

Wide-input Voltage CC/CV Step-Down DC-DC Converter

DESCRIPTION

FH4894 is a wide input voltage, high efficiency Active CC, non-synchronous step-down DC/DC converter that operates in either CV (Constant Output Voltage) mode or CC (Constant Output Current) mode. FH4894 provides up to 5A output current at $V_{IN}=12V$ with 200kHz switching frequency, the device integrates 40mΩ Power MOS, and has advanced features include UVLO, Thermal Shutdown, Soft Start, OVP.

APPLICATIONS

- Car Charger/ Adaptor
- Rechargeable Portable Devices
- General-Purpose DC/DC Supply

TYPICAL APPILCATION

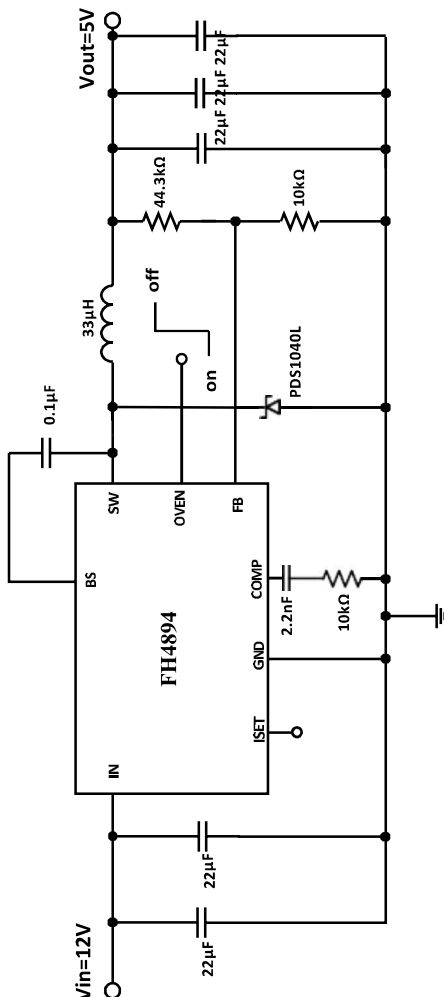


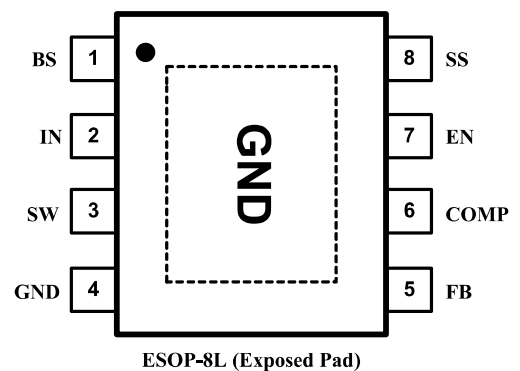
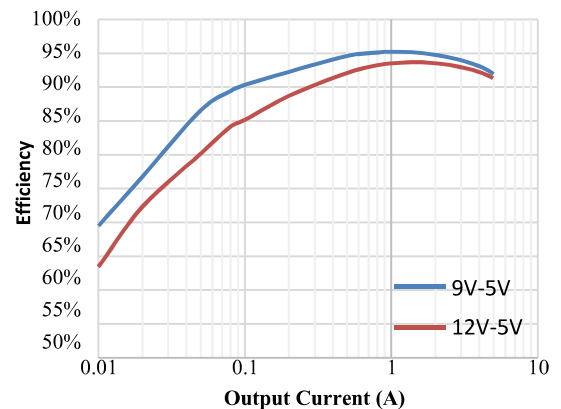
Figure 1. Basic Application Circuit

FEATURES

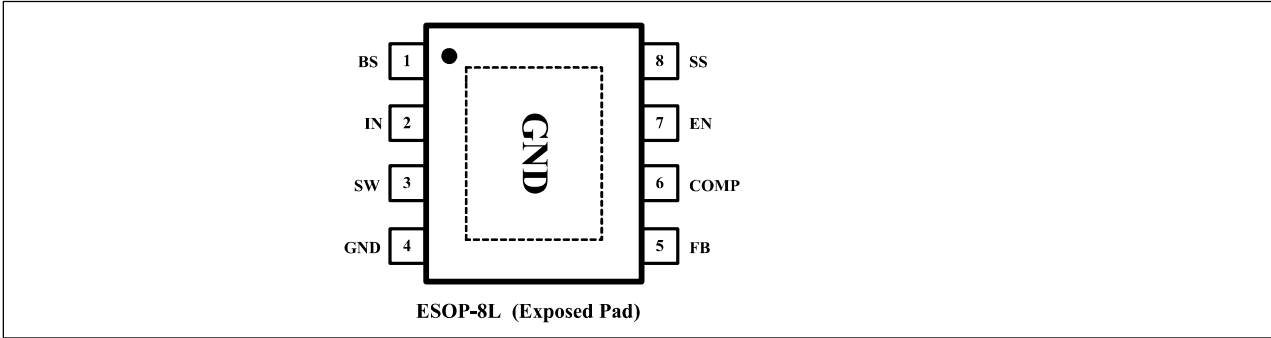
- High Efficiency: Up to 95%@5V
- 50V Input Voltage Surge
- Wide input voltage: 5V ~ 40V
- Up to 5A Output Current @ $V_{IN}=12V$
- Output Voltage up to 12V
- 200kHz Switching Frequency
- Compensation of Input /Output Voltage Change
- Independent of inductance and Inductor DCR
- $\pm 2\%$ Feedback Voltage Accuracy
- Integrated Soft Start
- Thermal Shutdown
- Secondary Cycle-by-Cycle Current Limit
- EMI Consideration
- ESOP8 Package

