■ INTRODUCTION

The CE8410 is a general purpose DC/DC synchronous boost (step-up) converter providing a tightly regulated DC output voltage for continuous output currents up to 1A (minimum). The maximum peak current in the boost switch is limited to a value of 2A (minimum). Operating input voltage must be less than the output voltage and in the 0.5V to 5.5V range, making the device well suited to portable equipment and consumer appliances.

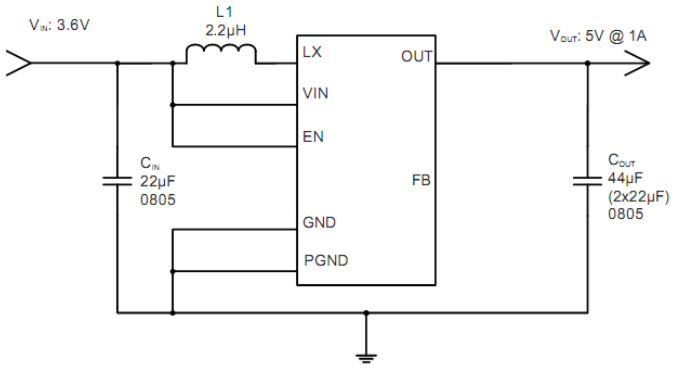
■ FEATURES

- 2.5V to 5.5V Adjustable Output Voltage
- 0.5V Minimum Input Voltage
- ±2% Output Accuracy
- No Schottky Diode Required (VOUT < 4.5V)
- Up to 95% Efficiency
- 400μA Standby Current
- <1μA Shutdown Current
- Constant Frequency 1.2MHz Operation
- Small Ceramic Capacitors
- Current Mode Control
- Fast, Stable Transient Response
- No External Compensation
- Low Inrush Current with 0.7ms Soft-start
- Over-Temperature Protection
- Delivers 1A to 5V Output from a Single Cell Li+ Battery

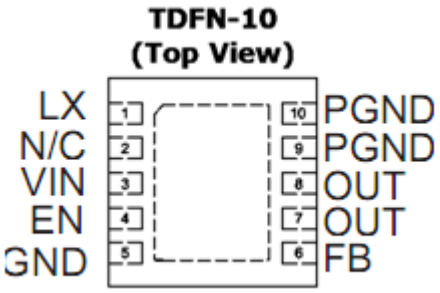
■ APPLICATIONS

- Cellular and Smart Phones
- Laptop, Palmtops and PDA
- Digital Still and Video Cameras
- MP3, MP4 Player
- Radio control systems
- Battery-Powered Equipment

■ TYPICAL APPLICATION



■ PIN CONFIGURATION



PIN NUMBER	SYMBOL	FUNCTION
1	LX	External Inductor Connection Pin
2	N/C	No connect
3	Vin	Input voltage for the controller.
4	EN	Input enable pin
5	GND	Non-power signal ground pin
6	FB	Feedback input pin. This pin is connected to an external resistor divider which determines the output volt-age setpoint.
7/8	OUT	Output pin; connected to the positive terminal of the output capacitor and to the external resistor divider.
9/10	PGND	Power ground pin. Connect this pin directly to input and output capacitors.

■ ELECTRICAL CHARACTERISTICS

CE8410 Series (V_{IN}=3.6V, Ta=25℃, unless otherwise specified)

Symbol	Description	Conditions	Min	Typ	Max	Units
V_{IN}	Minimum Start-Up Voltage	ILOAD = 1mA		0.85	1	V
	Minimum Start-Up Voltage Loaded	ILOAD = 300mA (Resistive)		1.4		V
	Operating Input Voltage Range	TA = -40°C to +85°C	0.5		VOUT - 0.5	V
V_{OUT_RANGE}	Output Voltage Range		2.5		5.5	V
V_{FB}	Feedback Voltage	TA = -40°C to +85°C	1.164	1.200	1.236	V
I_Q	Quiescient Current Switching, No Load Operation, Measured from VOUT	0.5 < VIN < VOUT - 0.5V, ILOAD = 0mA		300	700	uA
	Quiescient Current Device Disabled (Shut Down)	0.5 < VIN < VOUT - 0.5V, VEN = 0		0.1	1	uA
F_{OSC}	Switching Frequency		0.95	1.2	1.5	MHz
DC	Minimum Operating Duty Cycle				0	%
	Maximum Operating Duty Cycle		80			%
I_{LIMIT}	NMOS Current Limit	TA = -40°C to +85°C	2.0	2.5		A
T_{SS}	Soft-Start Time	VIN = 3.3V, VOUT = 5V, COUT = 10μF		0.7		mS