GENERAL DESCRIPTION

OB2571x is an excellent primary side regulation controller with CC/CV operation for medium level power AC/DC charger and adapter applications. The device integrates an internal power MOSFET and operates in QR mode to provide high efficiency along with several functions of built-in protections. It removes the need for secondary feedback circuitry to lower the total bill of material cost. Proprietary Constant Voltage (CV) and Constant Current (CC) control is integrated as shown in the figure below.

In CV control, the controller changes the mode of operation according to load condition. At full loading, the controller operates in quasi-resonant (QR) mode in the universal line voltage. The primary side regulation power supplies up to high power without the efficiency limitation of DCM or audible noise.

In CC control, OB2571x samples the Vcs peak current and the demagnetization pulse to regulation the output current. The current and output power setting can be adjusted externally by the sense resistor Rs at CS pin.

OB2571x offers comprehensive protection coverage with auto-recovery feature including Cycle-by-Cycle current limiting, VDD OVP, OLP, SCP, OTP etc.

OB2571x consumes less than 75mW input power at no- load condition with high line voltage.

OB2571x is offered in SOP8 package.

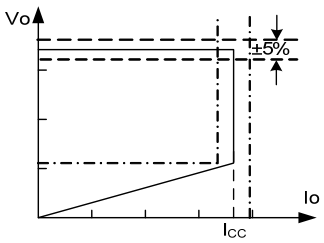


Figure.1. Typical CC/CV Curve

FEATURES

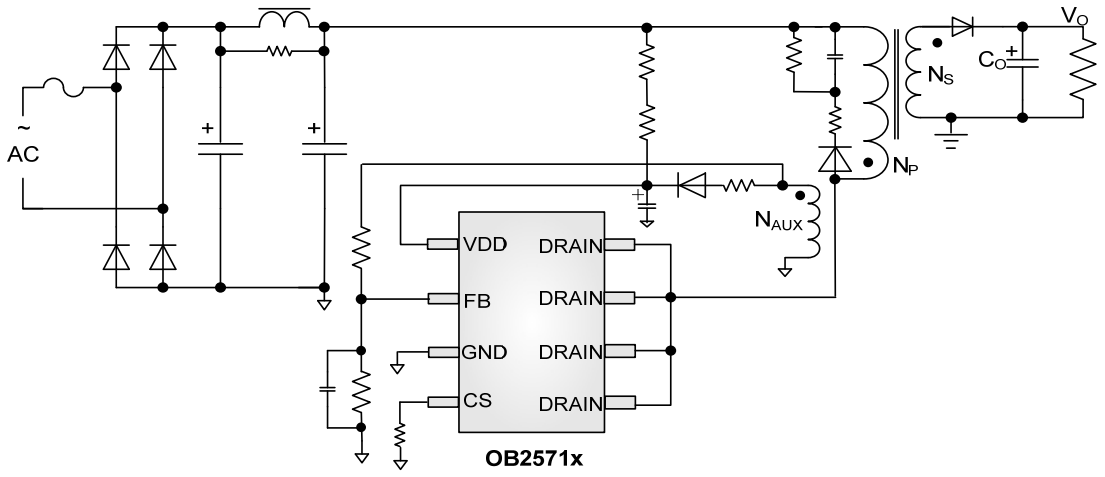
- Primary-side sensing and regulation operates in QR mode without TL431 and opto-coupler
- High precision constant voltage and current regulation at universal AC input
- Programmable CV and CC regulation
- Integrated power MOSFET
- Good dynamic response
- Programmable Brownout Protection and Line OVP Protection(For 2571Lx only)
- Built-in line compensation for tight CC regulation
- Built-in fixed cable compensation
- Built-in primary winding inductance compensation
- Built-in control loop compensation
- Built-in leading edge blanking (LEB)
- Ultra low start-up current and low operating current
- Comprehensive protection coverage with auto-recovery
  - VDD over voltage protection (VDD OVP)
  - VDD under voltage lockout with hysteresis (UVLO)
  - Cycle-by-cycle current limiting
  - Feedback open loop protection (OLP)
  - Output short circuit protection (SCP)

APPLICATIONS

Medium level Power AC/DC offline SMPS for

- Cell phone charger
- Tablet PC
- AC/DC adapter
- Set-top box power supplies

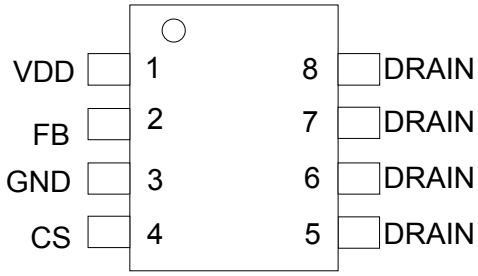
TYPICAL APPLICATION



GENERAL INFORMATION

Pin Configuration

The pin map is shown as below for SOP8.



