

6A, 24V, 500kHz Synchronous Step-Down Converter

DESCRIPTION

The EUP3096 is an 6A, 24V high efficiency synchronous step-down regulator. The input voltage range is 4.5V to 24V. Internal low RON HS/LS switches of 28mΩ and 15mΩ provide excellent efficiency over a range of applications, especially for low output voltages and low duty cycles.

The EUP3096 constant-on-time (COT) PWM control method supports high input/output voltage ratios (low duty cycles), and fast transient response while maintaining a near constant operating frequency over line, load and output voltage ranges. So it provides stable operation without complex compensation and even with low ESR ceramic capacitors.

The EUP3096 integrates several protection features to prevent catastrophic switch failure caused by increasing power dissipation. It offer cycle-by-cycle current limit, input under voltage lock-out, internal soft-start, output under voltage protection and over voltage protection and thermal shutdown.

The EUP3096 is available in UQFN2.5×2.5-16 package, operates over the extended (-40°C to +85°C) temperature range.

FEATURES

- 6A Output Current
- Wide Input Voltage Range: 4.5~24V
- Low HS/LS RON: 28/15mΩ
- Internal Soft-start
- Fixed Frequency 500kHz
- Adjustable Output Voltage Application
- High Precision Feedback Voltage : ±1%
- Input UVLO
- PFM/USM Selectable Light Load Operation Mode
- Power Good Indicator
- Output Discharge Function
- Cycle-by-cycle Valley and Peak Current Limit Protection
- Programmable Valley Current Limit Threshold by ILMT Pin
- Output Under Voltage Protection
- Output Over Voltage Protection
- Over Temperature Protection
- Compact Package: UQFN2.5×2.5-16
- RoHS Compliant and Halogen-Free

APPLICATIONS

- TV
- Set Top Box
- High Power AP
- Notebook

Typical Application Circuit

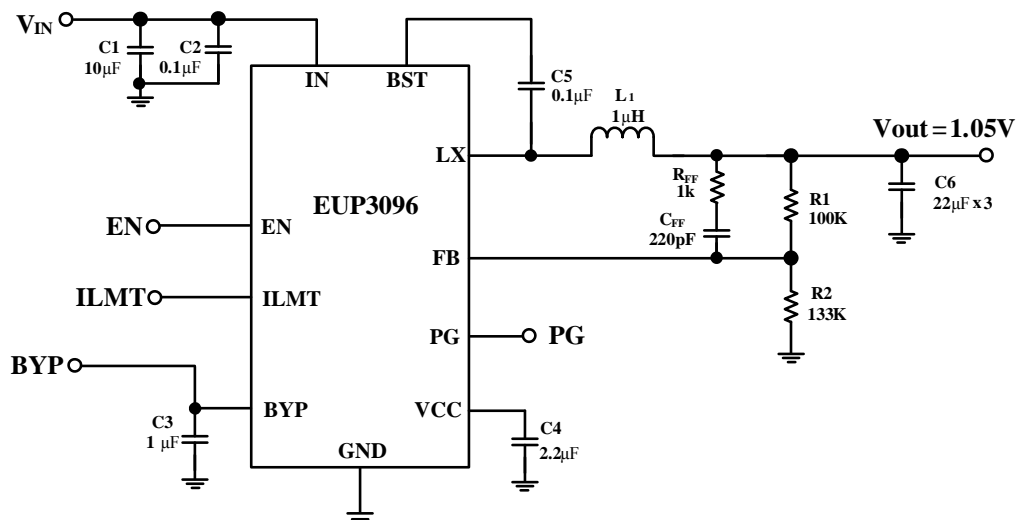


Figure 1. Application Circuit