



JWH5123 Series

65V/3.5A Asynchronous Step-Down Converter

DESCRIPTION

The JW[®]H5123 series are current mode monolithic buck switching regulators. Operating with an input range of 4.5V~65V, the JWH5123 series delivers 3.5A of continuous output current with an integrated high side N-Channel MOSFET. At light loads, the regulator operates in low frequency to maintain high efficiency. Current mode control provides tight load transient response and cycle-by-cycle current limit.

The JWH5123 series guarantees robustness with short-circuit protection, thermal protection, current run-away protection, and input under voltage lockout.

The JWH5123 series is available in DFN4x4-10 package, the JWH5123S and JWH5123P are available in ESOP8 package, which provides a compact solution with minimal external components.

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FEATURES

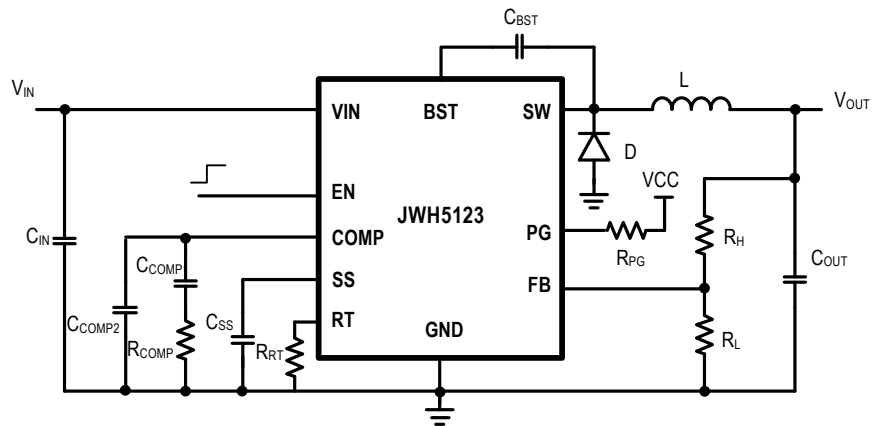
- 4.5V to 65V operating input range
3.5A output current
- 0.8V \pm 1% internal voltage reference (JWH5123)
- 0.75V \pm 1% internal voltage reference (JWH5123S/JWH5123P)
- Adjustable switching frequency
- Power Good Indicator (JWH5123/JWH5123P)
- External Soft-start (JWH5123/ JWH5123S)
- Adjustable UVLO and hysteresis
- Current run-away protection
- Short circuit protection
- Thermal protection
- Available in DFN4x4-10 package (JWH5123)
- Available in ESOP8 package (JWH5123S/JWH5123P)

APPLICATIONS

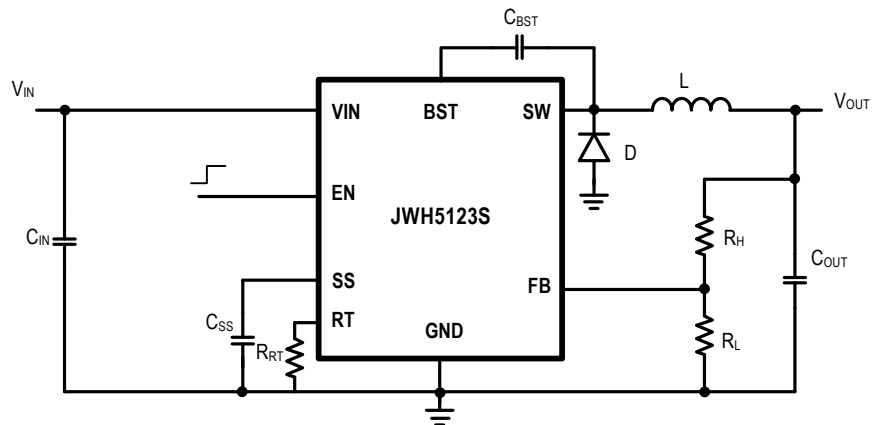
- Industrial Automation and Motor Control
- Vehicle Accessories: GPS Entertainment
- USB Dedicated Charging Ports and Battery Chargers
- 12-V, 24-V and 48-V Industrial, Automotive and Communications Power Systems

