

GENERAL DESCRIPTION

OB2560 is a high performance offline PSR controller for low power AC/DC charger and adapter applications. It operates in primary-side sensing and regulation. Consequently, opto-coupler and TL431 could be eliminated. Proprietary Constant Voltage (CV) and Constant Current (CC) control is integrated as shown in the figure below.

In CC control, the current and output power setting can be adjusted externally by the sense resistor R_s at CS pin. In CV control, multi-mode operations are utilized to achieve high performance and high efficiency. In addition, good load regulation is achieved by the built-in cable drop compensation. Device operates in PFM in CC mode at large load condition and it operates in PWM with frequency reduction at light/medium load. The chip consumes very low operation current. It achieves less than 75mW standby power to meet strict standby power standard.

OB2560 offers comprehensive protection coverage with auto-recovery feature including Cycle-by-Cycle current limiting, VDD over voltage protection, feedback loop open protection, short circuit protection, built-in leading edge blanking, VDD under voltage lockout (UVLO), OTP etc.

OB2560 is offered in SOT23-6 package.

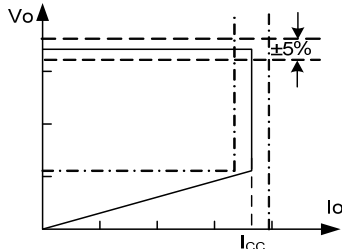
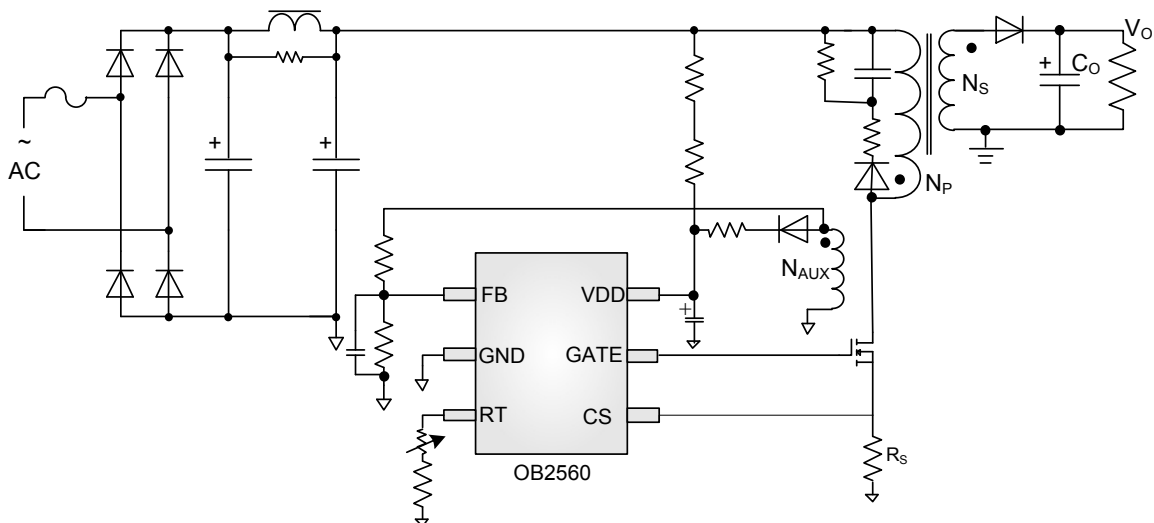


Figure.1. Typical CC/CV Curve

TYPICAL APPLICATION



FEATURES

- Driving MOSFET
- Primary-side sensing and regulation without TL431 and opto-coupler
- High precision constant voltage and current regulation at universal AC input
- Multi-mode PWM/PFM operation for efficiency improving
- Good dynamic response
- Programmable CV and CC regulation
- Built-in primary winding inductance compensation
- Programmable cable drop compensation
- No need for control loop compensation
- Audio noise free operation
- Built-in leading edge blanking (LEB)
- Ultra low start-up current (typ. 1uA) and low operating current (typ. 650uA)
- Comprehensive protection coverage with auto-recovery
 - Precise external OTP
 - VDD over voltage protection
 - VDD under voltage lockout with hysteresis (UVLO)
 - Cycle-by-Cycle current limiting
 - Feedback loop open protection
 - Output short circuit protection

APPLICATIONS

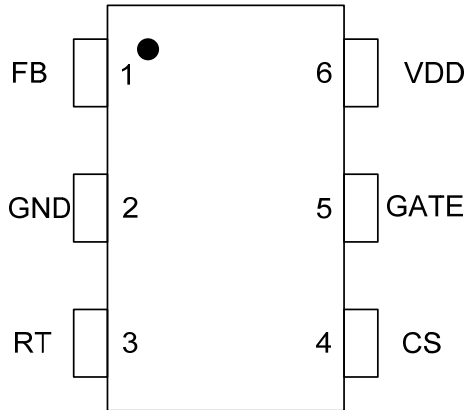
Low Power AC/DC offline SMPS for

- Cell Phone Charger
- Digital Cameras Charger
- Small Power Adapter
- Auxiliary Power for PC, TV etc.
- Linear Regulator/RCC Replacement

GENERAL INFORMATION

Pin Configuration

The pin map is shown as below for SOT23-6.



Absolute Maximum Ratings

Parameter	Value
VDD Voltage	-0.3 to 30V
FB Input Voltage	-0.3 to 7V
RT Input Voltage	-0.3 to 7V
CS Input Voltage	-0.3 to 7V
GATE Input Voltage	-0.3 to 24V
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.

Ordering Information

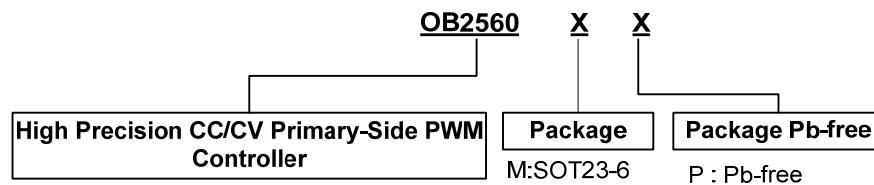
Part Number	Description
OB2560MP	SOT23-6, Pb-free, T&R

Package Dissipation Rating

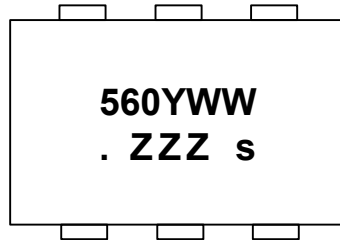
Package	R θ JA (°C/W)
SOT23-6	200

Recommended operating condition

Symbol	Parameter	Range
VCC	VCC Supply Voltage	9 to 22V
T _A	Operating Ambient Temperature	-20 to 85 °C



Marking Information



Y:Year Code
 WW:Week Code(01-52)
 ZZZ: Lot code
 s: Internal code

TERMINAL ASSIGNMENTS

Pin Num	Pin Name	I/O	Description
1	FB	I	The voltage feedback from auxiliary winding. Connected to resistor divider from auxiliary winding reflecting output voltage.
2	GND	P	Ground
3	RT	I	Connected through a NTC resistor to ground for over temperature shutdown
4	CS	I	Power MOSFET source
5	GATE	O	Gate driver of power MOSFET.
6	VDD	P	Power Supply

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[NCP1250BP65G](#) [NCP4202MNR2G](#) [NCP4204MNTXG](#) [NCP6132AMNR2G](#) [NCP81141MNTXG](#) [NCP81142MNTXG](#) [NCP81172MNTXG](#)
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