1.0MHz, 3.6A Synchronous Buck(Step-Down) Converter

Datasheet Brierf

■ DESCRIPTION

The FH43113 is a 1.0MHz constant frequency, current mode step-down converter. It is ideal for portable equipment requiring high output current up to 3.6A from single-cell Lithium-ion batteries. They also can run at 100% duty cycle for low dropout operation, extending battery life in portable systems while light load operation provides very low output ripple for noise sensitive applications. The high switching frequency of FH43113 could minimize the size of external components while keeping switching losses low. The internal slope compensation setting allows the device to operate with smaller inductor values to optimize size and provide efficient operation. FH43113 has power good function and it is offered in DFN3*3-10L package.

The device offers two operation modes, PWM control and PFM Mode switching control, which allow a high efficiency over the wider range of the load.

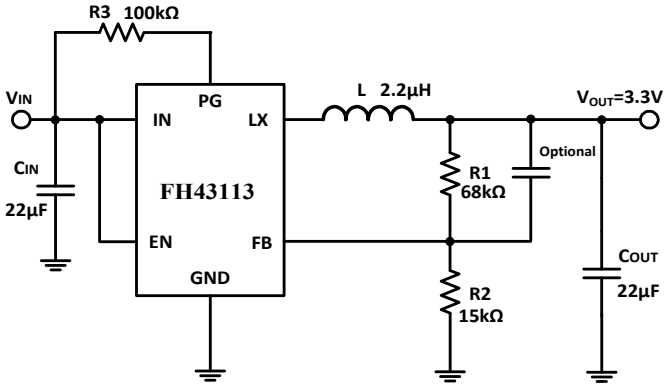
■ FEATURES

- High Efficiency: Up to 96% (at 5.0V to 3.3V)
- Constant Frequency Operation: 1.0MHz
- Output Current: Up to 3.6A(Max:4.0)
- No Schottky Diode Required
- Input Voltage Range: 2.7V to 5.5V
- Output Voltage as Low as 0.6V
- PFM Mode for High Efficiency in Light Load
- 100% Duty Cycle in Dropout Operation
- Low Quiescent Current: 50.0μA
- Short Circuit Protection
- Thermal Fault Protection
- Power Good Output Function
- Inrush Current Limit and Soft Start
- Input over-voltage protection (OVP)
- Shutdown Current: <1.0μA
- Package: DFN3*3-10L

■ APPLICATIONS

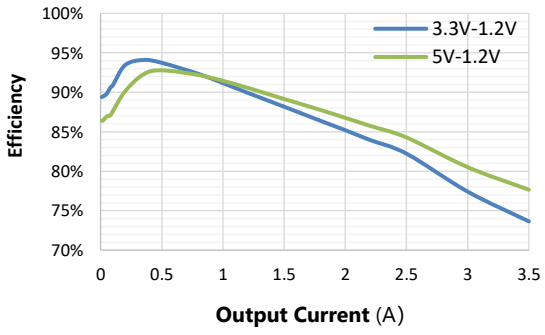
- Cellular and Smart Phones
- Wireless and DSL Modems
- Portable Instruments
- Digital and Video Cameras
- PC Cards

■ TYPICAL APPILCATION

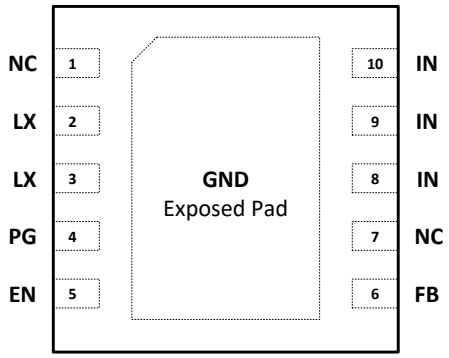


Efficiency

(V_{OUT}=1.2V, I_{OUT}=0.01A to 3.5A, T_A=25°C)



