

Low-Power Off-Line CC/CV Switch

FEATURES

- Constant-Current (CC) and Constant-Voltage (CV) Control with Primary Side Control
- No-load power consumption < 30 mW at 230 Vac with typical application circuit (5-star rating)
- Primary-side feedback eliminates opto-coupler and TL431
- Built-in Cable Compensation
- Built-in Line Compensation
- Quasi-resonant operation for highest overall efficiency
- Direct drive of low-cost BJT switch
- Cycle-by-Cycle Current Limiting
- Over Voltage Protection (OVP)
- Over Temperature Protection (OTP)
- Open Circuit Protection
- Short Circuit Protection
- No audible noise over entire operating range
- Pb-Free Device

TYPICAL APPLICATION

- Adapter/Charger for Cell/Cordless Phones, PDAs, MP3 and Other Portable Apparatus
- Standby and Auxiliary Power Supplies Set Top Boxes (STB)

DESCRIPTION

The FT835NCx controller device is optimized for high-performance, low power switching mode power supply applications. The FT835NCx facilitates CC/CV charger design by eliminating an opto-coupler and TL431. Its highly integrated functions such as Under Voltage Lockout (UVLO), Leading Edge Blanking (LEB) and built-in cable compensation offer the users a high efficiency and low cost solution for AC/DC power applications.

Power supplies built with FT835NCx can achieve both highest average efficiency and 30mW no-load power consumption, and have fast dynamic load response.

Furthermore, FT835NCx features fruitful protections like OTP (Over Temperature Protection), OVP (Over Voltage Protection), and Open Circuit Protection, Short Circuit Protection to eliminate the external protection circuits and provide reliable operation. FT835NCx is available in SOP8 package.

