

30.0V, 3.0A Synchronous Buck DC-DC Converter with Adjustable Soft-start Time

■ DESCRIPTION

FH4712 is a wide input voltage of 4.5V to 30.0V, high efficiency current mode, synchronous buck DC-DC converter capable of delivering 3.0A current with adjustable soft-start time. FH4712 integrates main switch and synchronous switch with low $R_{DS(on)}$ to minimize the conduction loss.

The device integrates 120mΩ High-Side and 80mΩ Low-side Power MOSFET, and has advanced features include UVLO, Thermal Shutdown, Soft Start, input OVP.

■ APPLICATIONS

- Smart Home Applications
- Vacuum Robot
- Consumer Applications: TV / Set Top Box
- General 5V, 12V, 24V DC/DC Power Bus Supply
- Printer

■ FEATURES

- High Efficiency: Up to 95% @ 12.0V to 5.0V
- Wide input voltage: 4.5V ~ 30.0V
- Output Current: Up to 3.0A
- Low Typical 3μA Shutdown Current
- Adjustable Soft-Start Time
- Fixed 340kHz Switching Frequency
- Stable with Low ESR Ceramic Output
- Peak Current Mode with External Compensation
- PFM in Light Load Condition
- 0.8V Voltage Reference with $\pm 2\%$ Accuracy
- Thermal Shutdown
- Cycle-by-cycle Current Limit Protection
- Over Current Protection with Hiccup Mode
- Package: ESOP-8L

■ TYPICAL APPLICATION

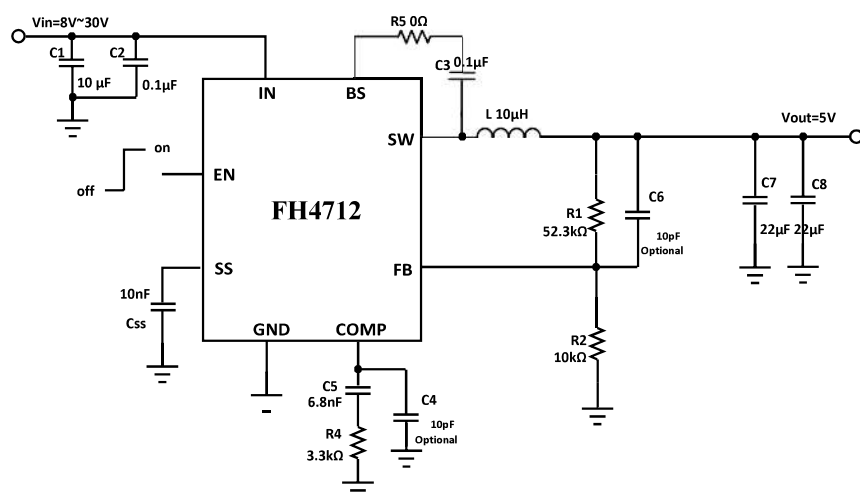
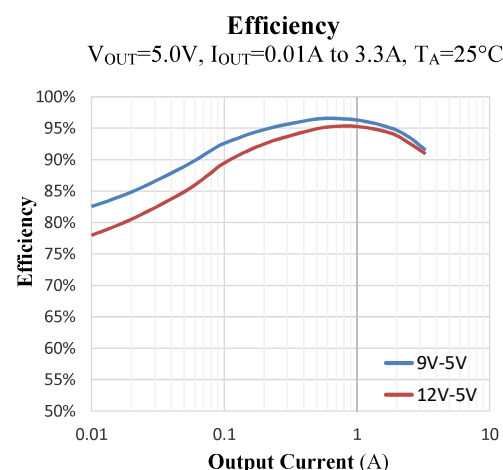
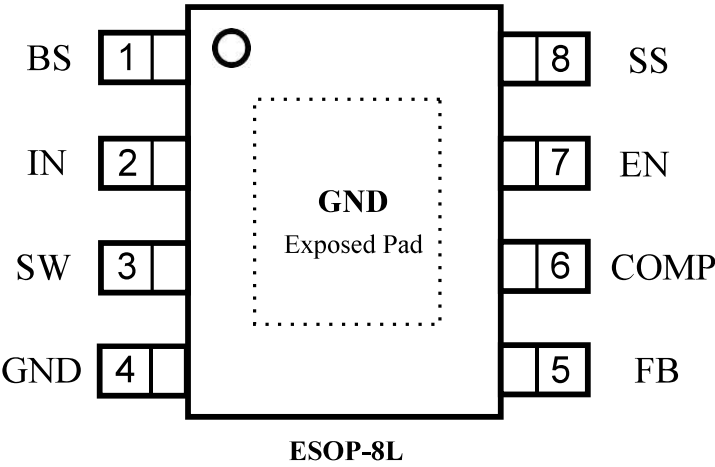


Figure 1. Basic Application Circuit



PIN CONFIGURATION

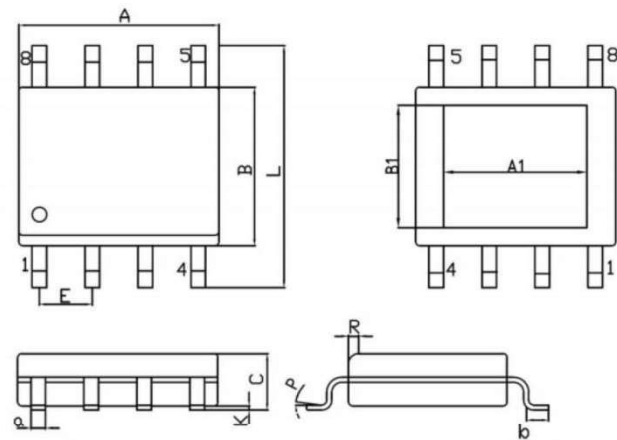


PIN FUNCTIONS

Pin	Name	Function
1	BS	High-side Gate Driver Bootstrap pin, Provide supply to high-side LDMOS Gate Driver. Connect a 100nF capacitor between BS and SW.
2	IN	Power Input pin
3	SW	Switch Pin, Connect to external Inductor
4	GND	Ground Pin
5	FB	Feedback Pin
6	COMP	External Compensation Pin
7	EN	Enable Pin. Drive EN above 1.5V to turn on the device. Drive EN below 0.4V to turn it off. Do not leave EN floating.
8	SS	The SS pin is the soft-start and tracking pin. An external capacitor connected to this pin sets the internal voltage-reference rise time. The voltage on this pin overrides the internal reference.
9	GND	Ground (Exposed pad)

■ PACKAGE INFORMATION

- ESOP-8L



Unit: mm

Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
A	4.70	5.10	C	1.35	1.75
B	3.70	4.10	a	0.35	0.49
L	6.00	6.40	R	0.30	0.60
E	1.27 BSC		P	0°	7°
K	0.02	0.10	b	0.40	1.25
A1	3.1	3.5	B1	2.2	2.6

Note:

- ① All dimensions are in millimeters.
- ② Package length does not include mold flash, protrusion or gate burr.
- ③ Package width does not include inter lead flash or protrusion.
- ④ Lead popularity (bottom of leads after forming) shall be 0.10 millimeters max.
- ⑤ Pin 1 is lower left pin when reading top mark from left to right.

■ ORDER INFORMATION

Part Number	Package	Device Code	Quantity/ Reel
FH4712S08	ESOP8	T**** YYXXX	3000

- Device Code: Our device surface print codes may change during the production process and will not involve changes in electrical parameters, and we will not notify them separately.
- FH4712 devices are Pb-free and RoHS compliant.

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