

GENERAL DESCRIPTION

OB2263 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.

VDD low startup current and low operating current contribute to a reliable power on startup design with OB2263. A large value resistor could thus be used in the startup circuit to minimize the standby power.

The internal slope compensation improves system large signal stability and reduces the possible sub-harmonic 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.

OB2263 offers complete protection coverage with automatic self-recovery feature including Cycle-by-Cycle current limiting (OCP), over load protection (OLP), VDD over voltage clamp and under voltage lockout (UVLO). The Gate-drive output is clamped to maximum 18V to protect the power MOSFET.

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

Tone energy at below 20KHZ is minimized in the design and audio noise is eliminated during operation. OB2263 is offered in SOT23-6, SOP-8 and DIP-8 packages.

FEATURES

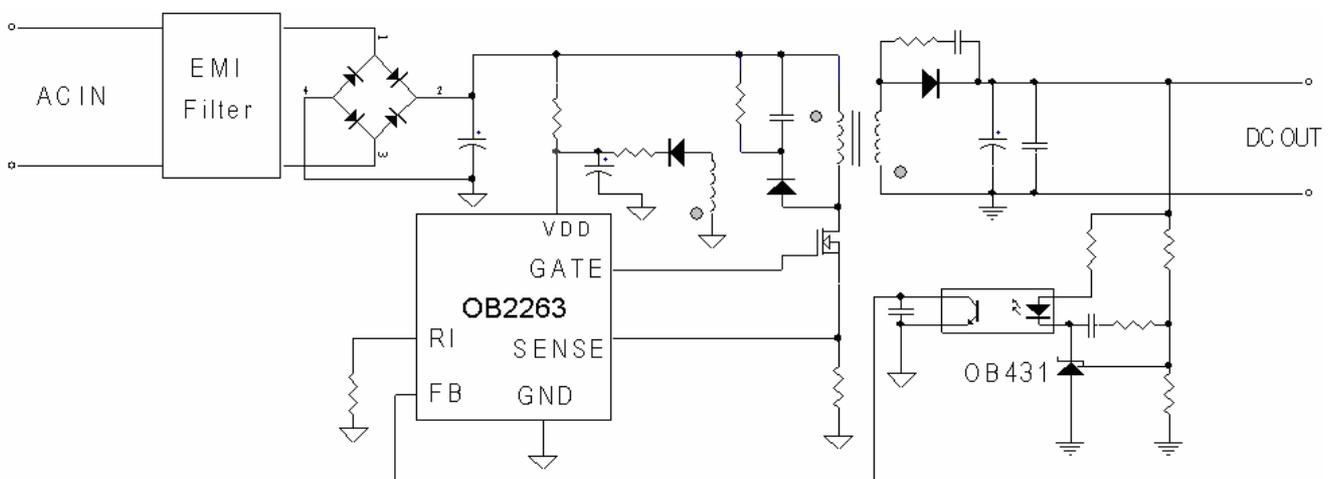
- On-Bright Proprietary Frequency Shuffling Technology for Improved EMI Performance.
- Extended Burst Mode Control For Improved Efficiency and Minimum Standby Power Design
- Audio Noise Free Operation
- External Programmable PWM Switching Frequency
- Internal Synchronized Slope Compensation
- Low VDD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

APPLICATIONS

Offline AC/DC flyback converter for

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

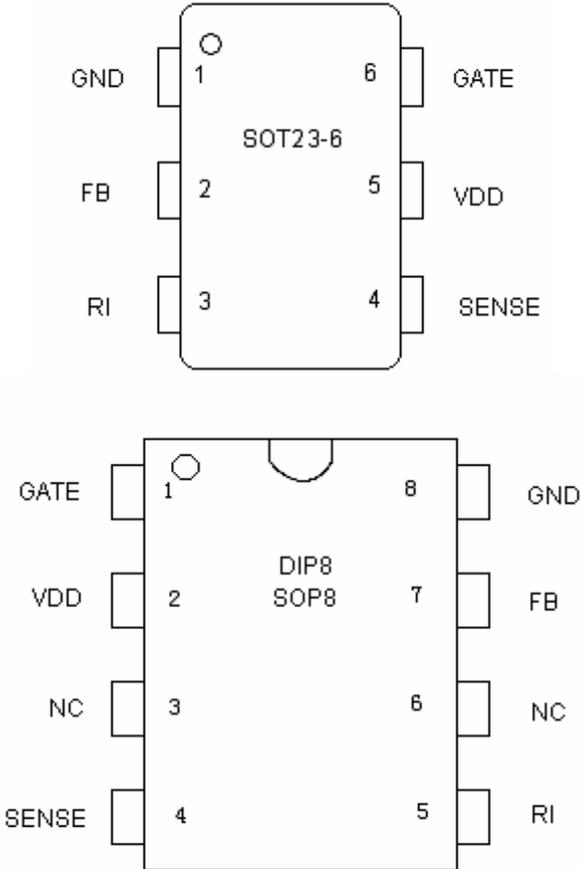
TYPICAL APPLICATION



GENERAL INFORMATION

Pin Configuration

The OB2263 is offered in SOT23-6, DIP8 and SOP8 packages, shown as below.



