3.0MHz 2.0A High ŋ Step-Down Converter

Datasheet Brierf

■ DESCRIPTION

The FH4513 is a high-efficiency, DC-to-DC step-down switching regulator, capable of delivering up to 2A of output current. The devices operate from an input voltage range of 2.6V to 5.5V and provide output voltages from 0.6V to VIN, making the FH4513 ideal for low voltage power conversions.

Running at a fixed frequency of 3MHz allows the use of small inductance value and low DCR inductors, thereby achieving higher efficiencies. Other external components, such as ceramic input and output caps, can also be small due to higher switching frequency, while maintaining exceptional low noise output voltages. Built-in EMI reduction circuitry makes this converter ideal power supply for RF applications. Internal soft-start control circuitry reduces inrush current. Short-circuit and thermal-overload protection improves design reliability.

FH4513 is housed in a tiny SOT23-5L package

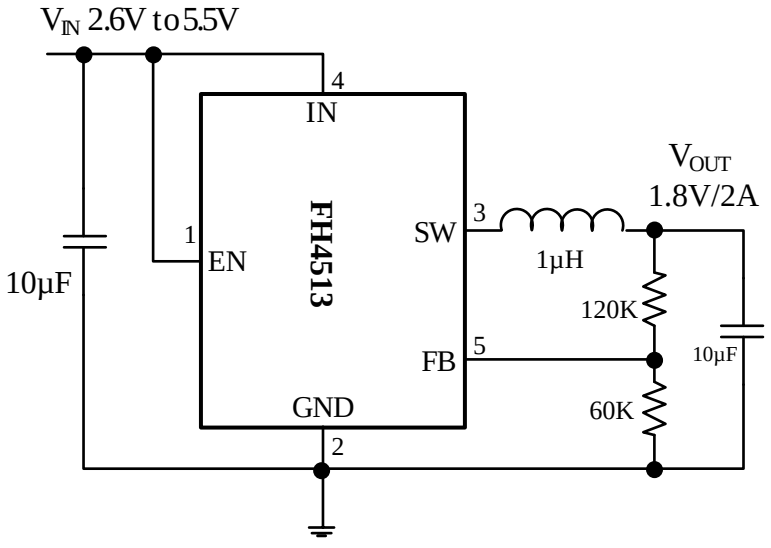
■ FEATURES

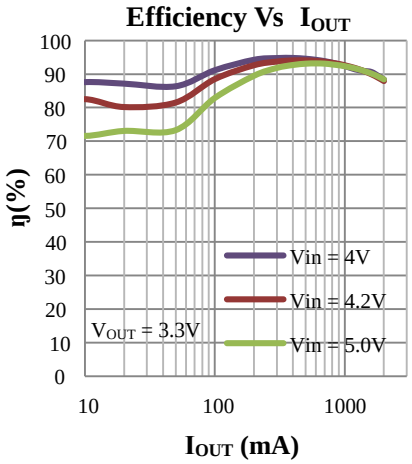
- ŋ up to 96%
- Max output current: 2.0A
- 3.0MHz Frequency
- Internal Compensation
- Clock Dithering
- Tiny SOT23-5L Package

■ APPLICATIONS

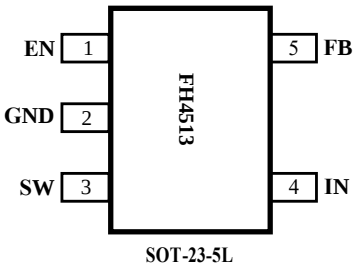
- USB ports/Hubs
- Portable Devices
- Cellphones
- Tablet PC
- Set Top Boxes

■ TYPICAL APPLICATION





■ PIN CONFIGURATION



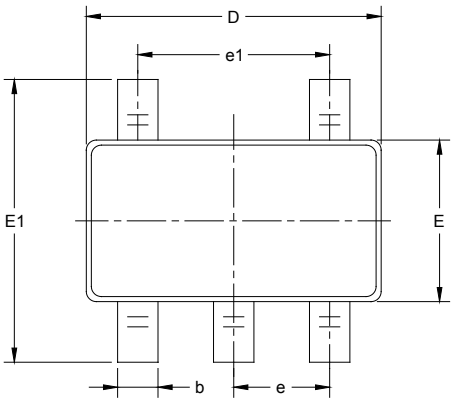
SOT-23-5L

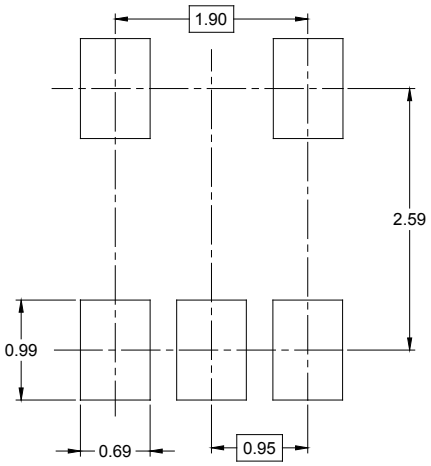
■ PIN DESCRIPTION

PIN #	NAME	DESCRIPTION
1	EN	Enable pin for the IC. Drive this pin to high to enable the part, low to disable.
2	GND	Ground
3	SW	Inductor Connection. Connect an inductor Between SW and the regulator output.
4	IN	Supply Voltage. Short to PIN. Bypass with a 10μF ceramic capacitor to GND
5	FB	Feedback Input. Connect an external resistor divider from the output to FB and GND to set the output to a voltage between 0.6V and VIN

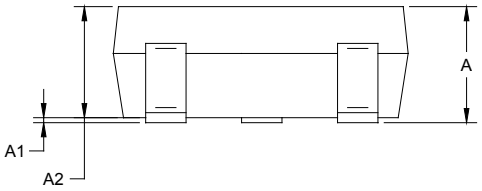
■ PACKAGE OUTLINE

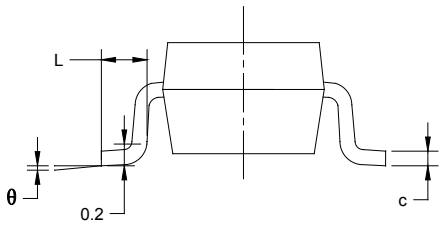
- Type: **SOT-23-5L** OUTLINE AND DIMENSIONS





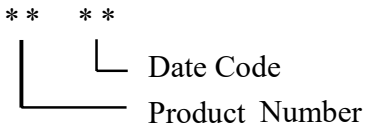
RECOMMENDED LAND PATTERN (Unit: mm)





Symbol	Dimensions In Millimeters		Dimensions In Inches	
	MIN	MAX	MIN	MAX
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950 BSC		0.037 BSC	
e1	1.90 0 BSC		0.075 BSC	
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°

■ ORDERING INFORMATION

PART	PACKAGE	TOP MARK
FH4513M5	SOT23-5L	

- FH4513 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.

Note:

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➢ Update by Feb.2018