

## Quasi-Resonant Flyback PWM Controller

### GENERAL DESCRIPTION

OB2203 is a highly integrated Quasi-Resonant (QR) controller optimized for high performance offline flyback converter applications.

At normal load condition, it operates in QR mode with minimum drain voltage switching. To meet the CISPR-22 EMI starting at 150KHz, the maximum switching frequency is internally limited to 130KHz. It operates in PFM mode for high power conversion efficiency at light load condition. When the loading is very small, the IC operates in 'Extended Burst Mode' to minimize the switching loss. As a result, lower standby power consumption and higher conversion efficiency is achieved.

A built-in P-channel MOSFET and its control are integrated to automatically turn on or off PFC stage according to the load conditions. When used with OB6563 (On-Bright's PFC controller), the standby power consumption of less than 400mW can be achieved in typical 150W SMPS.

OB2203 offers comprehensive protection coverage including Cycle-by-Cycle Current Limiting(OCP), VCC Under Voltage Lockout(UVLO), Over Voltage Protection(OVP), VCC Clamp, Gate Clamp, Over Load Protection(OLP), On-chip Thermal Shutdown, Programmable Soft Start, and External Latch Triggering, Max On-time Limit, etc.

OB2203 is offered in SOP-8 and DIP-8 packages.

### FEATURES

- Multi-Mode Operation
- Quasi-Resonant Operation at Normal Loading
- Pulse Frequency Modulation (PFM) Operation at Light Load
- Burst Mode at No Load
- Direct Control of the Power Supply of PFC Controller for Improved Standby Power at No/Light Load
- 40KHz Minimum Frequency Limit at QR Mode
- 130KHz Maximum Frequency Limit
- Internal Minimum  $T_{off}$  for Ringing Suppression
- 45us Maximum On Time Limit
- Adaptive Slope Compensation
- Internal Leading Edge Blanking
- Programmable Soft-start
- External Latch Triggering
- Internal Temperature Shutdown
- 1A Peak Current Sink/Source Capability
- Programmable Over Voltage Protection (OVP)

### APPLICATIONS

Offline AC/DC flyback converter for

- Power Adaptor and Open-frame SMPS
- LCD Monitor/TV/PC/Set-Top Box Power Supplies
- NB/DVD/Portable DVD Power Supplies

### TYPICAL APPLICATION