Efficiency

$V_{OUT}=5V$, $I_{OUT}=0.01A$ to $5A$, $T_A=25^\circ C$



PIN CONFIGURATION

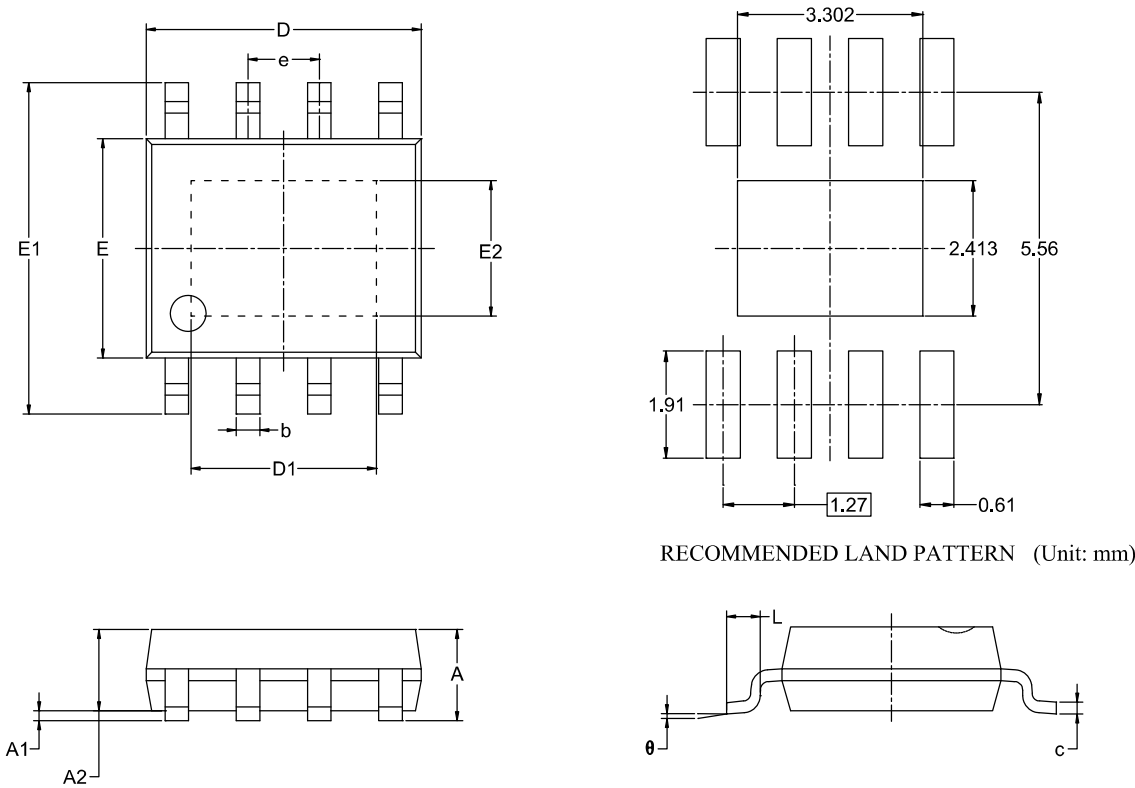


PIN FUNCTIONS

Pin	Name	Function
1	BS	High-side Gate Driver Bootstrap pin, Provide supply to high-side LDMOS Gate Driver. Connect a 0.1μF 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	ISET	Limit Current Set Pin
8	OVEN	OV (output over voltage) threshold setting pin and enable Input. Connect to a resistor divider between VOUT and GND to set the output over voltage threshold and achieve automatic startup. Drive OVEN logic high to turn off the regulator. Don't leave OVEN pin floating.
9	GND	Ground (Exposed pad)

