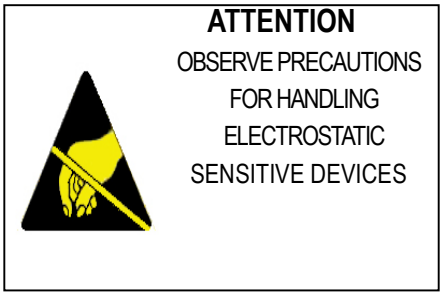
CL-SFC510BRG-02

Features

- Package Size：5.0 (L) × 5.0(W) × 1.85 (T) mm
- Silicone Packed
- Suitable for different working environment
- Super long lifetime：30000HRs
- Anti UV
- White colors are available in red、orange、blue、green
- Wide viewing angle ($2\Theta_{1/2}$=120°)

Device Selection Guide

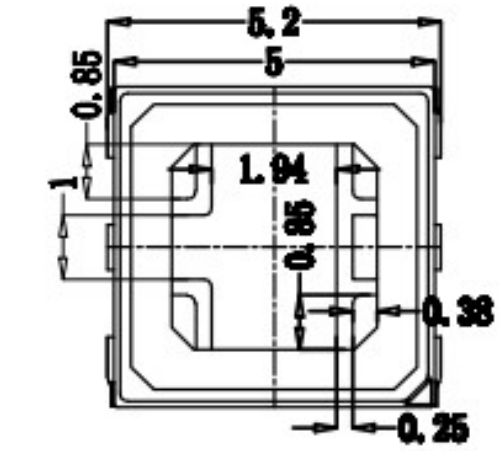
ITEM	MATERIALS
Resin	Silicone
Bonding wire	Φ1mil Au
Lens color	Water Clea
Dice	InGaN

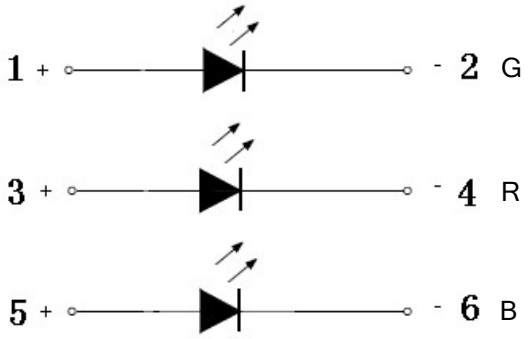


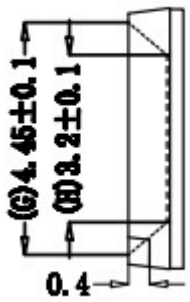
Applications

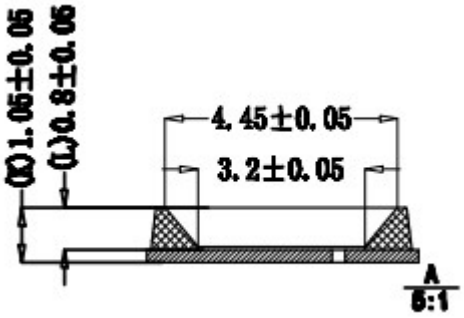
- **Indoor lighting**:
  Fluorescent lamp, tube, bulb etc.
- **Commercial illumination and displays**:
  Advertising words, light box
- **LCD Backlighting** (including LED TV)
- **Decorative lighting**: light strip
- **Automotive interior auxiliary lighting**: reading lamp
- **Mobile flashlights**
- **Luminaries lighting source**: Cabinet light, corridor light

