

High Efficiency Fast Response, 2A, 16V Input Synchronous Step-Down Converter

General Description

PN1620 develops high efficiency synchronous step-down DC-DC converter capable of delivering 2A load current. PN1620 operates over a wide input voltage range from 4.5V to 16V and integrates main switch and synchronous switch with very low $R_{DS(ON)}$ to minimize the conduction loss. PN1620 adopts the instant PWM architecture to achieve fast transient responses for high step down applications and high efficiency at light loads. In addition, it operates at pseudo-constant frequency of 700kHz under heavy load conditions to minimize the size of inductor and capacitor.

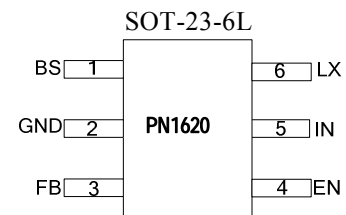
Applications

- Set Top Box
- Portable TV
- Access Point Router
- DSL Modem
- LCD TV

Features

- Low $R_{DS(ON)}$ for internal switches (top/bottom): 150/140 m Ω
- 4.5-16V input voltage range
- 2A load current capability
- Instant PWM architecture to achieve fast transient responses
- Internal softstart limits the inrush current
- 2% 0.6V reference
- Compact package: SOT-23-6L

Package



Typical Application Circuit

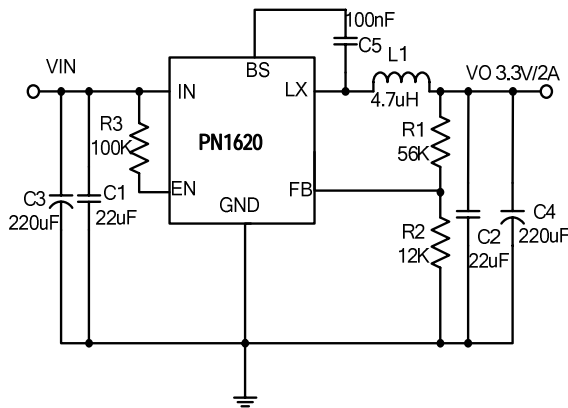


Figure 1. Typical Application Circuit

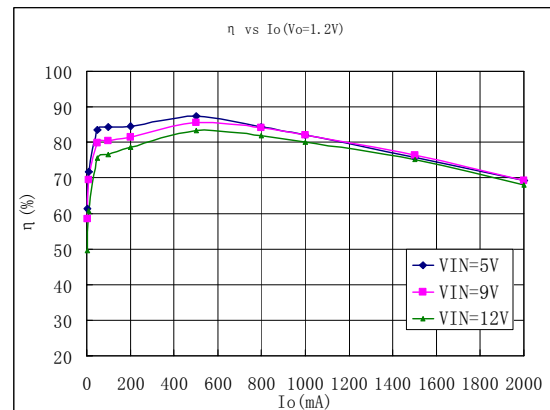


Figure 2. Typical Efficiency Curve