



G1611B

High Performance Current Mode PWM Controller

1. General Description

G1611B is a highly integrated Green Mode PWM control IC. It minimizes the component counts, circuit space, and reduces the overall material cost for the power applications.

The G1611B features green-mode power-saving operation, auto gain control, and internal slope compensation, soft-start functions to optimized high performance, low standby power consumption.

At full loading, the IC operates in fixed frequency mode. When the loading goes low, it operates in Green mode with valley switching for high power conversion efficiency. When the load is very small, the IC operates in Extended Burst Mode to minimize the standby power loss. As a result, high conversion efficiency can be achieved in the whole loading range.

G1611B offers complete protection coverage including cycle-by-cycle current limiting (OCP), over temperature protection (OTP), output short, output and VDD over voltage protection. Excellent EMI performance is achieved with proprietary frequency shuffling technique.

Applications

Offline AC/DC flyback converter for

- Small and medium- power motor driver
- Wide output range adapters
- Open Frame Switching Power Supply

Features

- ◆ Ultra low operating current at light/no load
- ◆ Adaptive loop gain compensation
- ◆ Extended burst mode control for improved efficiency and low standby power
- ◆ 3.7s peak Load Mode with 125KHz max frequency
- ◆ Valley switching operation @Green mode
- ◆ Internal OCP compensation for universal line voltage
- ◆ Power on soft start reducing MOSEFT Vds stress
- ◆ Audio noise free operation
- ◆ Protection Features
 - VDD UV lockout and Over voltage protection
 - Cycle-by-Cycle over current protection
 - Output over voltage protection
 - Secondary rectifier diode open and short circuit protection
 - Secondary winding Open and short circuit protection
 - Output short protection (SCP)
 - Over temperature protection (OTP)
 - Overload protection (OLP)
 - brown-in/out protection

- ◆ Pb-free SOP8

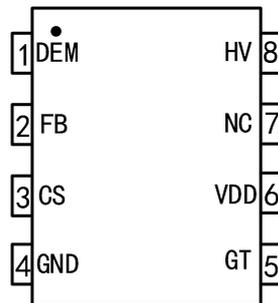


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2. Products Information

2.1 Pin configuration



SOP8 Package

Fig.1. G1611B Pin Configuration

Pin Name	I/O	Description
DEM	I	Multiple functions pin. Connecting a NTC resistor to ground for OTP detection. Connecting a resistor from Vaux can adjust IOVP/ISCP trigger current and detect transformer core demagnetization. If both OTP and OVP/SCP are needed, a diode should be connected between DEM pin and the NTC resistor.
FB	I	Feedback input pin. By connecting an opto-coupler to close the control loop and achieve the regulation.
CS	I	Current sense input, connect it to sense the MOSFET current.
GND	P	Ground.
GT	O	Gate driver output to driver the external MOSFET.
VDD	P	Power Supply.
NC		Not connection.
HV	P	Connected to the line input via resistors and diodes for startup and x-cap discharge, this pin allows the brownout detection as well.