Ordering Information

Part Number	Description
OB2571TCP	SOP8, Halogen-free in Tube
OB2571TCPA	SOP8, Halogen-free in T&R
OB2571ATCP-H	SOP8, Halogen-free in Tube
OB2571ATCPA-H	SOP8, Halogen-free in T&R
OB2571LTCP-H	SOP8, Halogen-free in Tube
OB2571LTCPA-H	SOP8, Halogen-free in T&R
OB2571ALTCP	SOP8, Halogen-free in Tube
OB2571ALTCPA	SOP8, Halogen-free in T&R

Package Dissipation Rating

Package	RθJA (℃/W)
SOP8	85

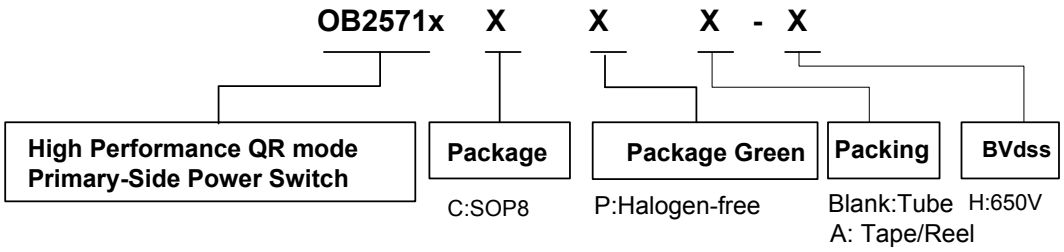
Absolute Maximum Ratings

Parameter	Value
VDD Voltage	-0.3 to 30V
FB Input Voltage	-0.3 to 7V
Drain Voltage (off state)	-0.3 to Bvdss
CS Input Voltage	-0.3 to 7V
Min/Max Operating Junction Temperature T_J	-40 to 150 ℃
Operating Ambient Temperature T_A	-20 to 85 ℃
Min/Max Storage Temperature T_{stg}	-55 to 150 ℃
Lead Temperature (Soldering, 10secs)	260 ℃

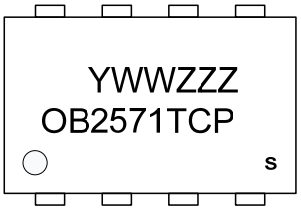
Note: Stresses beyond those listed under "absolute maximum ratings" may cause permanent damage to the device. These are stress ratings only, functional operation of the device at these or any other conditions beyond those indicated under "recommended operating conditions" is not implied. Exposure to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

Recommended Operating Condition

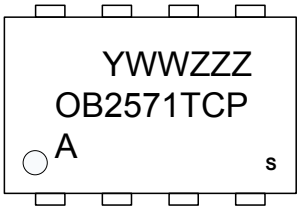
Symbol	Parameter	Range
VDD	VDD Supply Voltage	9 to 25V



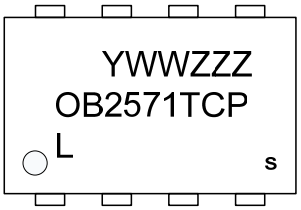
Marking Information



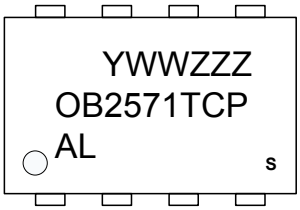
Y:Year Code
WW:Week Code(01-52)
ZZZ:Lot Code
C:SOP8 Package
P:Halogen-free Package
S:Internal Code(Optional)



Y:Year Code
WW:Week Code(01-52)
ZZZ:Lot Code
C:SOP8 Package
P:Halogen-free Package
A:Character Code
S:Internal Code(Optional)



Y:Year Code
WW:Week Code(01-52)
ZZZ:Lot Code
C:SOP8 Package
P:Halogen-free Package
L:Character Code
S:Internal Code(Optional)



Y:Year Code
WW:Week Code(01-52)
ZZZ:Lot Code
C:SOP8 Package
P:Halogen-free Package
AL:Character Code
S:Internal Code(Optional)

TERMINAL ASSIGNMENTS

Pin Num	Pin Name	I/O	Description
1	VDD	P	Power Supply
2	FB	I	The voltage feedback from auxiliary winding. Connected to resistor divider from auxiliary winding reflecting output voltage.
3	GND	P	Ground
4	CS	I	Current sense input. Connect a sense resistor from this pin to ground.
5,6,7,8	DRAIN	O	Internal MOSFET DRAIN output