TYPICAL APPLICATION CIRCUIT

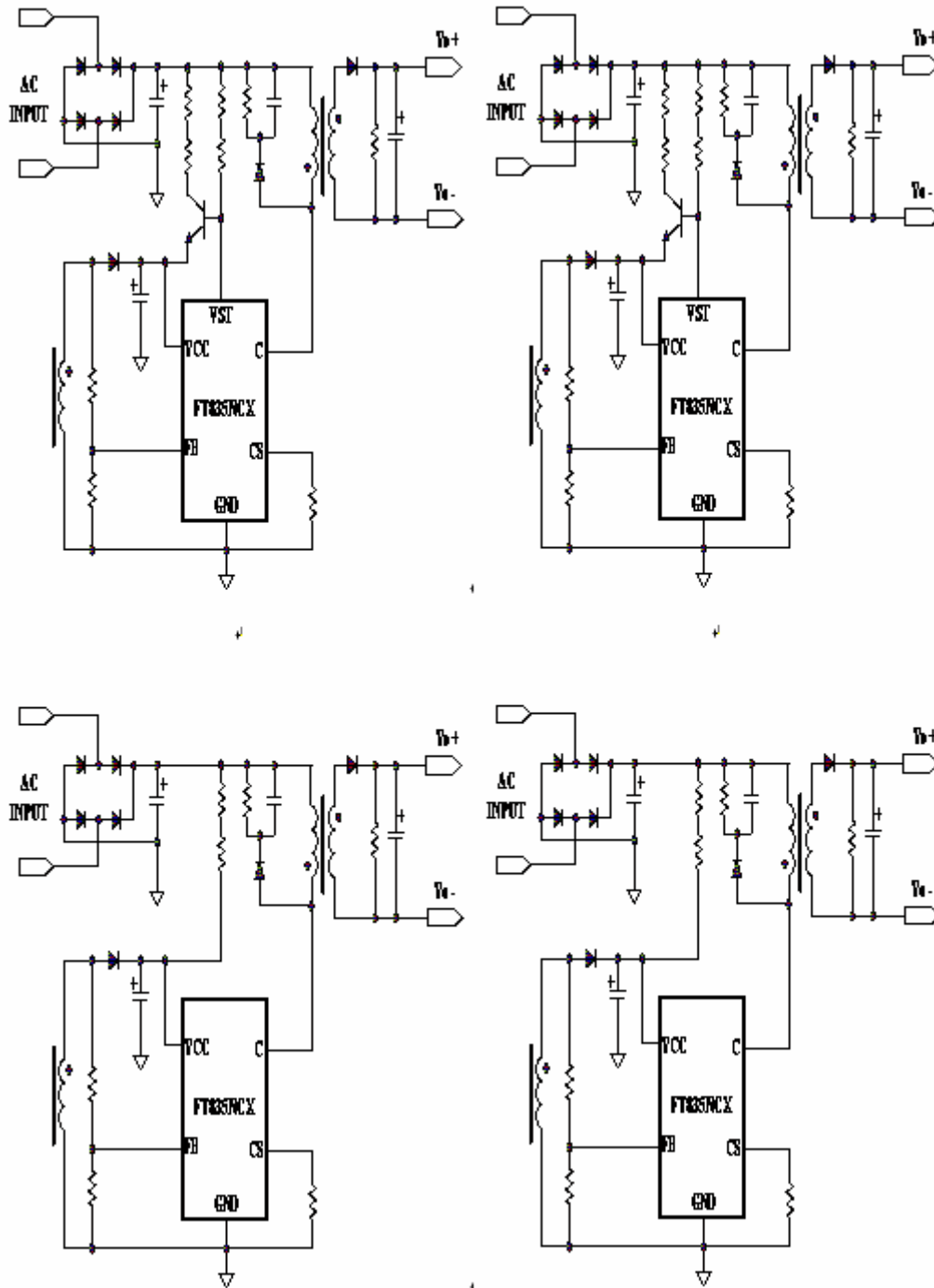


Figure 1: Typical Application Circuit

ABSOLUTE MAXIMUM RATINGS

FB to GND.....	-0.3V to +9V
CS to GND.....	-0.3V to +9V
VCC to GND.....	-0.3V to +20V
VST to GND.....	-0.3V to +20V
C to GND.....	-0.3V to +600V
Operating Temperature Range.....	-40°C to +125°C
Junction Temperature.....	-40°C to +150°C
Storage Temperature Range	-60°C to +150°C
ESD Protection HBM.....	2000V
ESD Protection MM.....	200V

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

PIN CONFIGURATION

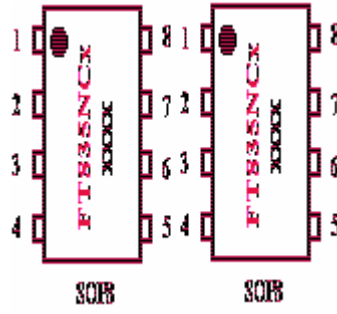


Figure 2: Pin Assignments

TERMINAL DEFINITION

Pin	Name	Description
1	CS	Primary current sense
2	FB	Output voltage feedback pin
3	VCC	Supply voltage
4	VST	Control signal for active start-up BJT
5	GND	Ground.
6		
7	C	The C pin is connected to the primary lead of the transformer
8		

Table 1

ORDERING INFORMATION

FT835NC①

DESIGNATOR	SYMBOL	Options
①	0	Cable Comp = 0
	1	Cable Comp = 3%
	2	Cable Comp = 6%
	3	Cable Comp = 9%

Table 2

MARKING RULE

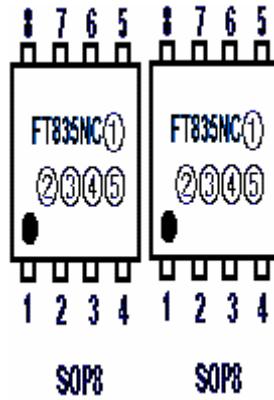
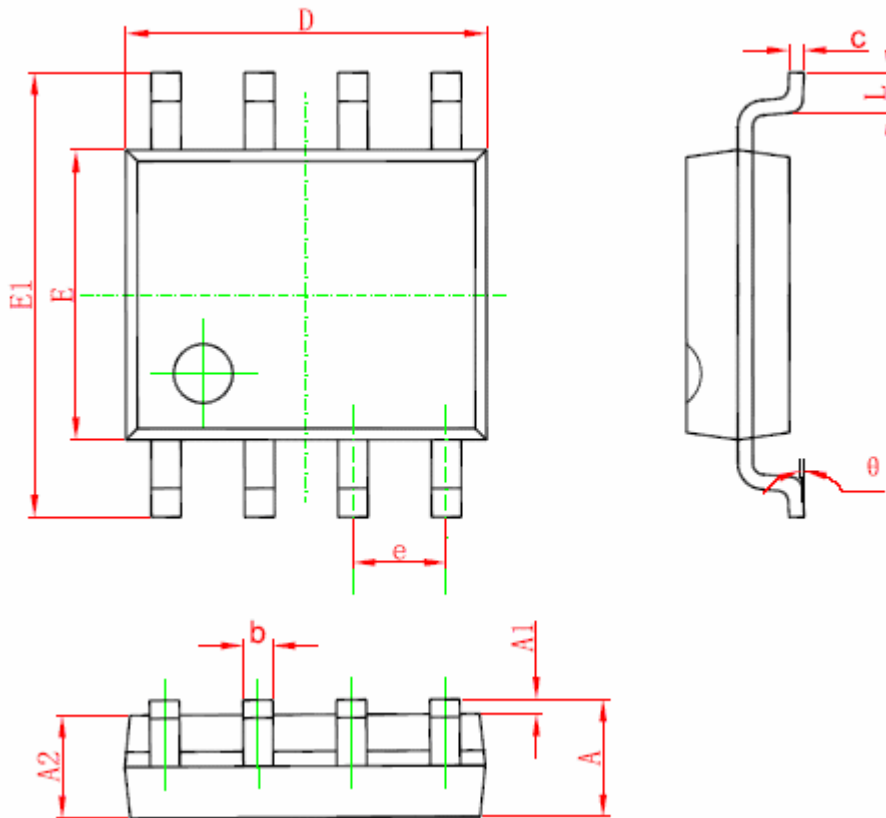


Figure 3: Marking Rule

- ①: Represents Version (0,1,2 or 3)
- ②③④⑤: for internal reference

PACKAGE INFORMATION

SOP8 Package



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.350	1.750	0.053	0.069
A1	0.100	0.250	0.004	0.010
A2	1.350	1.550	0.053	0.061
b	0.330	0.510	0.013	0.020
c	0.170	0.250	0.006	0.010
D	4.700	5.100	0.185	0.200
E	3.800	4.000	0.150	0.157
E1	5.800	6.200	0.228	0.244
e	1.270 (BSC)		0.050 (BSC)	
L	0.400	1.270	0.016	0.050
θ	0°	8°	0°	8°