



G1102

High Precision CC/CV Primary-Side PWM Controller

ANALOG PWM IC

1. General Description

G1102 is a high performance offline PWM controller for low power AC/DC charger and adaptor applications. It operates in primary-side regulation. Consequently, opto-coupler and tl431 could be eliminated.

Proprietary Constant Voltage (CV) and Constant Current (CC) control is integrated as shown in Fig.1. In CC control, the current and output power setting can be adjusted externally by the sense resistor R_s 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.

G1102 offers power on soft start control and protection coverage with auto-recovery features including Cycle-by-Cycle current limiting, VDD OVP, VDD clamp and UVLO. Excellent EMI performance is achieved with frequency jitter technique.

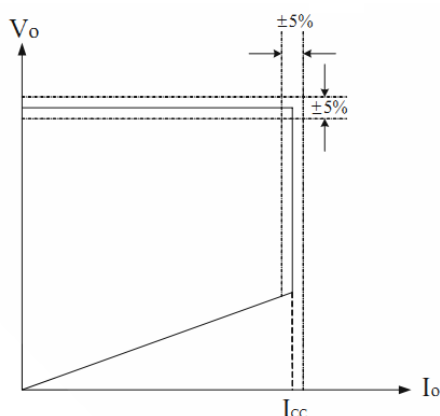


Fig.1. Typical CC/CV Curve

Features

- ◆ $\pm 5\%$ CV and CC Regulation at Universal AC input
- ◆ Primary-side Regulation Without TL431 and Opto-coupler
- ◆ Programmable CV and CC Regulation
- ◆ Adjustable Constant Current and Output Power Setting
- ◆ Built-in Secondary Constant Current Control with Primary Side Feedback
- ◆ Built-in Primary winding inductance compensation
- ◆ Programmable cable drop compensation
- ◆ Built-in Leading Edge Blanking (LEB)
- ◆ Power on Soft-start
- ◆ Built-in adaptive current peak regulation
- ◆ Cycle-by-Cycle Current Limiting
- ◆ VDD Under Voltage Lockout with Hysteresis (UVLO)
- ◆ VDD OVP and VDD Clamp
- ◆ Pb-free SOT23-6

Applications

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

G1102 is offered in SOT23-6 package.



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2. Products Information

2.1 Pin configuration

The pin map is shown as below for SOT23-6.

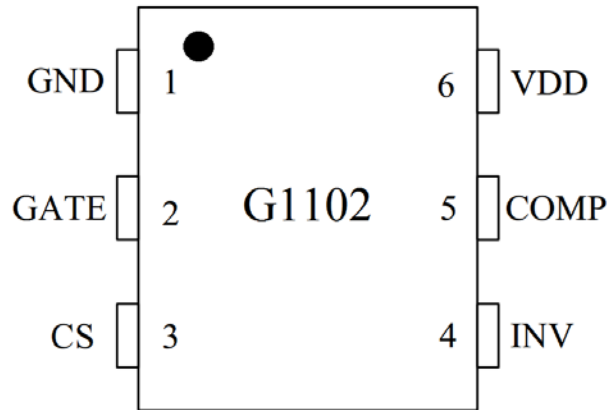


Fig.2. G1102 Pin Configuration

Pin Num	Pin Name	I/O	Description
1	GND	P	Ground
2	GATE	I	Totem-pole gate drive output for power MOSFET.
3	CS	I	Current sense input. Connected to primary current sensing resistor node.
4	INV	I	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 4.
5	COMP	I	Loop Compensation for CV Stability
6	VDD	P	Power Supply