5mm Round LED

ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

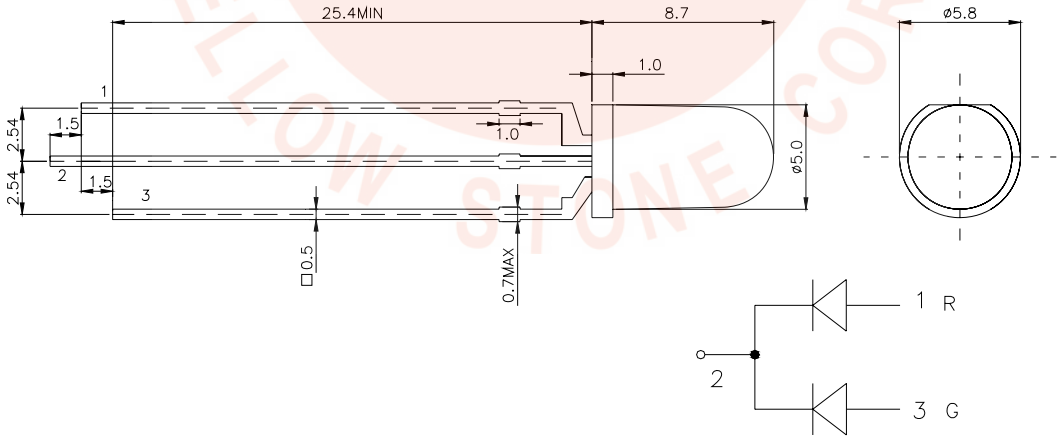
Features

- Low power consumption
- Excellent product quality and reliability
- I,c. compatible
- Lead-free device.

Applications

- Status indicators
- Commercial use
- Backlights
- Advertising Signs

Package Dimensions



Notes:
1. All dimensions are in millimeters.
2. Tolerance is ±0.25 unless otherwise noted.
3. Lead spacing is measured where the leads emerge from the package.
4. Specifications are subject to change without notice.

Device Selection Guide

Part No.	Chip		Lens color
L-05R2G593W11-04-C	Material	Emitted color	White Diffuse
	AlGaInP	Red	
	InGaN	Green	

Absolute Maximum Ratings at TA=25°C

Parameter	Symbol	Value		Unit
		Red	Green	
Power Dissipation	P_D	50	120	mW
Forward Current	I_F	30	30	mA
Peak Forward Current*1	I_{FP}	100	100	mA
Reverse Voltage	V_R	5	5	V
Operating Temperature	Topr	-40°C To +85°C		
Storage Temperature	Tstg	-40°C To +85°C		
Soldering Temperature*2	Tsol	260°C For 5 Seconds		

Notes:
*1: Pulse width≤0.1ms, Duty cycle≤1/10
*2：1.6mm below package base.

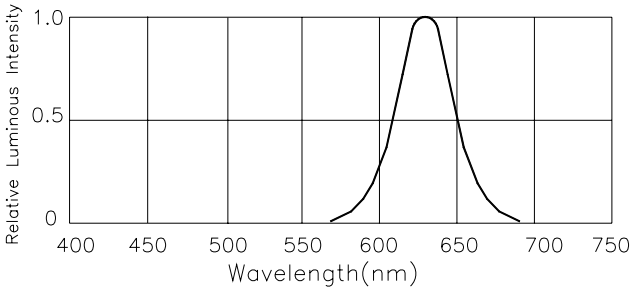
Electrical / Optical Characteristics at T_A=25°C