TYPICAL APPLICATION

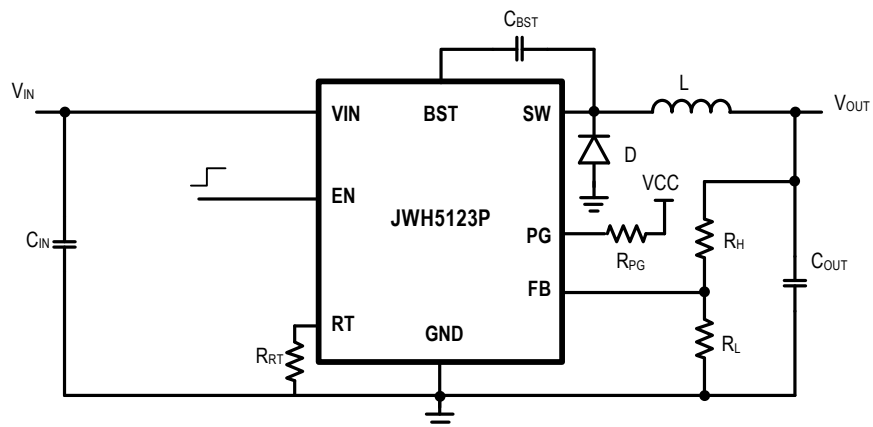
3.5A Step Down Regulators-JWH5123



3.5A Step Down Regulators-JWH5123S



3.5A Step Down Regulators-JWH5123P



ORDER INFORMATION

DEVICE ¹⁾	PACKAGE	TOP MARKING ²⁾	ENVIRONMENTAL ³⁾
JWH5123DFNM#TR	DFN4x4-10	JWH5123 YW□□□□□	Green
JWH5123SESOP#TRPBF	ESOP8	JWH5123S YW□□□□□	Green
JWH5123PESOP#TRPBF	ESOP8	JWH5123P YW□□□□□	Green

Notes:

- 1)

JW□□□□#TRPBF

PB Free(If PBF is not shown, it means PB free)

Tape and Reel(If TR is not shown, it means tube)

Package Code

Part No.
- 2) Line1:

JW□□□□□

Product code

Joulwatt LOGO

Line2:

YW□□□□□

Lot number

Week code

Year code

3) All Joulwatt products are packaged with Pb-free and Halogen-free materials and compliant to RoHS standards.
- PIN CONFIGURATION
- TOP VIEW
- JWH5123

BST 1

VIN 2

EN 3

SS 4

RT 5

PG 10

SW 9

GND 8

COMP 7

FB 6

Exposed Pad

DFN4x4-10

JWH5123S

BST 1

VIN 2

EN 3

RT 4

8 SW

7 GND

6 SS

5 FB

Exposed Pad

ESOP8

JWH5123P

BST 1

VIN 2

EN 3

RT 4

8 SW

7 GND

6 PG

5 FB

Exposed Pad

ESOP8
- JWH5123 Series Rev.0.23
2024/08/21
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- 3

PIN DESCRIPTION

Pin JWH5123	Pin JWH5123S	Pin JWH5123P	Name	Description
1	1	1	BST	Bootstrap pin for top switch.
2	2	2	VIN	Input voltage pin. VIN supplies power to the IC. Connect a 4.5V to 65V supply to VIN and bypass VIN to GND with a suitably large capacitor to eliminate noise on the input to the IC.
3	3	3	EN	Drive EN pin high or floating to turn on the regulator and low to turn off the regulator.
4	6		SS	Soft-start control pin. Leave floating for internal soft-start slew rate. Connect to a capacitor to extend soft start time.
5	4	4	RT	Switching frequency program. Connect an external resistor from RT pin to ground to set the switching frequency.
6	5	5	FB	Output feedback pin. FB senses the output voltage and is regulated by the control loop to V_{ref} . Connect a resistive divider at FB.
7			COMP	Error amplifier output and input to the output switch current (PWM) comparator. Connect frequency compensation components to this pin.
8	7	7	GND	Ground.
9	8	8	SW	SW is the switching node that supplies power to the output. Connect the output LC filter from SW to the output load.
10		6	PG	Open drain output for power-good flag. Use a 10kΩ to 100kΩ pull-up resistor to logic rail or other DC voltage no higher than 5V.
			Exposed Pad	GND pin must be electrically connected to the exposed pad on the printed circuit board for proper operation.

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