

DESCRIPTION

The JW5143 and JW5143P are monolithic buck switching regulators based on COT architecture. Operating with an input range of 6V~100V, JW5143 and JW5143P integrate high-side N-Channel MOSFET with a peak current limit of 3.5A. At light loads, the regulator operates in low frequency to maintain high efficiency.

JW5143 and JW5143P guarantee robustness with output short protection, thermal protection, current run-away protection, input under voltage lockout.

JW5143 and JW5143P are available in ESOP-8 package, which provide a compact solution with minimal external components.

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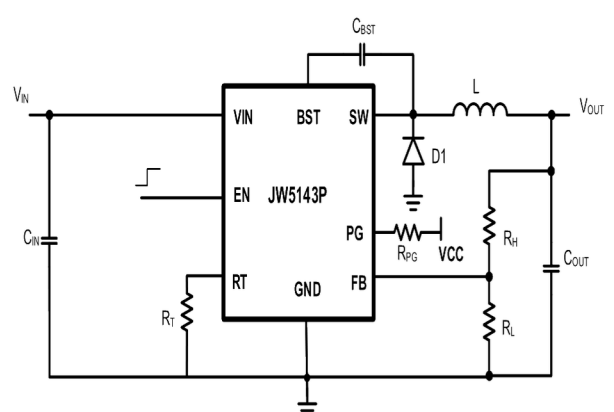
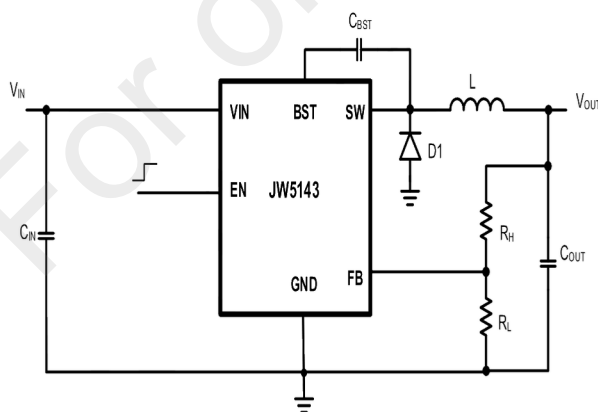
FEATURES

- 6V to 100V Operating Input Range
- 3.5A Peak Current Limit
- Very Low Quiescent Current: 20uA
- Fixed 300kHz Switching Frequency (JW5143)
- Adjustable Switching Frequency from 100kHz to 600kHz (JW5143P)
- Input Under Voltage Lockout
- Current Run-away Protection
- Output Short Protection
- Thermal Protection
- Available in ESOP-8 Package

APPLICATIONS

- GPS Tracker
- E-bike
- Telecom/Networking Power

TYPICAL APPLICATION



ORDER INFORMATION

DEVICE ¹⁾	PACKAGE	TOP MARKING ²⁾	ENVIRONMENTAL ³⁾
JW5143ESOP#TR	ESOP8	JW5143 YW□□□□□	Green
JW5143PESOP#TR	ESOP8	JW5143P YW□□□□□	Green

Notes:

- 1) JW□□□□#TR
 — 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

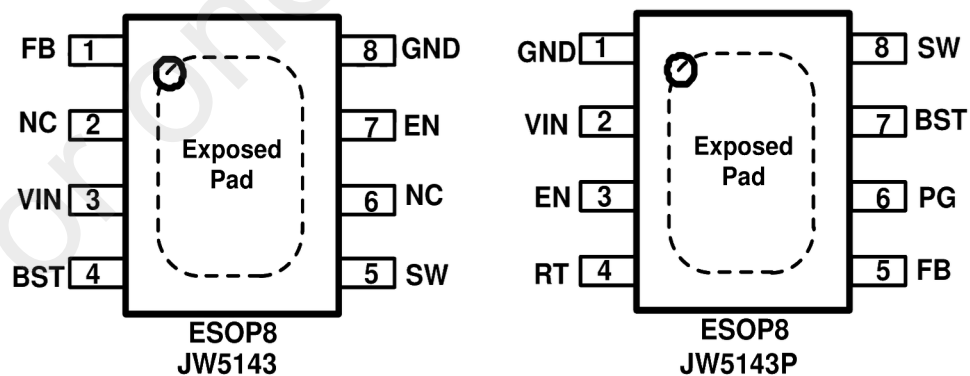
3) All Joulwatt products are packaged with Pb-free and Halogen-free materials and compliant to RoHS standards.

DEVICE INFORMATION

DEVICE	Adjustable switching frequency	Function
JW5143ESOP#TR	NO	-
JW5143PESOP#TR	YES	PG

PIN CONFIGURATION

TOP VIEW



PIN DESCRIPTION

PIN JW5143	NAME	DESCRIPTION
1	FB	Output feedback pin. FB senses the output voltage and is regulated by the control loop to 1.225 V. Connect a resistive divider at FB.
2	NC	Not connected.
3	VIN	Input voltage pin. VIN supplies power to the IC. Connect a 6V to 100V supply to VIN and bypass VIN to GND with a suitably large capacitor to eliminate noise on the input to the IC.
4	BST	Connect a 0.1uF capacitor between BST and SW pin to supply current for the top switch driver.
5	SW	SW is the switching node that supplies power to the output. Connect the output LC filter from SW to the output load.
6	NC	Not connected.
7	EN	This is Enable pin. Float the EN to enable. And internal has one zero diode that allow EN can be pull high to VIN via a resistor. The resistor should be larger than 50k Ω .
8	GND	Ground Pin
Exposed Pad		For proper operation, connect the GND pin to the exposed thermal part. This thermal pad should be connected to any internal PCB ground plane using multiple vias for good thermal performance.
PIN JW5143P	NAME	DESCRIPTION
1	GND	Ground Pin
2	VIN	Input voltage pin. VIN supplies power to the IC. Connect a 6V to 100V supply to VIN and bypass VIN to GND with a suitably large capacitor to eliminate noise on the input to the IC.
3	EN	This is Enable pin. Float the EN to enable. And internal has one zero diode that allow EN can be pull high to VIN via a resistor. The resistor should be larger than 50k Ω .
4	RT	Switching frequency program input. Connect a resistor from this pin to GND to set the switching frequency.
5	FB	Output feedback pin. FB senses the output voltage and is regulated by the control loop to 1.225 V. Connect a resistive divider at FB.
6	PG	Power good open drain output. Connect a pull-up resistor with this pin
7	BST	Connect a 0.1uF capacitor between BST and SW pin to supply current for the top switch driver.
8	SW	SW is the switching node that supplies power to the output. Connect the output LC filter from SW to the output load.
Exposed Pad		For proper operation, connect the GND pin to the exposed thermal part. This thermal pad should be connected to any internal PCB ground plane using multiple vias for good thermal performance.

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