4.0A, 16V High Efficiency Synchronous Buck(Step-Down) Converter

PRELIMINARY DATASHEET

Datasheet Brierf

DESCRIPTION

The FH43207 is a wide input range, high-efficiency, DC-to-DC step-down switching regulator, capable of delivering up to 4.0A of output current. Current mode PWM control allows the use of small external components, such as ceramic input and output caps, as well as small inductors, while still providing low output ripples. On top of the integrated internal synchronous rectifier that eliminates external Schottky diode, FH43207 also employs a proprietary control scheme that switches the device into a power save mode during light load, thereby extending the range of high efficiency operation. Therefore, FH43207 is a much superior solution in comparison to other competitions in terms of efficiency and cost. Overall, FH43207 is a highly efficient and robust solution for DC-DC step-down applications that requires wide input ranges.

The FH43207 is available in ESOP-8L package.

FEATURES

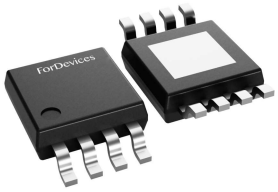
- Wide input operating range from 4.2V to 16.0V
- High efficiency: up to 95% at light load
- Capable of delivering 4.0A
- No external schottky diode needed
- Inductor short circuit protection
- Current mode control
- 0.923V reference for low output voltages
- Logic control shutdown
- Thermal shutdown and UVLO
- Available in ESOP-8L package

APPLICATIONS

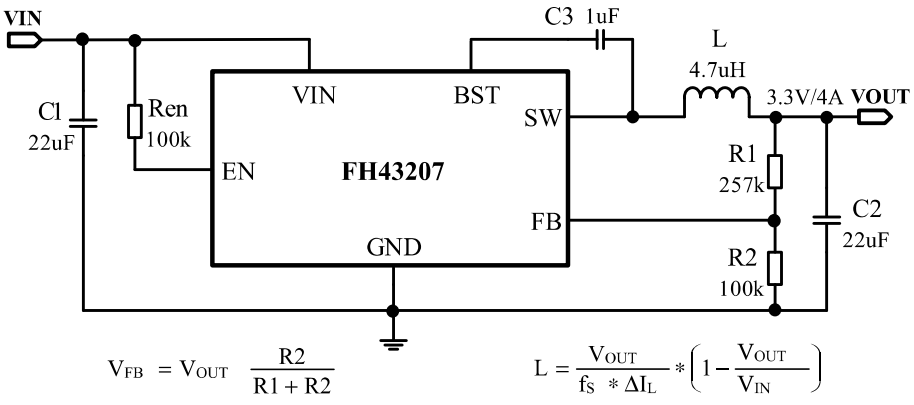
- LCD TVs
- Notebook computers
- FPGA power supplies
- LED drivers

PACKAGE TYPE

- 8-Pin ESOP (ESOP-8L)



TYPICAL APPLICATION



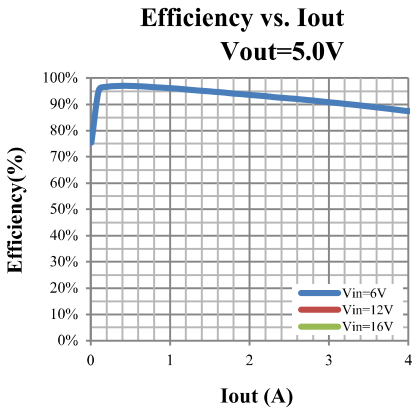
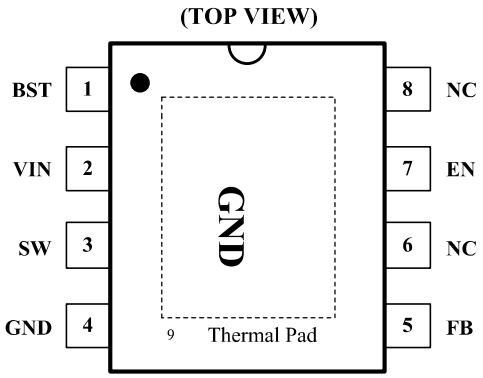


Figure 1. FH43207 Application Circuit

PIN CONFIGURATION



ESOP-8L (Exposed Pad)

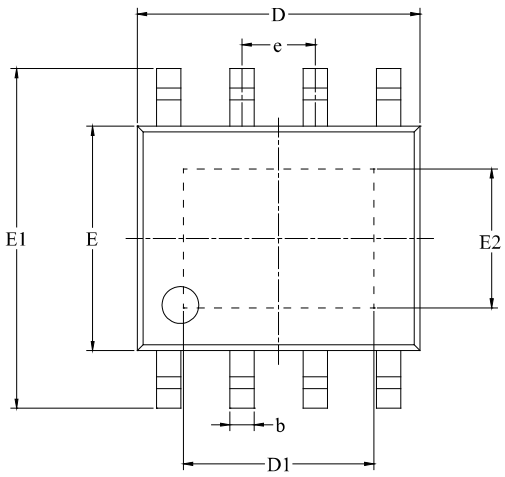
Note: 1) The thermal pad must be connected to GND Pin.
2) The Thermal Pad is GND Pin.
It must be electrically connected to the exposed pad on the printed circuit board for proper operation.