Package Outline Dimensions





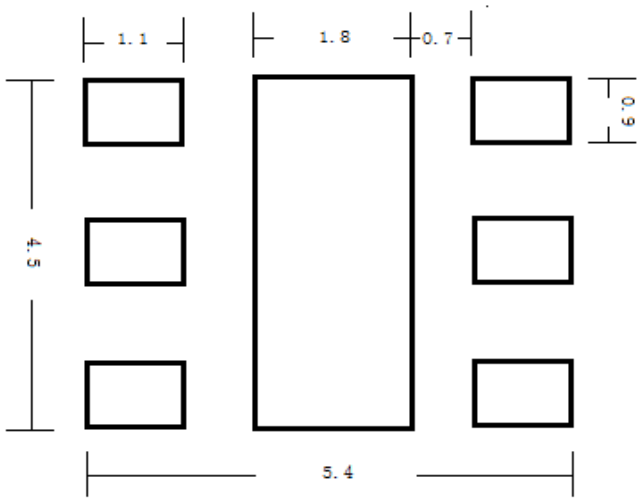




Part Ⅰ Part Ⅱ

Remark: Part Ⅰ is our featured product， Part Ⅱ is the product that is available to provide.

Recommended solder pad for 5054 series



Note: The tolerances unless mentioned is ±0.01 mm.

Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Rating	Unit
Reverse Voltage	V_R	5	V
Forward Current per LED	I_F	150	mA
Operating Temperature	Topr	-20 ～ +80	℃
Storage Temperature	Tstg	-20 ～ +80	℃
Soldering Temperature	Tsol	260(for 5 seconds)	℃
Power Dissipation	Pd	250	mW
Peak Forward Current (Duty 1/10 @ 1KHz)	I_{FP}	450	mA

Electro-Optical Characteristics （Ta=25℃）

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Viewing Angle	2θ1/2	-----	120	------	deg	If=450mA
Reverse Current	IR	-----	-----	50	μA	VR=5V

Notes:

1. Tolerance of Luminous Intensity is ±15%.
2. Tolerance of Forward Voltage is ±0.1V.

Bin Range of Luminous Intensity

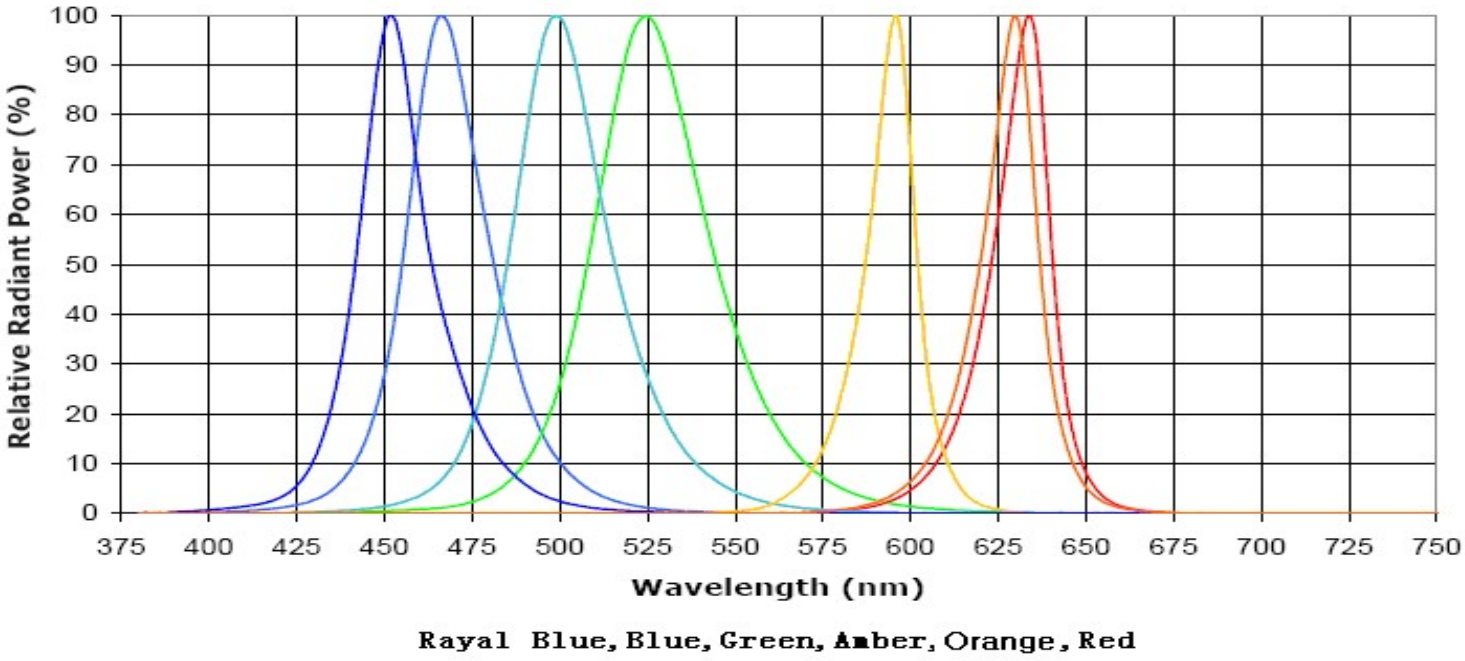
Color	Dominant wavelength（nm）		Forward Voltage(V) Vf@150mA		Luminous Intensitylm) IV@ 150mA			Part Number
	Min.	Max.	Min.	Max.	Group	Min.	Typ.	
Blue	465	475	2.9	3.5	C1	12	15	
Green	515	535	2.9	3.5	F1	30	35	
Red	620	635	1.8	2.4	D2	16	25	

