Current Mode PWM Controller

Description

PN8263 is a highly integrated current mode PWM control IC optimized for high performance, low standby power and cost effective offline flyback converter applications in sub 30W range.

PWM switching frequency at normal operation is externally programmable and trimmed to tight range. At no load or light load condition, the IC operates in extended 'burst mode' to minimize switching loss. Lower standby power and higher conversion efficiency is thus achieved.

The internal slope compensation improves system large signal stability and reduces the possible subharmonic oscillation at high PWM duty cycle output. Leading-edge blanking on current sense(CS) input removes the signal glitch due to snubber circuit diode reverse recovery and thus greatly reduces the external component count and system cost in the design.

Excellent EMI performance is achieved with proprietary frequency shuffling technique together with soft switching control at the totem pole gate drive output.

Applications

Offline AC/DC flyback converter for

- Battery Charger
- Power Adaptor
- Set-Top Box Power Supplies
- Open-frame SMPS

Features

- Proprietary Frequency Shuffling Technology for Improved EMI Performance.
- Extended Burst Mode Control For Improved Efficiency and Minimum Standby Power Design
- Audio Noise Free Operation
- External Programmable PWM Switching Frequency
- Internal Synchronized Slope Compensation
- Low VDD Startup Current and Low Operating Current (1.4mA)
- Leading Edge Blanking on Current Sense Input
- Owning soft start-up function
- Good Protection Coverage With Auto Self-Recovery
  - o VDD Over Voltage Clamp and Under Voltage Lockout with Hysteresis (UVLO)
  - o Gate Output Maximum Voltage Clamp (18V)
  - o Proprietary Line Input Compensated Cycle-by-Cycle Over-current Threshold Setting For Constant Output Power Limiting Over Universal Input Voltage Range.
  - o Overload Protection (OLP)

Typical Application