- Constant on-time control with current sense
- Programmable switching frequency in PWM mode
- Pulse skipping mode (skip mode) at light loads
- Independent EN signal
- Latched OVP and UVP
- High accuracy 3.3 V reference voltage

2 Revision history

Table 1: Document revision history

| Date | Revision | Changes |
|-------------|----------|------------------|
| 28-Aug-2014 | 1 | Initial release. |

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