DESCRIPTION

RS2139 is a high performance offline PWM Power switch for low power AC/DC charger and adaptor applications. It operates in primary-side sensing and regulation. Consequently, opto-coupler and TL431 could be eliminated. Proprietary Constant Voltage (CV) and Constant Current (CC) control is integrated as shown in the Fig.1.
In CC control, the current and output power setting can be adjusted externally by the sense resistor RS at CS pin. In CV control, multi-mode operations are utilized to achieve high performance and high efficiency. In addition, good load regulation is achieved by the built-in cable drop compensation. Device operates in PFM in CC mode as well at large load condition and it operates in PWM with frequency reduction at light/medium load.

RS2139 offers power on soft start control and protection coverage with auto-recovery features including Cycle-by-Cycle current limiting, V_{DD} OVP, V_{DD} clamp and UVLO. Excellent EMI performance is achieved with frequency jitter technique.

FEATURES

- 5% Constant Voltage Regulation, 5% Constant Current Regulation at Universal AC input
- Primary-side Sensing and Regulation Without TL431 and Opto-coupler
- Built-in High-Voltage Power MOSFET
- Power on Soft-start
- Built-in Leading Edge Blanking (LEB)
- Cycle-by-Cycle Current Limiting
- V_{DD} Under Voltage Lockout with Hysteresis (UVLO)
- Programmable CV and CC Regulation
- Adjustable Constant Current and Output Power Setting
- Built-in Secondary Constant Current Control with Primary Side Feedback
- Built-in adaptive current peak regulation
- Built-in Primary winding inductance compensation
- Program cable drop compensation
- Sub-micro High-Voltage BiCMOS
- V_{DD} OVP and V_{DD} Clamp
- 5000V HBM ESD
- DIP-8L green packaging

APPLICATIONS

- Cell Phone /Digital Cameras Charger
- Small Power Adaptor
- Auxiliary Power for PC, TV etc.
- Linear Regulator/RCC Replacement