Note:

1. Please take Luminous Flux as standard parameter, Luminous Intensity is only for reference.

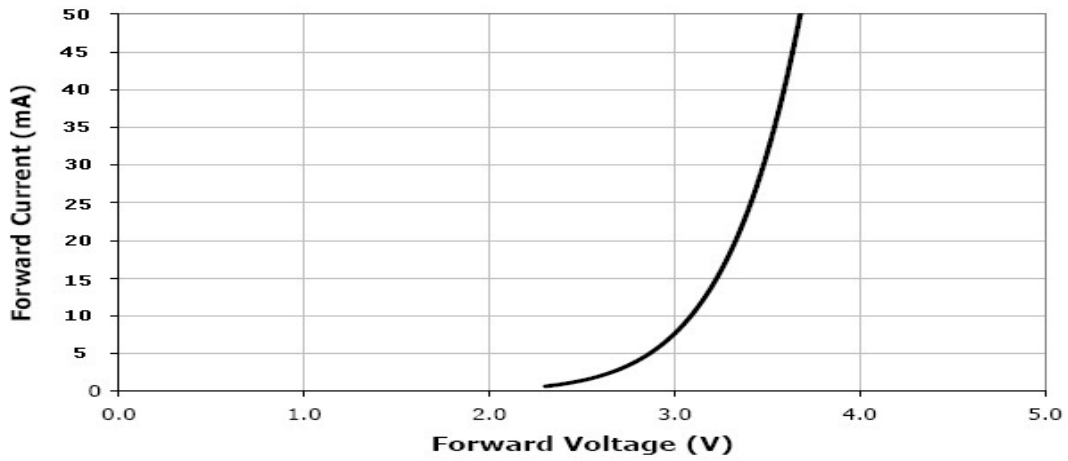
2.Tolerance of Luminous Intensity is ±15%.