PACKAGE INFORMATION

- ESOP-8L

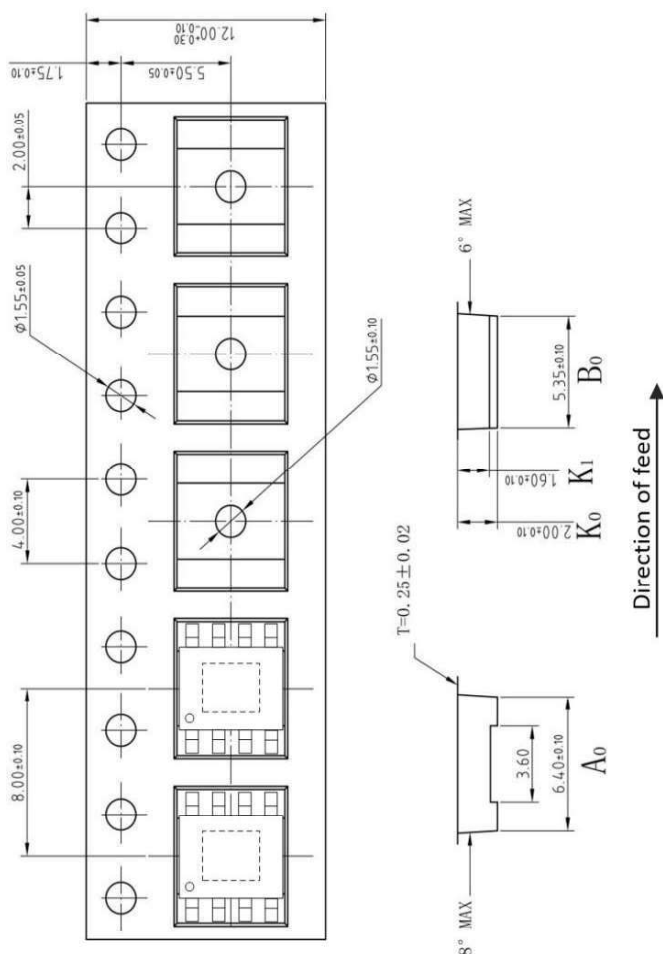


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	MIN	MAX	MIN	MAX
A		1.700		0.067
A1	0.000	0.100	0.000	0.004
A2	1.350	1.550	0.053	0.061
b	0.330	0.510	0.013	0.020
c	0.170	0.250	0.007	0.010
D	4.700	5.100	0.185	0.201
D1	3.202	3.402	0.126	0.134
E	3.800	4.000	0.150	0.157
E1	5.800	6.200	0.228	0.244
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°

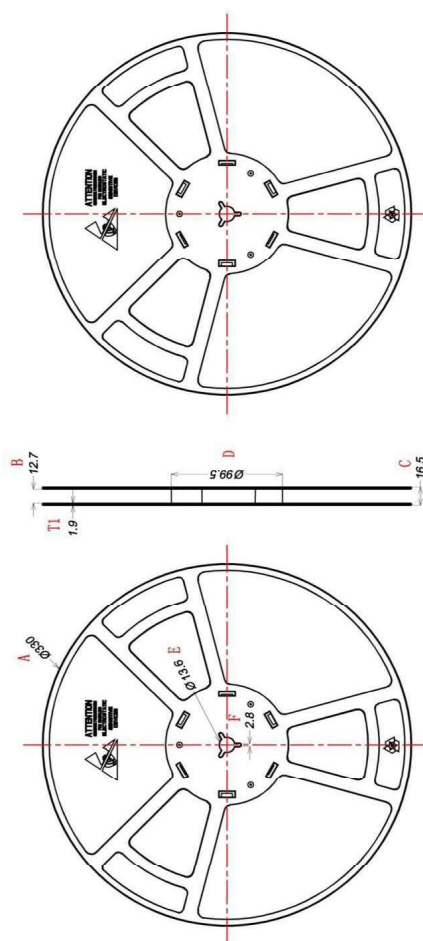
- Note:**
- 1) All dimensions are in millimeters.
 - 2) Package length does not include mold flash, protrusion or gate burr.
 - 3) Package width does not include inter lead flash or protrusion.
 - 4) Lead popularity (bottom of leads after forming) shall be 0.10 millimeters max.
 - 5) Pin 1 is lower left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

TAPE AND REEL INFORMATION

TAPE DIMENSIONS:



REEL DIMENSIONS:



Unit: mm

A	B	C	D	E	F	T1
Ø 330±1	12.7±0.5	16.5±0.3	Ø 99.5±0.5	Ø 13.6±0.2	2.8±0.2	1.9±0.2

Note:

- 1) All Dimensions are in Millimeter 2) Quantity of Units per Reel is 3000 3) MSL level is level 3.

ORDER INFORMATION

Part Number	Package	Top mark	Quantity/ Reel
FH4894S08	ESOP-8L	* * * * YYXXX	3000

Top Mark: ***** / YYXXX (*****: Device Code, YYXXX: Inside Code)

FH4894 devices are Pb-free and RoHS compliant.

Update by Sep.2018