GM9135

1.5A POWER LED DRIVER

Description

The GM9135 series is a PWM power LED driver which has the capability to drive an output current from a few mA up to 1.5A. It is ideal for high brightness power LED operating at high efficiency from 4VDC to 40Vdc and up to 200KHz operating frequency by only 5 external components.

The GM9135 series is ideal to the applications for high power LED related end products.

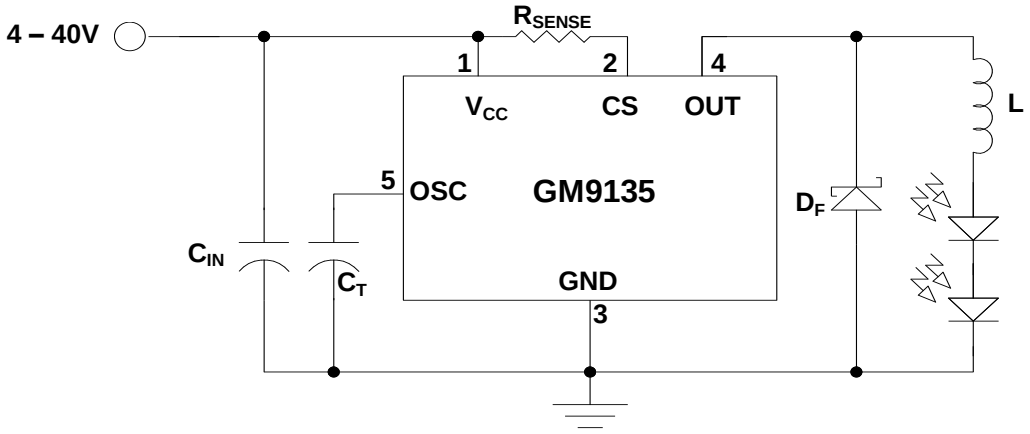
Features

- **Only 5 external components required.**
- **Output driving current up to 1.5A**
- **4V – 40V wide operation voltage range**
- **High efficiency**
- **ESD protection, HBM 2kV**
- **5L TO252 power package**

Application

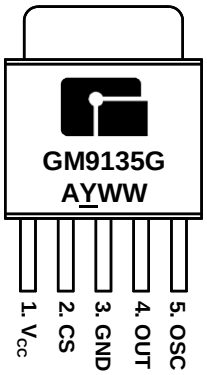
- **LED Lighting Devices**
- **Automobile Lighting Systems**
- **DC to DC Conversion**

Typical Application Circuits



Marking Information and Pin Configurations (Top View)

5L TO252



G: Green Product
A: Assembly / Test site code
Y: Year
WW: Week

Pin Descriptions

Pin Number	Pin Name	Pin Function
1	VCC	Input voltage, 4V – 40V
2	CS	Peak current sense pin
3	GND	Ground
4	OUT	Driver output pin
5	OSC	Oscillator timing capacitor

Ordering Information

Ordering Number	Package	Shipping
GM9135TC5RG	5L TO252	2,500 Units / Tape & Reel

Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Input Voltage	VCC	-0.3 to 40	V
Output Voltage	OUT	-0.3 to 40	V
Output Current	I_{OUT}	1.5	A
Maximum Junction Temperature	T_J	150	°C
Thermal Resistance, 5L-TO252	Θ_{JA}	95	°C/W
Storage Junction Temperature	T_{STG}	-55 to 150	°C
Lead Temperature (Soldering 10 sec.)		260	°C

.

Recommended Operating Conditions

Parameter	Symbol	Min	Typ	Max	Unit
Supply Voltage	VCC	4		40	V
Output Current	I_{OUT}			1.5	A
Operating Free-air Temperature Range	T_A	-40		85	°C

