

30V, 3.0A, Synchronous Buck(Step-Down) DC-DC Converter with Adjustable Switching Frequency

PRELIMINARY DATASHEET

DESCRIPTION

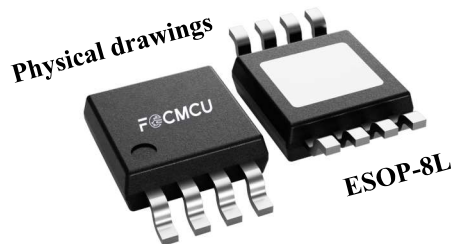
FH3343B is a wide input voltage of 4.5V to 30.0V, high efficiency current mode, synchronous step-down DC/DC converter capable of delivering 3.0A current with adjustable switching frequency from 50kHz to 1.50MHz. FH3343B integrates main switch and synchronous switch with low $R_{DS(on)}$ to minimize the conduction loss.

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

Device Information (1)

PART NUMBER	PACKAGE	BODY SIZE (NOM)
FH3343S8	ESOP-8L	4.89mm x 3.90mm

(1) For all available packages, see the orderable addendum at the end of the datasheet.



TYPICAL APPLICATION

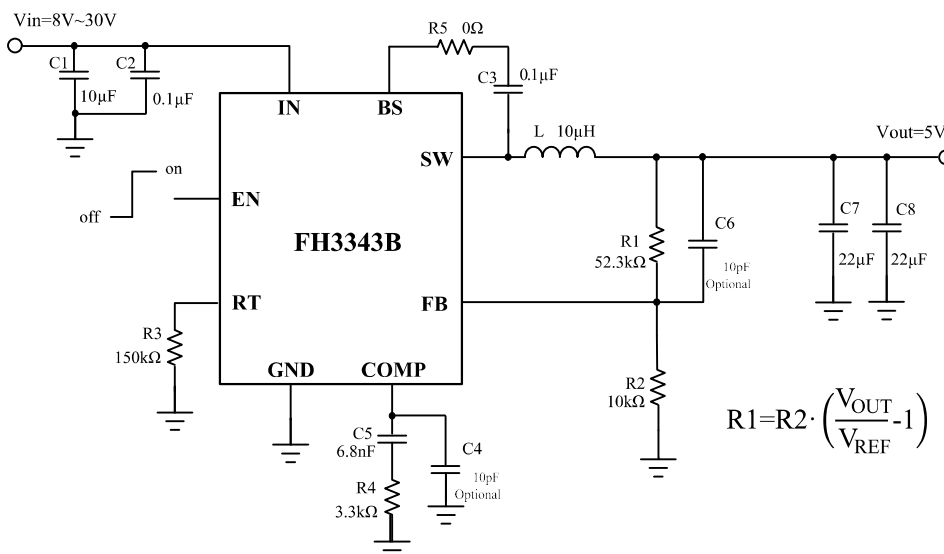


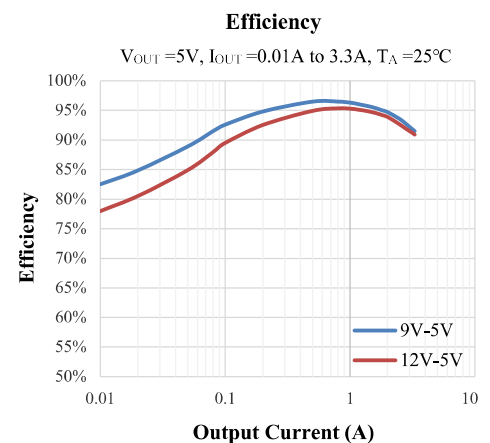
Figure 1. Basic Application Circuit

FEATURES

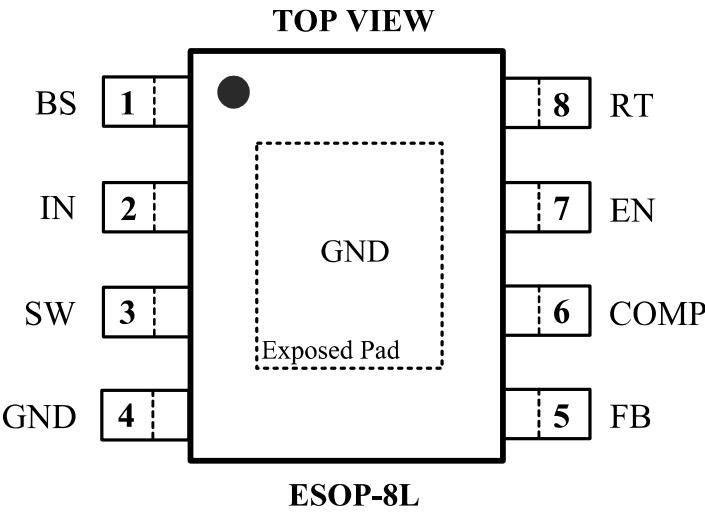
- High Efficiency: Up to 95% @ 12V to 5V
- Wide input voltage: 4.5V to 30.0V
- Up to 3.0A Output Current
- Low Typical 3.0uA Shutdown Current
- Internal Fixed 1.4ms Soft-Start
- Adjustable Frequency: 50kHz to 1.5MHz
- Stable with Low ESR Ceramic Output
- Peak Current Mode with External Compensation
- PFM in Light Load Condition
- Voltage Reference: 0.8V with $\pm 2\%$ Accuracy
- Thermal Shutdown
- Cycle-by-cycle Current Limit Protection
- Over Current Protection with Hiccup Mode
- Package type: ESOP-8L (Exposed Pad)

