

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.

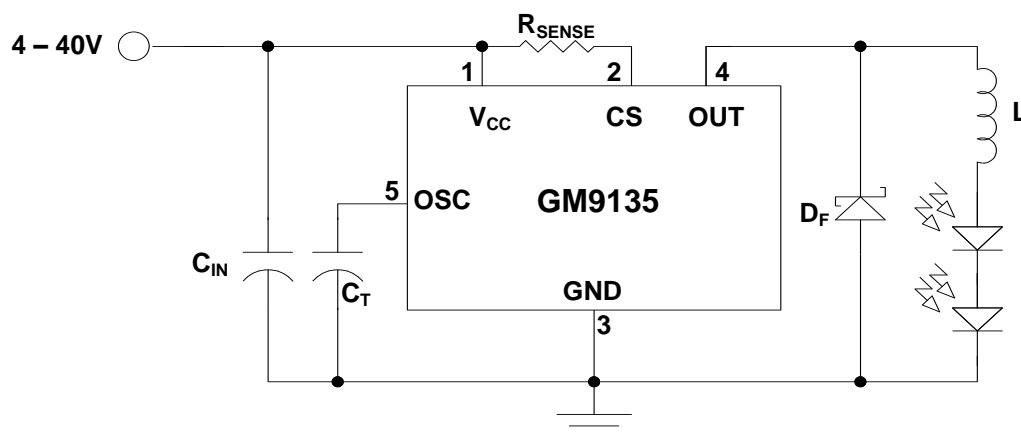
Features

- ◆ 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)



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

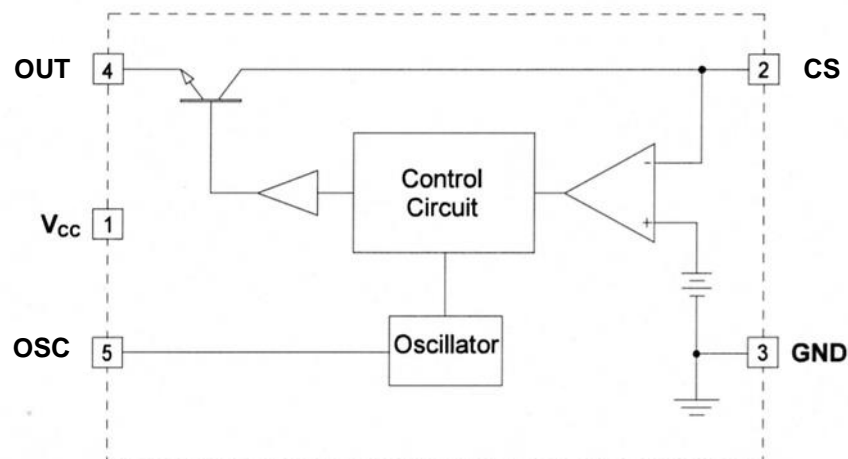
Absolute Maximum Ratings

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

Block Diagram

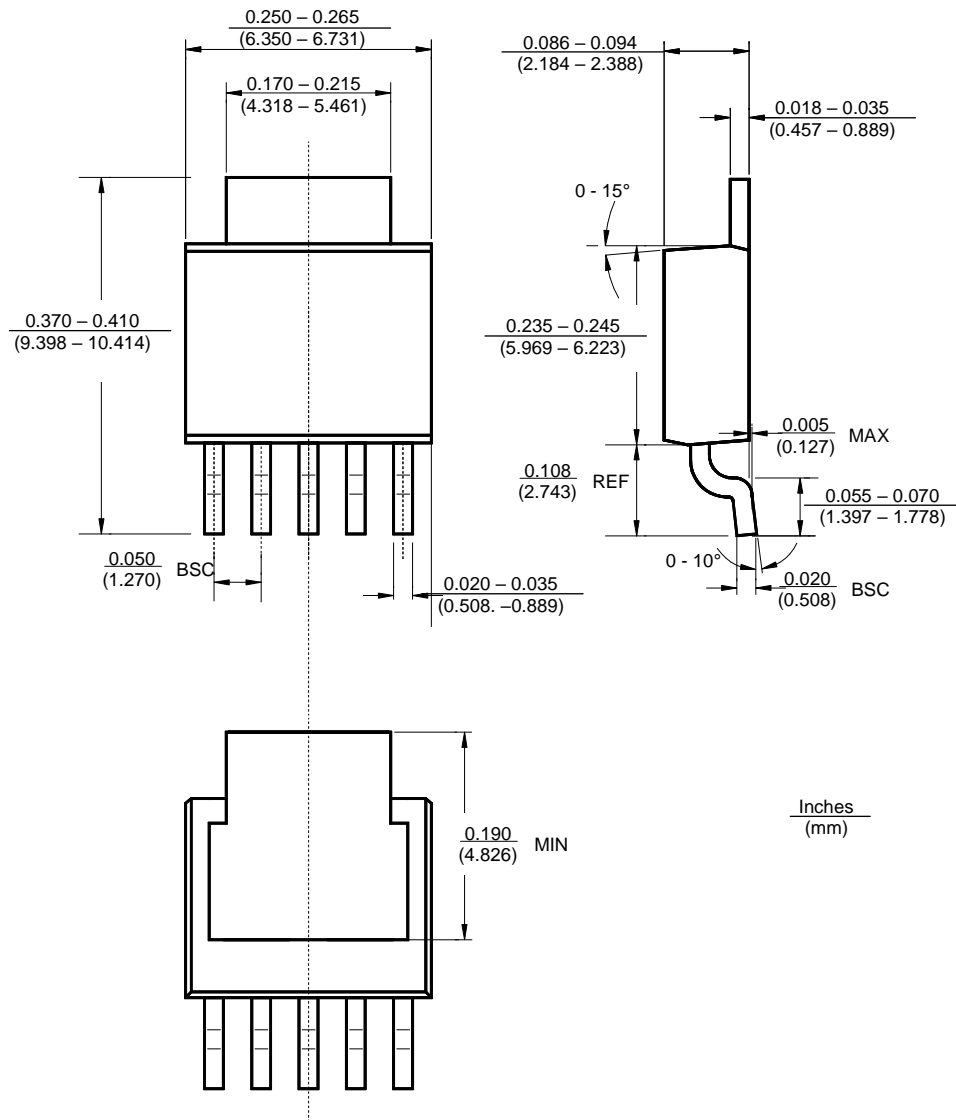


Electrical Characteristics:

(Unless otherwise specified: $T_A = 25^\circ\text{C}$, $V_{CC} = 5\text{V}$)

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

Package Outline Dimensions – 5L TO252



Note: All dimensions for 5L TO252 package are subject to change due to manufacturing concerns. However, they will be in full compliance with JEDEC TO-252E standard.



GAMMA
MICROELECTRONICS

GM9135

1.5A POWER LED DRIVER

Ordering Number

GM 9135

TC5

R

G

APM
Gamma
Micro

Circuit Type

Package Type

Shipping Type

TC5: 5L TO252

R:Taping & Reel
T: Tube

G:Green

Note:

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)