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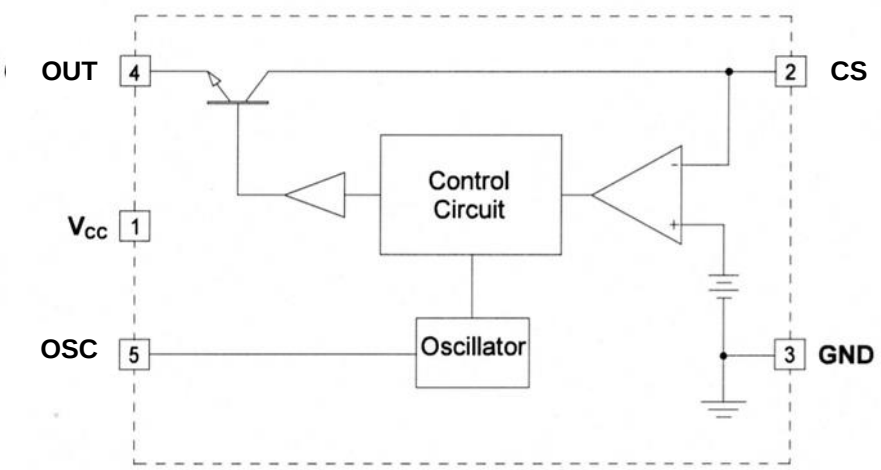
Block Diagram

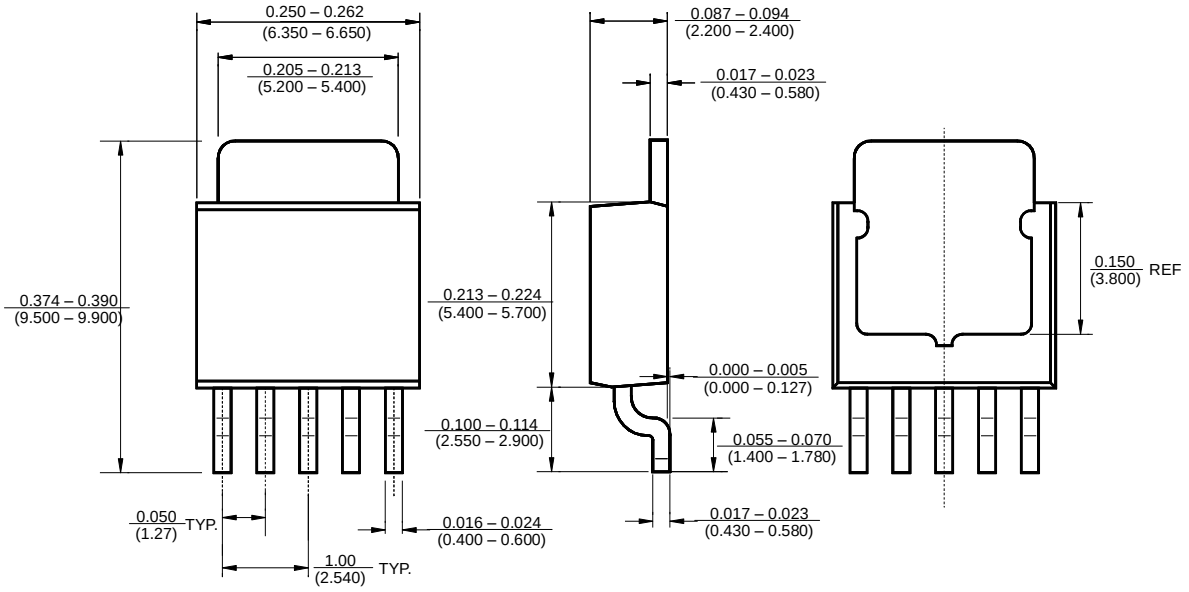


Electrical Characteristics:

(Unless otherwise specified: T_A = 25°C, VCC = 5V

Parameter	Condition	Symbol	Min	Typ	Max	Unit
Supply Current	VCC = 4 to 40V	I_{CC}			4	mA
Output Drop-out Voltage	I_{OUT} = 1A	V_{DP}		1	1.31	V
Output Off Current	V_{CS} – V_{OUT} = 40V	I_{OFF}		200	300	μA
Current Sense Voltage		V_{CS}	300	330	360	mV
Duty Cycle	V_{CS} = VCC	D		85		%
OSC Charge Current		I_{CHG}		35		μA

Package Outline Dimensions – 5L TO252



Ordering Number

GM	9135	TC5	R	G
APM Gamma Micro	Circuit Type	Package Type TC5: 5L TO252	Shipping Type R:Taping& Reel T: Tube	Blank: Pb-free G:Green

Note:

Pb-free products:

- RoHS compliant and compatible with the current require-ments of IPC/JEDEC J-STD-020.
- Suitable for use in Pb-free soldering processes with 100% matte tin (Sn) plating.

Green products:

- Lead-free (RoHS compliant)
- Halogen free(Br or Cl does not exceed 900ppm by weight in homogeneous material and total of Br and Cl does not exceed 1500ppm by weight)