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G48A5111P

- **Light Emitting Diode**
- **Emerald Green color**
- **AlGaAs structure**
- **5 mm clear epoxy package**

RoHS COMPLIANT Pb Pb-Free

Description

G48A5111P is an **AlGaAs** based LED with a, emitting at typically 515nm with high luminous intensity of 100cd. It comes in a hermetically sealed clear 5 mm UV resistant epoxy resin, and is commonly used for automotive dashboard and traffic signal lighting.

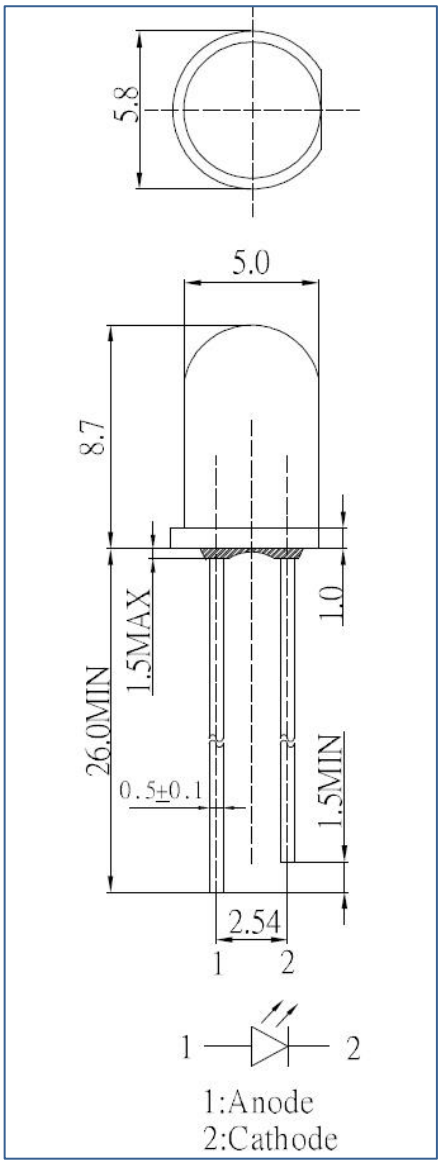
Maximum Rating (T_{CASE} = 25°C)

Parameter	Symbol	Values		Unit
		Min.	Max.	
Power Dissipation, DC	P_D		190	mW
DC Forward Current*	I_F		50	mA
Pulse Forward Current*	I_{FP}		100	mA
Reverse Voltage	V_R		5.0	V
Operating Temperature	T_{OPR}	- 30	+ 85	°C
Storage Temperature	T_{STG}	- 40	+ 100	°C
Soldering Temperature (max 5s)	T_{SOL}		+ 260	°C

***** ***Duty cycle max. 10%, Pulse width max 10ms***

Electro-Optical Characteristics (T_{CASE} = 25°C, I_F = 20 mA)

Parameter	Symbol	Values			Unit
		Min.	Typ.	Max.	
Forward Voltage	V_F	3.0	3.3	3.8	V
Reverse Current (V_R = 5V)	V_R			10	µA
Luminous Intensity	I_V	80	100		cd
Dominant Wavelength	λ_D	510	515	520	lm
Viewing Angle	Θ		15		deg.



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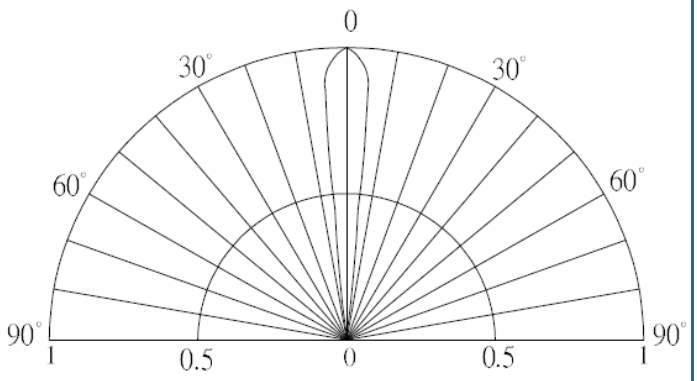
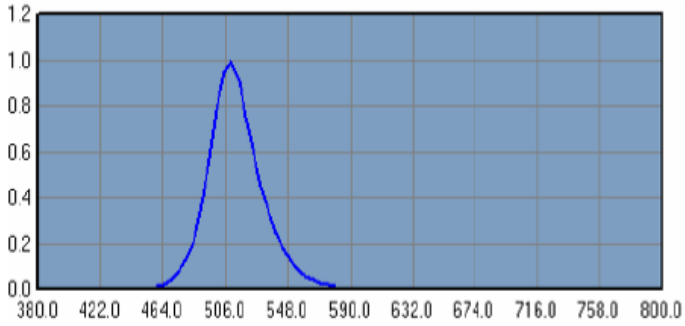
Performance Characteristics

Forward Current vs. Forward Voltage



Relative spectral distribution vs. Wavelength



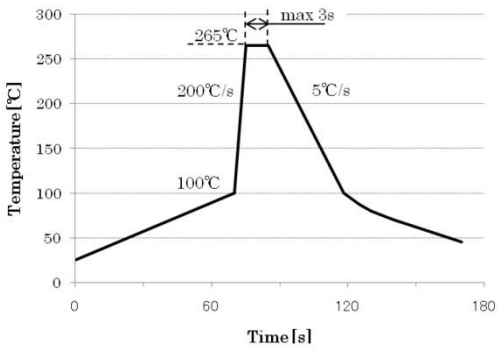
Operating Cautions

Soldering:

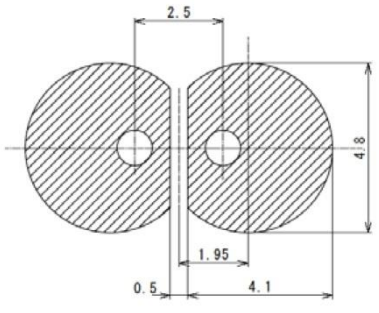
- Do avoid overheating of the LED
- Do avoid electrostatic discharge (ESD)
- Do avoid mechanical stress, shock, and vibration
- Do only use non-corrosive flux
- Do not apply current to the LED until it has cooled down to room temperature after soldering
- Do not solder the LED closer than 3 mm from the base of the lead.

Recommended soldering conditions:

Soldering Conditions



Recommended Soldering Patterns



Unit: mm

Above table specifies the maximum allowed duration and temperature during soldering. It is strongly advised to perform soldering at the shortest time and lowest temperature possible.

Cleaning:

Cleaning with isopropyl alcohol, propanol, or ethyl alcohol is recommended
DO NOT USE acetone, chloroseen, trichloroethylene, or MKS
DO NOT USE ultrasonic cleaners

Static Electricity:

LEDs are sensitive to electrostatic discharge (ESD). Precautions against ESD must be taken when handling or operating these LEDs. Surge voltage or electrostatic discharge can result in complete failure of the device.

Radiation:

During operation LEDs do emit light, which could be hazardous to skin and eyes, and may cause cancer. Do avoid exposure to the emitted light wear protective glasses, if needed. It is further advised to attach a warning label on products/systems.

Operation:

Do *only* operate LEDs with a current source.
Running these LEDs from a voltage source will result in complete failure of the device.
Current of a LED is an exponential function of the voltage across it. Usage of current regulated drive circuits is mandatory.