Ordering Information

Part Number	Description
OB2263MP	SOT23-6, Pb-free
OB2263AP	DIP8, Pb-free
OB2263CP	SOP8, Pb-free

Package Dissipation Rating

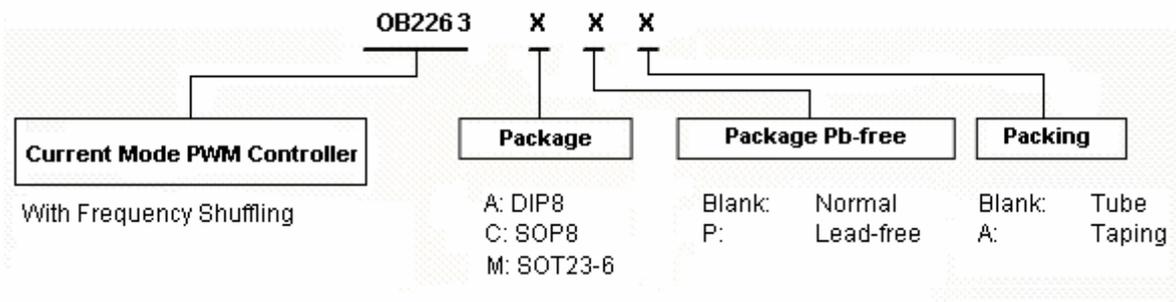
Package	R θ JA (°C/W)
DIP8	90
SOP8	150
SOT23-6	200

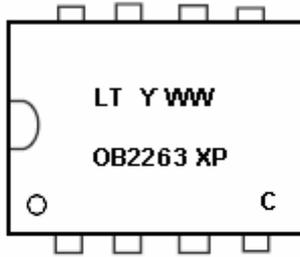
Absolute Maximum Ratings

Parameter	Value
VDD DC Supply Voltage	30 V
VDD Zener Clamp Voltage ^{Note}	VDD_Clamp+0.1V
VDD DC Clamp Current	10 mA
V _{FB} Input Voltage	-0.3 to 7V
V _{SENSE} Input Voltage to Sense Pin	-0.3 to 7V
V _{RI} Input Voltage to RI Pin	-0.3 to 7V
Min/Max Operating Junction Temperature T _J	-20 to 150 °C
Min/Max Storage Temperature T _{stg}	-55 to 160 °C

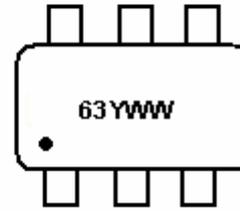
Note: VDD_Clamp has a nominal value of 34V.

Stresses beyond those listed under “absolute maximum ratings” may cause permanent damage to the device. These are stress ratings only, functional operation of the device at these or any other conditions beyond those indicated under “recommended operating conditions” is not implied. Exposure to absolute maximum-rated conditions for extended periods may affect device reliability.



Marking Information
**DIP8
SOP8**


X: A for DIP 8
C for SOP8
P: Pb-free Package
Y: Year Code(0-9)
WW: Week Code(1-52)
C: Optional Internal Code

SOT23-6


Y: Year Code(0-9)
WW: Week Code(1-52)

TERMINAL ASSIGNMENTS

Pin Name	I/O	Description
GND	P	Ground
FB	I	Feedback input pin. The PWM duty cycle is determined by voltage level into this pin and SENSE pin input.
RI	I	Internal Oscillator frequency setting pin. A resistor connected between RI and GND sets the PWM frequency.
SENSE	I	Current sense input pin. Connected to MOSFET current sensing resistor node.
VDD	P	Chip DC power supply pin.
GATE	O	Totem-pole gate drive output for the power MOSFET.

RECOMMENDED OPERATING CONDITION

Symbol	Parameter	Min	Unit
		Max	
VDD	VDD Supply Voltage	10 to 30	V
RI	RI Resistor Value	100	Kohm
T _A	Operating Ambient Temperature	-20 to 85	°C

BLOCK DIAGRAM