APPLICATIONS

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



Pin Configuration

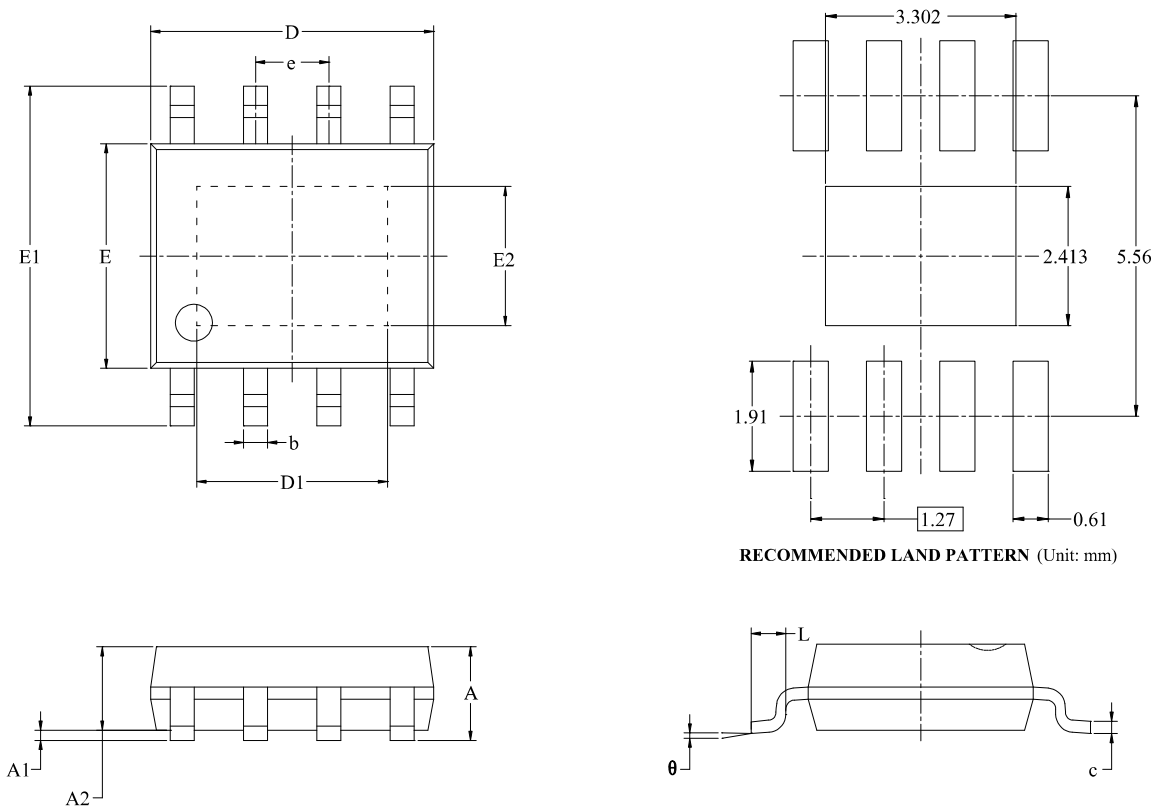


Pin Description

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	RT	Connect the RT pin to an external resistor to adjust the switching frequency of the device.
9	GND	Ground (Exposed pad)

PACKAGE OUTLINE DIMENSIONS

- ESOP-8L (Exposed Pad)



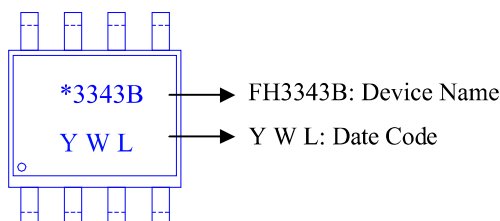
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	MIN	MAX	MIN	MAX
A		1.700		0.06 7
A1	0.000	0.1 00	0.00 0	0.004
A2	1.350	1.550	0.053	0.061
b	0.330	0.510	0.013	0.020
c	0.170	0.250	0.00 7	0.010
D	4.700	5.100	0.185	0.20 1
D1	3.202	3.402	0.126	0.134
E	3.800	4.000	0.150	0.157
E1	5.800	6.200	0.228	0.24 4
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	Input Voltage	Features	Operating Temperature	Package Type	Top Mark	SPQ
FH3343BS8	4.5V ~ 30.0V	<ul style="list-style-type: none"> • DC-DC buck (step-down) • VFB: 0.8V(±2%) • Frequency: 50kHz ~ 1.5MHz • Output Current: 3.0A • Duty cycle: 91% 	-40°C to +85°C	ESOP-8L	*3343B Y W L	3000EA/Reel

Note:

- **FH3343B** 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.
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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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