

High Power White Led Driver

Data Brief

Features

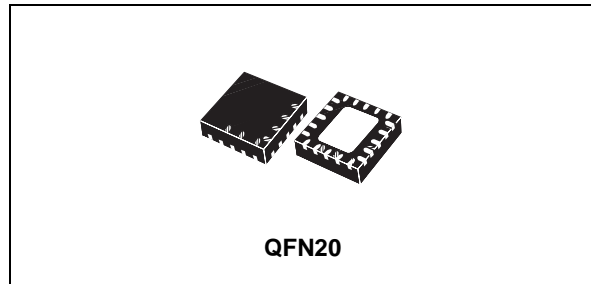
- Buck-boost DC/DC Converter
- Drives One Power White Led:
Up To 600mA Between 2.7 To 5.5V
- Led Temperature Protection
- Output Current Control
- 1.8 MHz Typ Fixed Frequency PWM
- Synchronous Rectification
- High Efficiency Across The Total Input Voltage Range
- Operational Modes:
Shutdown Mode
Shutdown Mode With NTC
Flash Mode: Up To 600 mA
Medium Flash Mode
Torch Mode: Up To 250 mA
- Adjustable Current In All Three Modes
- Peak Inductor Limited To 2.3 A Typ.
- LED Disconnected From The Battery In Shutdown Mode
- Programmable Safety Shutdown In Flash Mode
- Over Voltage Protection 5.3V
- Short Circuit Protection
- Over Temperature Protection
- < 1µA Shutdown Current
- QFN20 4 x 4 mm

Applications

- CELL PHONE AND SMART PHONES
- CAMERA FLASHES/STROBES
- PDAS AND DIGITAL STILL CAMERAS

Order Codes

Type	Package	Comments
STCF02PMR	QFN20 (4x4 mm)	4500 parts per reel



Description

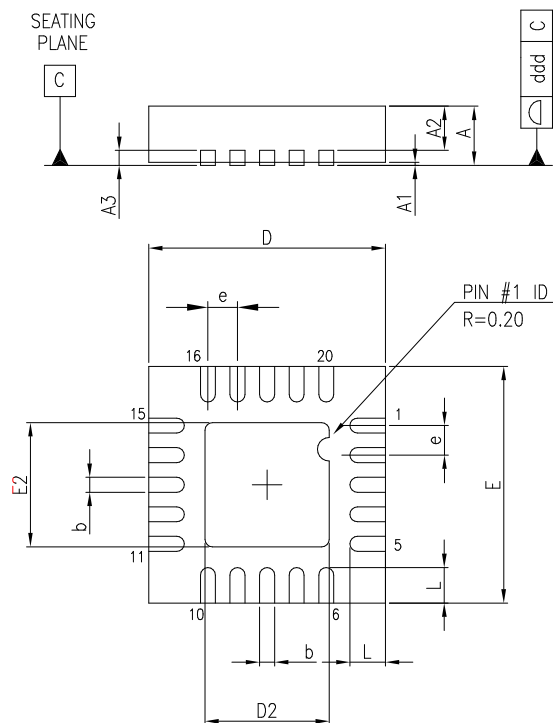
The STCF02 is a high efficiency power supply solution to drive a single flash LED in camera phone, PDAs and other hand-held devices. It is a buck-boost converter to guarantee a proper LED current control over the battery voltage (particularly in the case, that the output voltage is lower than the input voltage); the output current control ensure a good current regulation over the forward voltage spread characteristics of the Flash LED.

Three logic input signal can select 5 modes of operation: shutdown mode (quiescent current less than 1µA typ), shutdown mode with NTC active, torch mode (Drive the led up to 250 mA), flash mode (up to 600 mA) and medium flash mode that reduce the flash current.

The high efficiency of the converter allows having the input current taken from the battery lower than 1.5A and the peak inductor current is limited to 2.3 Amps typical. Other features include softstart control, thermal shutdown, short circuit protection, over voltage protection and LED temperature protection. Alternatively to LED temperature protection, a safety flash time out can be easily implemented. The device is packaged in a QFN 20 leads with a dimension of 4x4 mm and a height of less than 1mm.

QFN20 (4x4) MECHANICAL DATA

DIM.	mm.			mils		
	MIN.	TYP	MAX.	MIN.	TYP.	MAX.
A	0.8	0.9	1.00	31.5	35.4	39.4
A1		0.02	0.05		0.8	2.0
A2		0.65	1.00		25.6	39.4
A3		0.25			9.8	
b	0.18	0.23	0.30	7.1	9.1	11.8
D	3.875	4.00	4.125	152.6	157.5	162.4
D2	0.75	1.7	2.25	29.5	66.9	88.6
E	3.875	4.00	4.125	152.6	157.5	162.4
E2	0.75	1.7	2.25	29.5	66.9	88.6
e	0.45	0.50	0.55	17.7	19.7	21.7
L	0.35	0.55	0.75	13.8	21.7	25.9
ddd			0.08			3.1



7169619-D

1 Revision History

Date	Revision	Description of Change
05-Oct-2005	1	Data Brief.

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