

GENERAL DESCRIPTION

OB2365T combines a dedicated current mode PWM controller with a high voltage power MOSFET. It is optimized for high performance, low standby power, and cost effective off-line flyback converter applications.

At normal load condition, it operates in QR mode in high line input voltage. To minimize switching loss, the maximum switching frequency in QR mode is internally limited to 77 KHz. When the loading goes low, it operates in PFM mode with valley switching for high power conversion efficiency. When the load is very small, the IC operates in 'Extended Burst Mode' to minimize the standby power loss. Additionally, in the low line input voltage, the IC operates in fixed frequency (65KHz) CCM mode at the heavy loading. As a result, high conversion efficiency can be achieved in the whole loading range.

VDD low startup current and low operating current contribute to a reliable power on startup and low standby design with OB2365T.

OB2365T offers comprehensive protection coverage with auto-recovery including Cycle-by-Cycle current limiting (OCP), over load protection (OLP), VDD under voltage lockout (UVLO), external over temperature protection (OTP), and over voltage protection (OVP). Excellent EMI performance is achieved with On-Bright proprietary frequency shuffling technique.

The tone energy at below 23KHz is minimized in the design and audio noise is eliminated during operation.

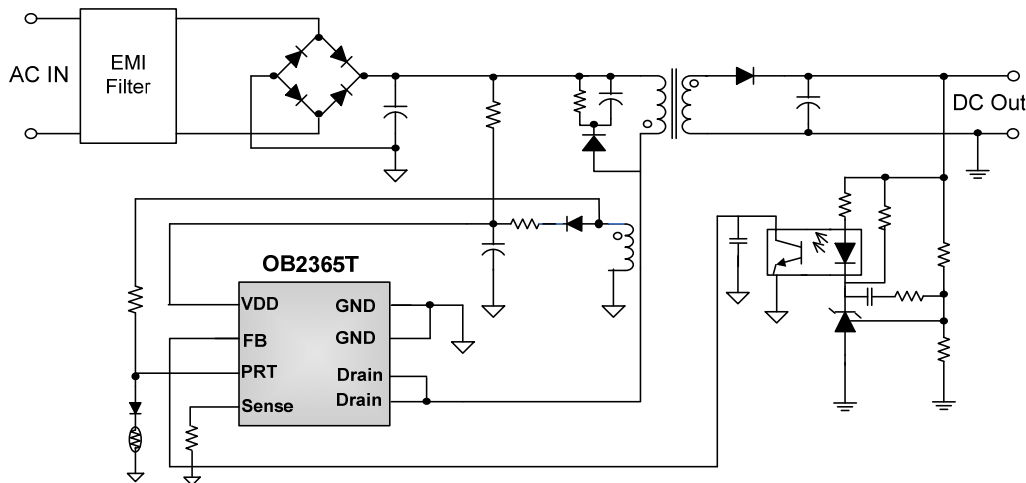
OB2365T is offered in DIP8 package.

APPLICATIONS

Offline AC/DC flyback converter for

- General power supply
- Power Adapter

TYPICAL APPLICATION



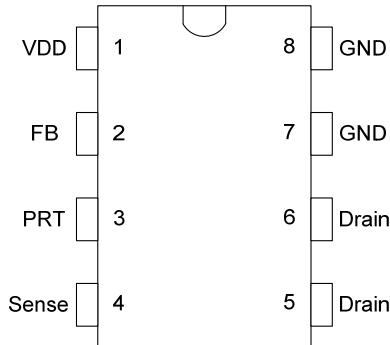
FEATURES

- Power on soft start reducing MOSFET Vds stress
- Multi-Mode Operation
 - 77KHz maximum clamping frequency in QR mode @ Full Load in high line voltage
 - 65KHz minimum clamping frequency in CCM mode @ Heavy Load in low line voltage
 - Valley switching operation @ Green mode
 - Burst Mode @ Light Load & No Load
- Frequency shuffling for EMI
- Extended burst mode control for improved efficiency and low standby power design
- Audio noise free operation
- Comprehensive protection coverage
 - VDD Under Voltage Lockout with hysteresis (UVLO)
 - VDD Over Voltage Protection (VCC OVP)
 - Cycle-by-cycle over current threshold setting for constant output power limiting over universal input voltage range
 - Over Load Protection (OLP) with auto-recovery
 - External (if NTC resistor is connected at DEM pin) or internal Over Temperature Protection (OTP) with auto-recovery
 - Output Over Voltage Protection (Output OVP) with auto-recovery, and the OVP triggered voltage can be adjusted by the resistor connected between auxiliary winding and DEM pin
 - Output diode short protection with auto-recovery

GENERAL INFORMATION

Pin Configuration

The OB2365T is offered in DIP8 package as shown below.



Ordering Information

Part Number	Description
OB2365TAP-H	DIP8, Halogen-free in tube

Package Dissipation Rating

Package	R θ JA (°C/W)
DIP8	75

Note: Drain Pin Connected to 100mm² PCB copper clad.

Absolute Maximum Ratings

Parameter	Value
Drain voltage (off state)	-0.3V to BVdss
VDD voltage	29.5V
PRT input voltage	-0.3V to 7V
FB input voltage	-0.3 to 7V
Sense input voltage	-0.3 to 7V
Min/Max operating junction temperature T _J	-40 to 150°C
Min/Max storage temperature T _{stg}	-55 to 150°C
Lead temperature (soldering, 10secs)	260°C

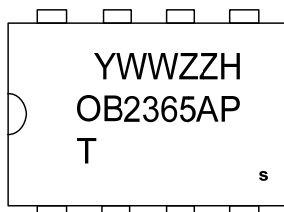
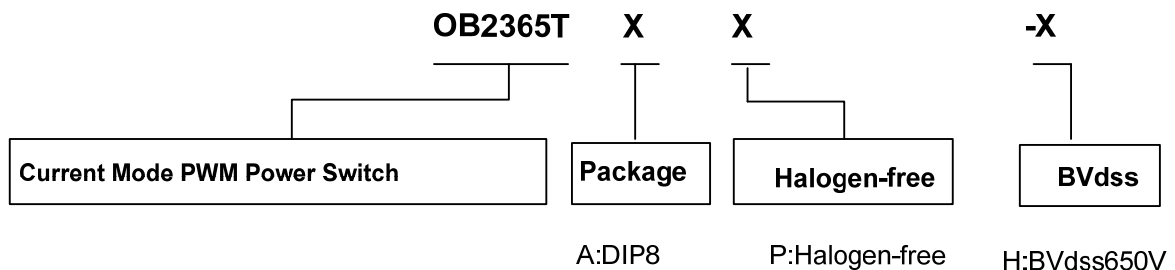
Note: Stresses beyond those listed under "absolute maximum ratings" may cause permanent damage to the device. These are stress ratings only, functional operation of the device at these or any other conditions beyond those indicated under "recommended operating conditions" is not implied. Exposure to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

Output Power Table

Product	230VAC±15%	85-265VAC
	Adapter ¹	Adapter ¹
OB2365T	29W	24W

Notes: Maximum practical continuous power in an adapter design with sufficient drain pattern as a heat sink, at 40°C ambient.

Marking Information



Y:Year Code
 WW:Week Code(01-52)
 ZZ:Lot Code
 H:BVdss 650V
 A:DIP8 Package
 P:Green Package(Halogen-free)
 T:Character Code
 s:Internal Code(Optional)