JW15158AS

Offline QR GaN Flyback Converter

DESCRIPTION

JW15158AS is an isolated offline Flyback converter with GaN integrated, which features quasi-resonant (QR) operation. QR control improves efficiency by reducing switching loss and benefits EMI performance with nature frequency variation, and an internal maximum frequency limitation to overcome the inherent disadvantages of QR Flyback.

JW15158AS combines PWM and PFM control at different input and load condition for highest average efficiency. It can comply with the most stringent efficiency regulations.

JW15158AS comprises a HV pin for startup to eliminate conventional startup resistor and save standby mode energy consumption. JW15158AS is available in HSOP-7 package. The high level of integration results in a simple to use, low component count, and high efficiency application solution for isolated power delivery.

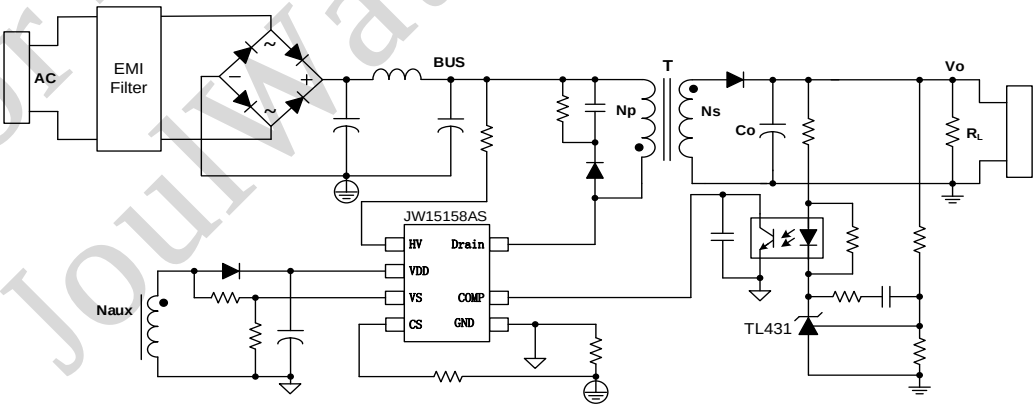
FEATURES

- Integrated 700V 2200mΩ GaN
- Built-in High-Voltage Start-up (600V)
- Wider VDD Operation Range (Up to 90V)
- QR Operation for High Efficiency
- Maximum 110kHz Switching Frequency
- Very Low Standby Power Consumption
- Cycle-by-Cycle Current Limit
- Reliable Fault Protections: VDD OVP, VS OVP and UVP, Brown-In, CS Open Protection, OCP, OPP, Internal OTP
- Frequency Jitter to Ease EMI Compliance
- Available in HSOP-7 Package

APPLICATIONS

- PD and Quick-Charging Chargers
- AC/DC Adapters with Wide Output Range

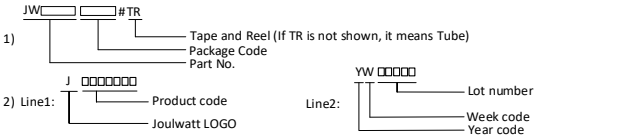
TYPICAL APPLICATION



ORDER INFORMATION

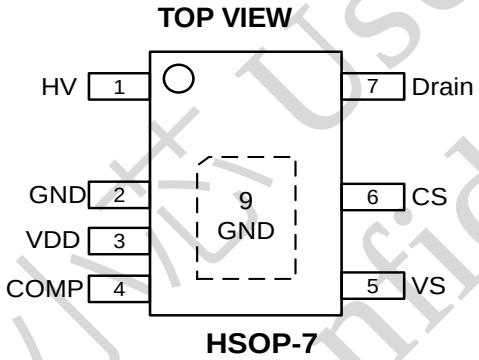
DEVICE[1)]	PACKAGE	TOP MARKING[2)]	ENVIRONMENTAL[3)]
JW15158ASHSOPC#TR	HSOP-7	J15158AS YW□□□□□	Green

Notes:



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

PIN CONFIGURATION



PIN DESCRIPTION

PIN HSOP-7	NAME	DESCRIPTION
1	HV	High voltage input pin. This pin provides a source current to charge VDD. This pin also sense input voltage for brown-in and brown-out protection.
2	GND	The ground of the IC.
3	VDD	Bias power input to the controller. A hold-up capacitor to GND is required.
4	COMP	Feedback input pin for Flyback QR controller. Connect to an opto-coupler directly.
5	VS	Voltage sensing input pin. Coupled to the auxiliary winding via a resistor divider to monitor the output voltage for OVP and UVP protection. This pin also detects the resonant valley to implement QR operation.
6	CS	Current sensing input pin. This pin sense the primary switch current for peak current control.
7	DRAIN	Drain terminal of the internal GaN.

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