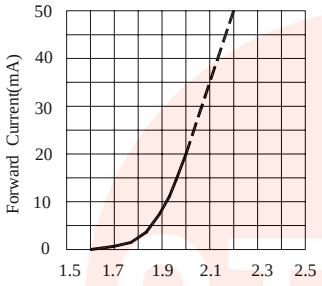
Parameter		Symbol	Min.	Typ.	Max	Unit	Test Conditions
Forward Voltage	Red	V_F	1.80	2.0	2.60	V	IF=20mA
	Green	V_F	2.80	3.20	3.60	V	
Reverse Current	Red	I_R	—	—	10	μA	VR=5V
	Green	I_R	—	—	10	μA	
Dominant Wavelength	Red	λd	620	625	630	nm	IF=20mA
	Green	λd	518	522	526	nm	
Peak Wavelength	Red	λp	—	635	—	nm	IF=20mA
	Green	λP	—	515	—	nm	
Spectral line Half-width	Red	Δλ	—	15	—	nm	IF=20mA
	Green	Δλ	—	30	—	nm	
Luminous Intensity	Red	I_V	400	600	1000	mcd	IF=20mA
	Green	I_V	1000	2000	3800	mcd	
Power Angle		2θ1/2	—	60	—	Deg	IF=20mA

Remarks:
If special sorting is required (e.g. binning based on forward voltage, luminous intensity, or dominant wavelength), the typical accuracy of the sorting process is as follows:
1.Dominant Wavelength:+/-1nm
2.Chromatic Coordinates:+/-0.01
3. Luminous Intensity: +/-15%
4. Forward Voltage: +/-0.1V
5.The design and working Current for Led is not less than 2mA.

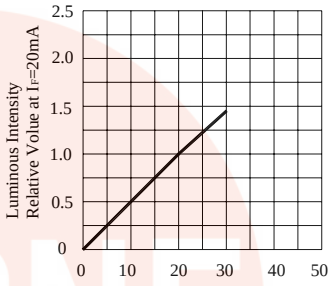
Typical Electrical/Optical Characteristics Curves
(Ta=25℃ Unless Otherwise Noted)