Relative spectral power



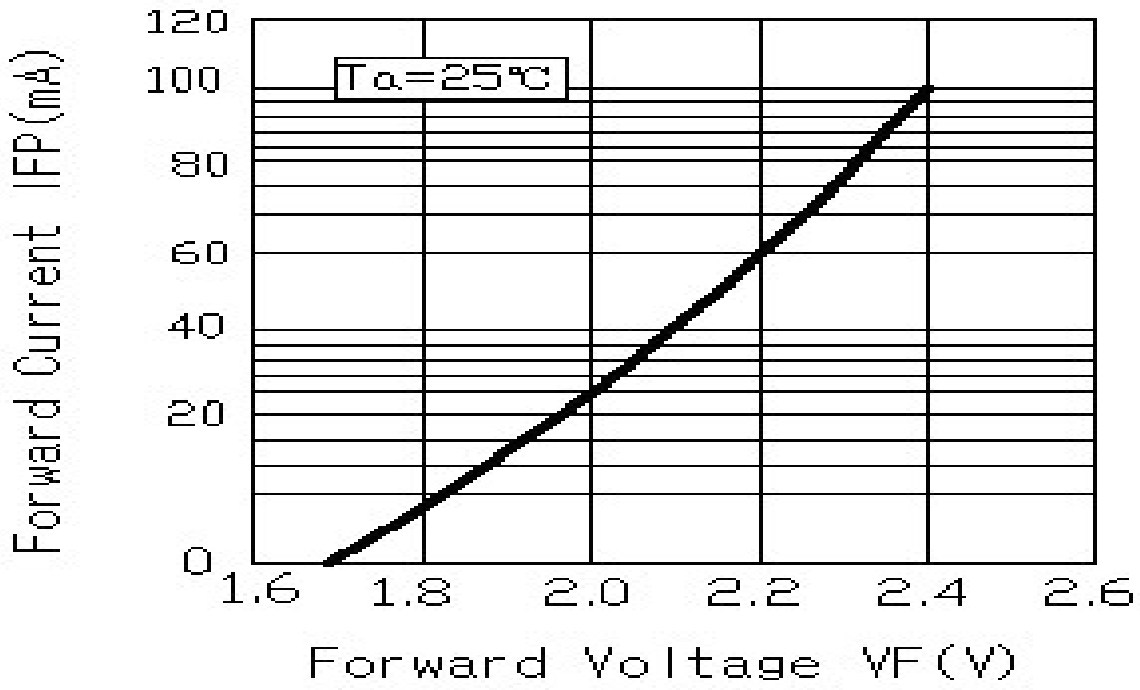
Rayal Blue, Blue, Green, Amber, Orange, Red