■ PIN NAME



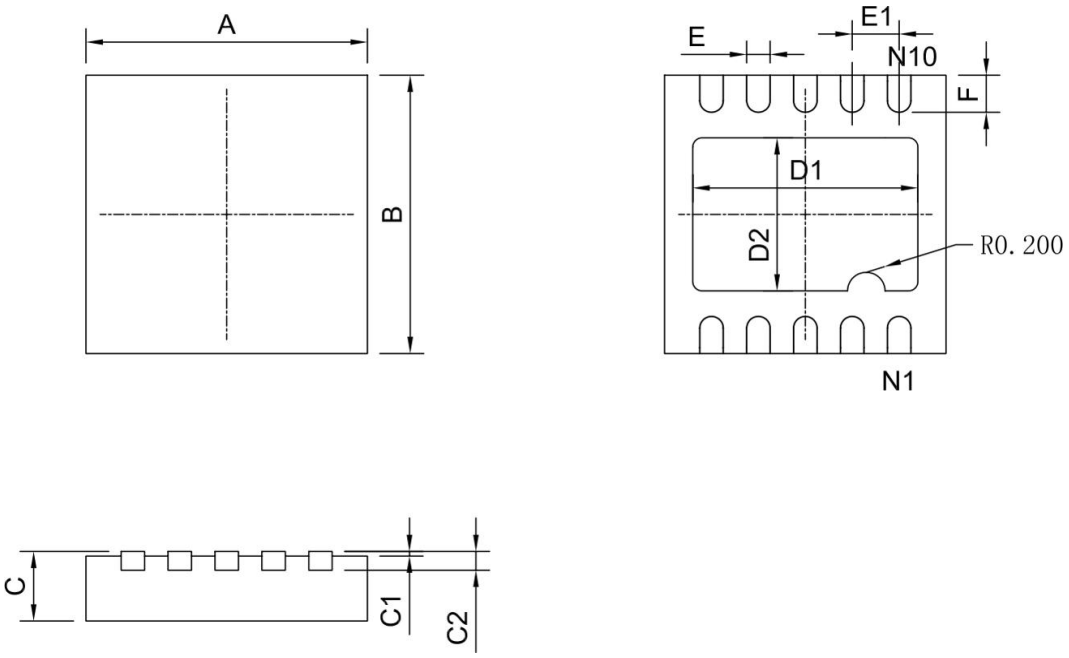
➢ **DFN3*3-10L** (Top View)

■ PIN DESCRIPTIONS

Pin	Name	Function
1	**NC**	No Connection
2	**LX**	Power Switch Output. It is the switch node connection to Inductor. This pin connects to the drains of the internal P-ch and N-ch MOSFET switches.
3		
4	**PG**	Power Good Open Drain Output Pin.
5	**EN**	Enable Pin. Drive EN above 1.5V to turn on the part. Drive EN below 0.4V to turn it off. Do not leave EN floating.
6	**FB**	Output Voltage Feedback Pin. An internal resistive divider divides the output voltage down for comparison to the internal reference voltage.
7	**NC**	No Connection.
8	**IN**	Power Supply Input Pin.
9		
10		
11	**GND**	Ground Pin (Exposed Pad).

■ PACKAGE INFORMATION

- Package Type: **DFN3*3-10L**



(Unit: mm)

Symbol	Dimensions In Millimeters			Symbol	Dimensions In Millimeters		
	Min	Nom	Max		Min	Nom	Max
A	2.9	3.0	3.1	D1	2.40 TYP		
B	2.9	3.0	3.1	D2	1.65 TYP		
C	0.7		0.8	E	0.250 TYP		
C1	0		0.05	E1	0.500 TYP		
C2	-	0.203	-	F	0.400 TYP		

■ ORDER INFORMATION

Part Number	Package	Top Mark	Quantity	Junction Temperature
FH43113N10	DFN3*3-10L	*3113 ** ***	5000PCS/Reel	-40~125℃

- FH43113 devices are Pb-free and RoHS compliant.
- The surface prints of our semiconductor devices are subject to change during the production process and do not involve changes in electrical parameters, and we will not separately state the notice. Top Mark: *3113 /YY XXX (Device Code, YYXXX: Inside Code)

Note:

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- Update by Nov.2019