Red

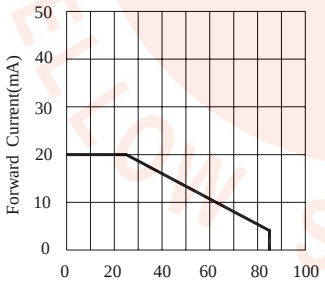




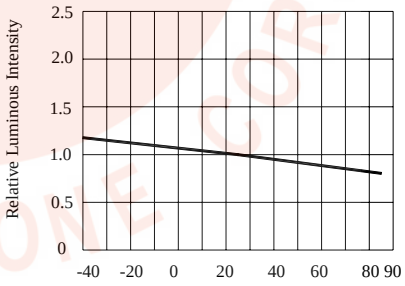
FORWARD CURRENT Vs.
FORWARD VOLTAGE



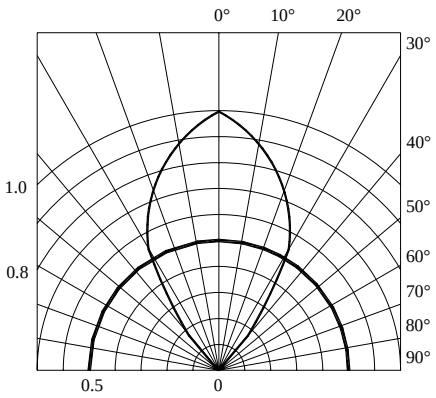
LUMINOUS INTENSITY Vs.
FORWARD CURRENT



FORWARD CURRENT
DERATING CURVE



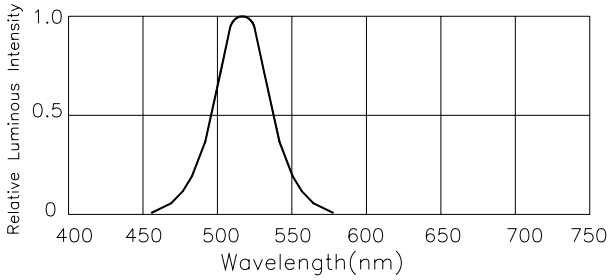
LUMINOUS INTENSITY Vs.
AMBIENT TEMPARATURE

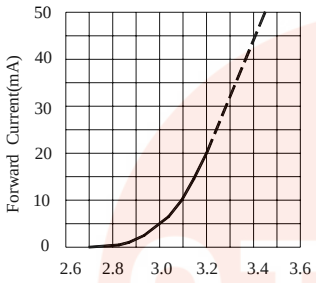


SPATIAL DISTRIBUTION

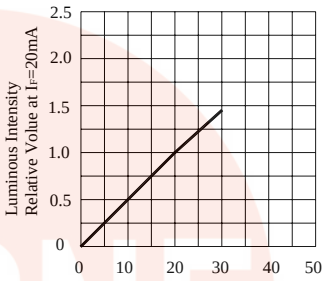
Typical Electrical/Optical Characteristics Curves
(Ta=25℃ Unless Otherwise Noted)

Green

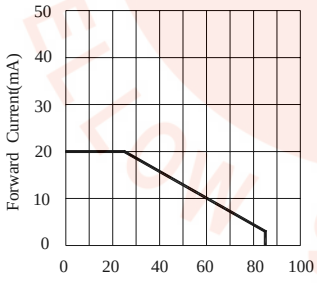




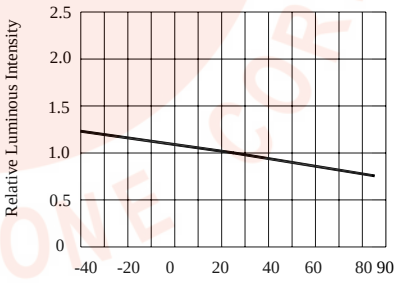
FORWARD CURRENT Vs.
FORWARD VOLTAGE



LUMINOUS INTENSITY Vs.
FORWARD CURRENT



FORWARD CURRENT
DERATING CURVE



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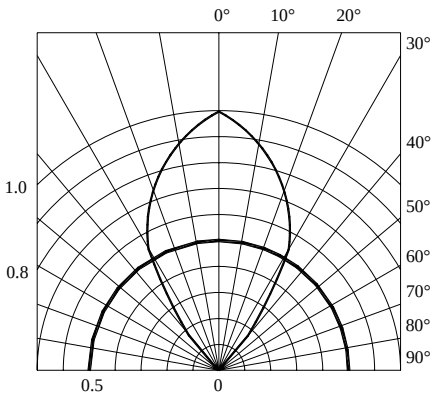
AMBIENT TEMPARATURE



SPATIAL DISTRIBUTION

◆ CAUTIONS:

1.Lead Forming & Assembly

- Any lead forming or bending must be done before soldering, at normal temperature.
- When forming leads, there must be a minimum of 3mm clearance between the base of the LED lens and the lead bend.
- Do not use the base of the lead frame as a fulcrum during lead forming.
- Avoid bending the leads at the same point more than once.
- During assembly onto PCB, the lead pitch of the LED must match the pitch of the mounting holes on the PCB during component placement.

2.Cleaning:

- Isopropyl alcohol or deionized water are recommended solvents for cleaning. When using other solvents, it should be confirmed beforehand whether the solvents will dissolve the resin or not.

3.Storage

- The storage ambient for the LEDs should not exceed 30℃ temperature or 70% relative humidity.
- It is recommended that LEDs out of their original packaging are used within three months. For extended storage out of their original packaging, it is recommended that the LEDs be stored in a sealed container with appropriate desiccant or in desiccators with nitrogen ambient.

4.ESD (Electrostatic Discharge)

Static Electricity or power surge will damage the LED.
The following procedures may decrease the possibility of ESD damage.

- All production machinery and test instruments must be electrically grounded.
- Use a conductive wrist band or anti-electrostatic glove when handling these LEDs.
- Maintain a humidity level of 50% or higher in production areas.
- Use anti-static packaging for transport and storage.