Electrical characteristic curve



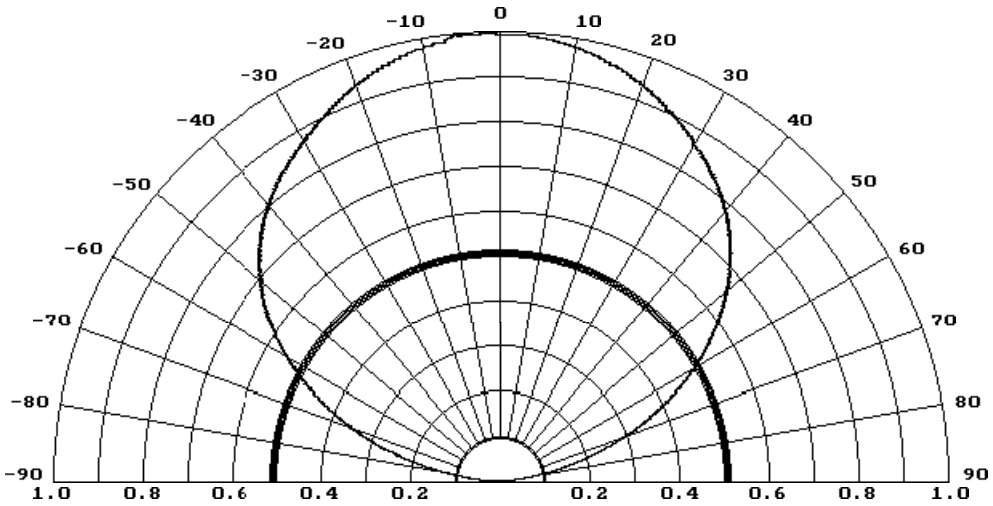
Royal Blue , Blue, Green, White

Thermal Design



Red, Amber, Orange

Directive Characteristics

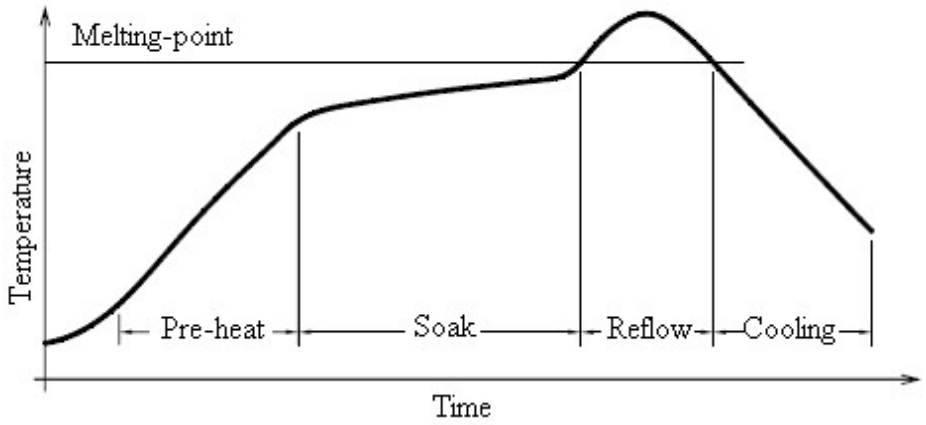


● Reflow Temp/Time

Handing of an SMD LED Should be done only when the Package has been cooled down to below 40℃ or less. This is to Prevent SMD LED failures due to thermal-mechanical stress during handing.

- **Reflow soldering**

  Temperature (top surface of the SMD LED)profile:



1.Use with all SMDs Solder=Sn63-Pb37
Average ramp-up rate= 4℃/sec.max.
Preheat temperature:100° ～150℃
Preheat time =120sec.max.
Ramp-down rate = 6℃/sec.max.
Peak temperature = 230℃max
Time within 5℃ of actual peak temperature = 10 sec.max.
Duration above 183℃ is 60 sec.max.

2.Solder = Lead-Free
Average ramp-up rate = 4℃/sec.max
Preheat temperature:150～200℃
Preheat time =120 sec.max.
Ramp-down rate = 6℃/sec.max.
Peak temperature = 250℃ max.
Time within 5℃ of actual peak temperature =10 sec.max.
Duration above 217℃ is 60 sec.max.

• Test circuit

• Handling precautions

1. Over-current-proof

Customer must apply resistors for protection; otherwise slight voltage shift will cause big current change (Burn out will happen).

2. Cleaning

2.1 When necessary, cleaning should occur only with isopropyl alcohol (IPA) at room temperature (25ºC) for a duration of no more than one minute. Dry at room temperature for 15 minutes before use.

2.2 The influence of ultrasonic cleaning on the SMD LED depends on factors such as ultrasonic power and the way the SMD LEDs are mounted. Ultrasonic cleaning should be pre-qualified to ensure this will not cause damage to the SMD LEDs.

3. Storage

3.1 It is recommended to store the products in the following conditions
Humidity: 60% R.H. Max.
Temperature: 5℃~30℃(41℉~86℉) 温度：5℃~30℃(41℉~86℉)

3.2 Shelf life in sealed bag: 12 month at ＜5℃~30℃ and ＜30% R.H. after the package is opened, the products should be used within 24hrs or they should be kept stored at ≦20% R.H. with zip-lock sealed.

4. Baking

It is recommended to bake before soldering when the pack is unsealed after 72hrs. The conditions are as followings:

4.1 80±3℃ x(10~12hrs) and ＜5%RH, taped reel type

4.2 100±3℃ x (1hr~2hrs), bulk type

4.3 130±3℃ x (45min ~1hr), bulk type