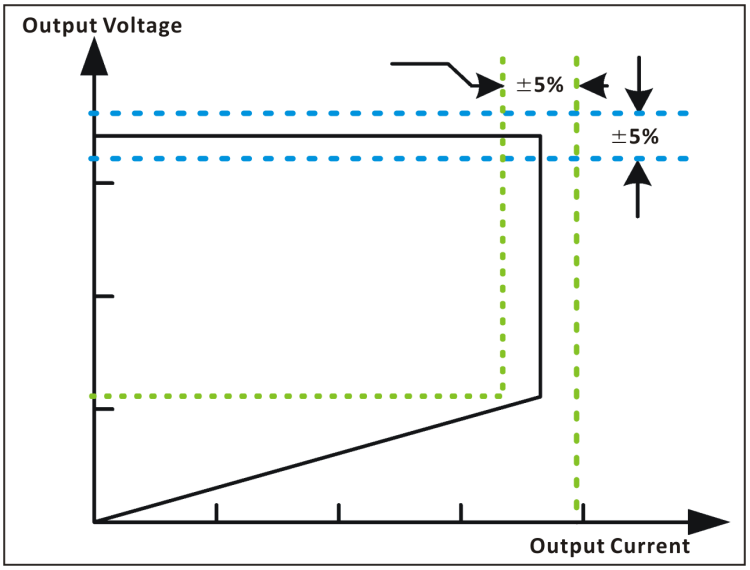
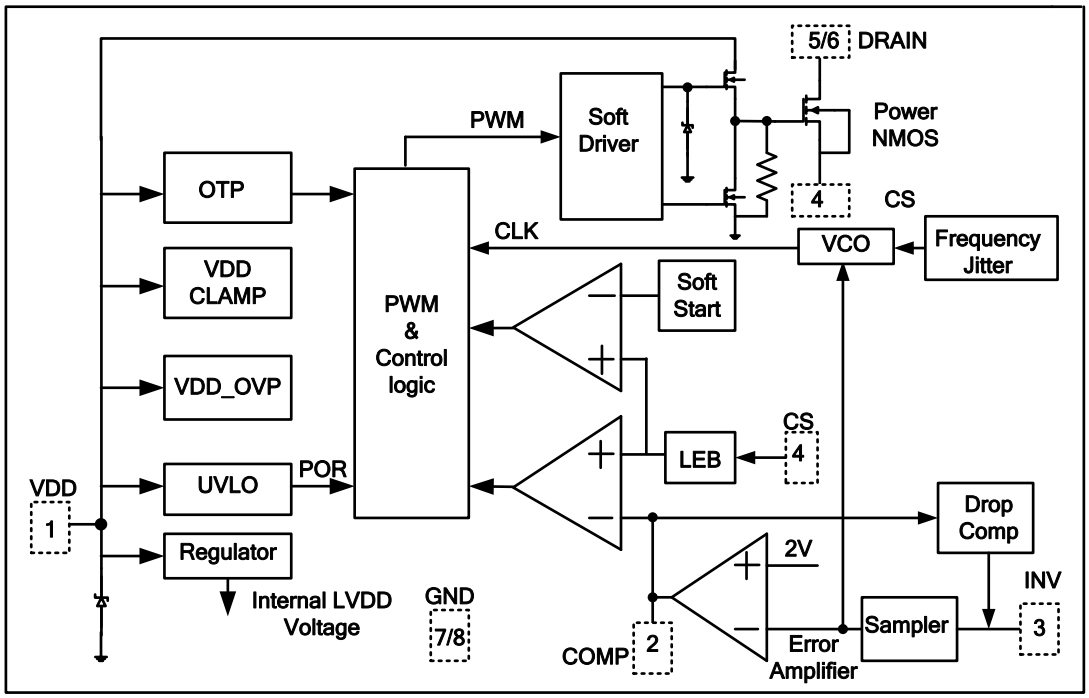
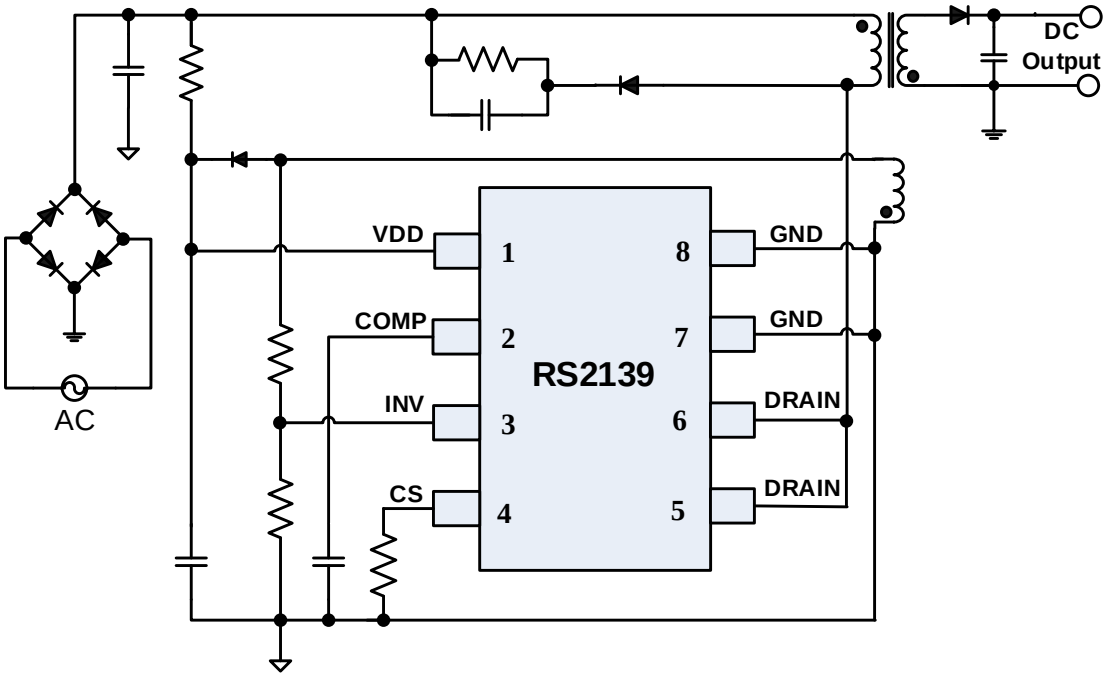


Fig.1 Typical CC/CV Curve

BLOCK DIAGRAM



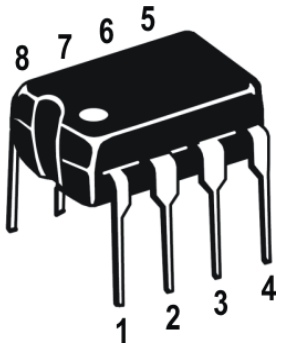
APPLICATION CIRCUIT

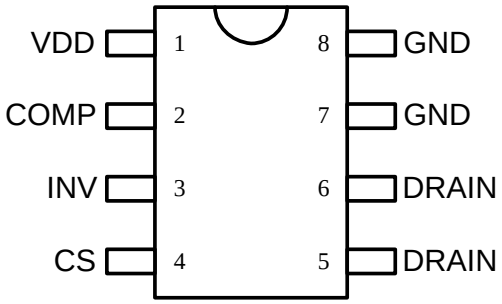


ORDER INFORMATION

DEVICE	DEVICE CODE
RS2139 Y Z	**Y** is package & Pin Assignments designator : P : DIP-8 **Z** is Lead Free designator : P: Commercial Standard, Lead (Pb) Free and Phosphorous (P) Free Package

PIN CONFIGURATION





PIN DESCRIPTION

Pin Name	Description	Pin No
VDD	Power Supply	1
COMP	Loop Compensation for CV Stability	2
INV	The Voltage feedback from auxiliary winding. Connected to resistor divider from auxiliary winding reflecting output voltage. PWM duty cycle is determined by EA output and current sense signal at Pin 3.	3
CS	Current sense input. Connected to MOSFET current sensing resistor node	4
DRAIN	HV MOSFET Drain Pin. The Drain pin is connected to the primary lead of the transformer	5、6
GND	Ground	7、8

IMPORTANT NOTICE

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