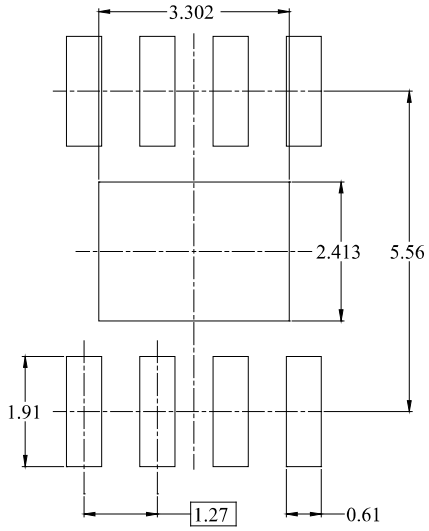
PIN DESCRIPTION

PIN #	NAME	DESCRIPTION
1	BST	High side power transistor gate drive boost input.
2	VIN	Power input. Bypass with a 10uF~22uF ceramic capacitor to GND.
3	SW	Power switching node to connect inductor.
4	GND	Ground.
5	FB	Feedback input with reference voltage set to 0.923V.
6	NC	No connection
7	EN	Enable input. Set this pinto high level to enable the part, low level to disable.
8	NC	No connection
9	Thermal Pad	The Thermal Pad is GND pin must be electrically connected to the exposed pad on the printed circuit board and connect to the foot of GND for proper operation.

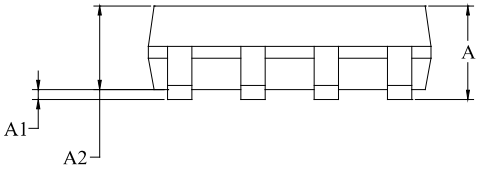
PACKAGE OUTLINE DIMENSIONS

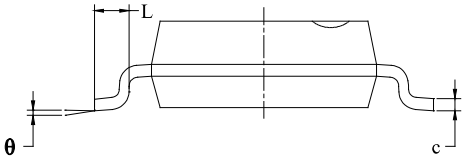
ESOP-8L (Exposed Pad)





RECOMMENDED LAND PATTERN(Unit: mm)





Symbol	Dimensions In Millimeters		Dimensions In Inches	
	MIN	MAX	MIN	MAX
A		1.700		0.067
A1	0.000	0.100	0.000	0.004
A2	1.350	1.550	0.053	0.061
b	0.330	0.510	0.013	0.020
c	0.170	0.250	0.007	0.010
D	4.700	5.100	0.185	0.201
D1	3.202	3.402	0.126	0.134
E	3.800	4.000	0.150	0.157
E1	5.800	6.200	0.228	0.244
E2	2.313	2.513	0.091	0.099
e	1.27 BSC		0.050 BSC	
L	0.400	1.270	0.016	0.050
θ	0°	8°	0°	8°

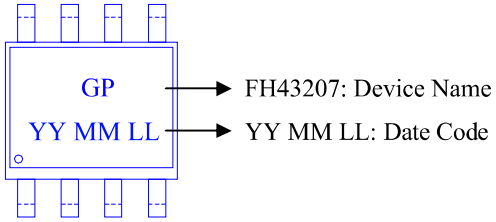
ORDERING INFORMATION

Part Number	Voltage Range	Features	Operating Temperature	Package Type	Top Mark	SPQ
FH43207S8	4.2 ~ 16.0V	● Synchronous Buck(Step-down) ● Input Voltage: ~16.0V ● Ilimit: 4.0A ● VFB: 0.923V ● Efficiency: 95%	-40°C to +85°C	ESOP-8L	GP YY MM LL	2500PCS/Reel

Note:

- **FH43207** 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.
- If you have any other custom purchase needs, please contact our sales department.
- ForDevices reserves the right to amend and legally interpret the electrical parameters of this chip device. (http://www.fordevices.com)

Device Name: ESOP-8L



ESD SENSITIVITY CAUTION

ESD damage can range from subtle performance degradation to complete device failure. Precision integrated circuits may be more susceptible to damage because very small parametric changes could cause the device not to meet its published specifications.

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▲ Update by Sep.2019