



Data Sheet

Customer: _____

Part No: CL-SF2121RGB-02

Sample No: _____

Description: _____

Item No: _____

Customer			
Check	Inspection	Approval	Date

2121 Package LED

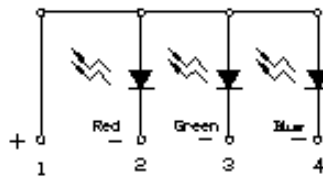
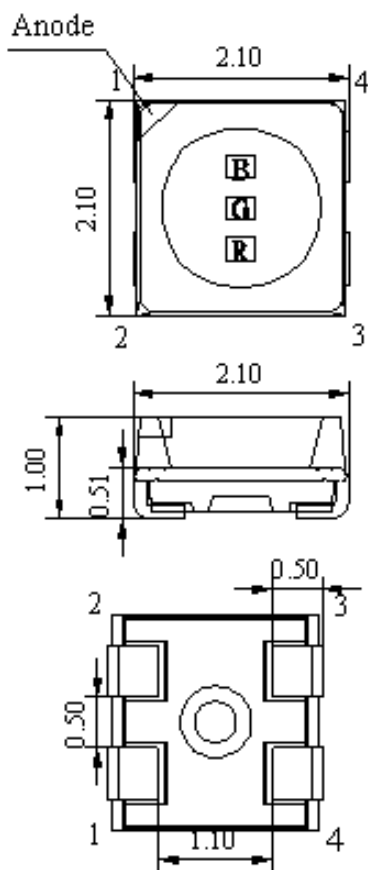
Features

- .The gule surface is completely atomized. .Full-color type.
- .Compatible with infrared and vapor phase reflow solder process.
- .Pb-free.

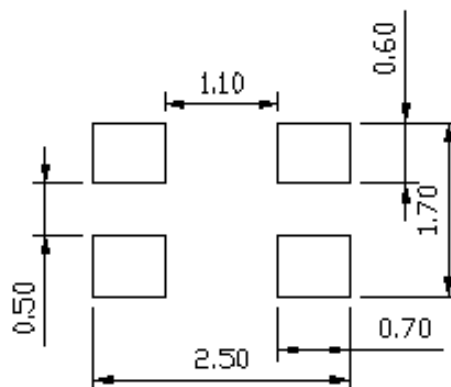
Applications

- .Indoor signage display applications.
- .Indoor decorating and entertainment design.
- .General use.

Package Dimensions



For reflow soldering



Note: All dimensions is $\pm 0.1\text{mm}$ unless otherwise noted, Unit = mm

Electro-Optical Characteristics (Ta=25°C)

Symbol		Parameter	Min.	Typ.	Max.	Unit	Condition
I _v	R	Luminous Intensity	44	-----	78	mcd	I _F =8mA
	G		100	-----	220		I _F =5mA
	B		17.5	-----	30		I _F =3mA
V _F	R	Forward Voltage	1.7	-----	2.5	V	I _F =8mA
	G		2.5	-----	3.2		I _F =5mA
	B		2.5	-----	3.2		I _F =3mA
Wd	R	Dominant Wavelength	619	-----	629	nm	I _F =8mA
	G		518	-----	530		I _F =5mA
	B		464	-----	472		I _F =3mA
2θ1/2		Viewing angle	-----	110	-----	deg	I _F =10mA
I _R		Reverse Current	-----	-----	0.5	uA	V _R =10V

Note:

1. Tolerance of Luminous Intensity: ±10%
2. Tolerance of Dominant Wavelength: ±1nm
3. Tolerance of Forward Voltage: ±0.1V

Absolute Maximum Ratings (Ta=25°C)

Symbol	Parameter	Value	Unit
P_d	Power Dissipation	R:20 G:15 B:10	mW
V_R	Reverse Voltage	10	V
I_F	Forward Current	R:8 G:5 B:3	mA
I_{FP}	Peak Forward Current (Duty 1/10 @100Hz)	R:20 G:20 B:20	mA
T_j	Junction Temperature	115	°C
ESD	Electrostatic Discharge(HBM)	R:2000 G:1000 B:1000	V
T_{opr}	Operating Temperature	-40~ +85	°C
T_{stg}	Storage Temperature	-40~ +110	°C
T_{sol}	Soldering Temperature	260	°C

R:
Bin Range Of Luminous Intensity

Bin	Min	Max	Unit	Condition
M0	44.0	60.0	mcd	$I_F=8\text{mA}$
N0	60.0	78.0		

 @8mA/ $T_a=25^{\circ}\text{C}$, Tolerance:±10%

Bin Range Of Dominant Wavelength

Bin	Min	Max	Unit	Condition
R1	619.0	624.0	nm	$I_F=8\text{mA}$
R2	624.0	629.0	nm	

 @8mA/ $T_a=25^{\circ}\text{C}$, Tolerance:±1nm

Bin Range Of Luminous Voltage

Bin	Min	Max	Unit	Condition
RF	1.7	2.5	V	$I_F=8\text{mA}$

 @8mA/ $T_a=25^{\circ}\text{C}$, Tolerance:±0.1V

G:
Bin Range Of Luminous Intensity

Bin	Min	Max	Unit	Condition
Q0	100.0	130.0	mcd	$I_F=5\text{mA}$
R0	130.0	169.0		
S0	169.0	220.0		

 @5mA/ $T_a=25^{\circ}\text{C}$, Tolerance:±10%

Bin Range Of Dominant Wavelength

Bin	Min	Max	Unit	Condition
G1	518.0	522.0	nm	$I_F=5\text{mA}$
G2	522.0	526.0		
G3	526.0	530.0		

 @5mA/ $T_a=25^{\circ}\text{C}$, Tolerance:±1nm

Bin Range Of Luminous Voltage

Bin	Min	Max	Unit	Condition
GF	2.5	3.2	V	$I_F=5\text{mA}$

 @5mA/ $T_a=25^{\circ}\text{C}$, Tolerance:±0.1V

B:
Bin Range Of Luminous Intensity

Bin	Min	Max	Unit	Condition
J0	17.5	23.0	mcd	$I_F=3mA$
K0	23.0	30.0		

 @3mA/ $T_a=25^{\circ}C$, Tolerance:±10%

Bin Range Of Dominant Wavelength

Bin	Min	Max	Unit	Condition
B1	464	468	nm	$I_F=3mA$
B2	468	472		

 @3mA/ $T_a=25^{\circ}C$, Tolerance:±1nm

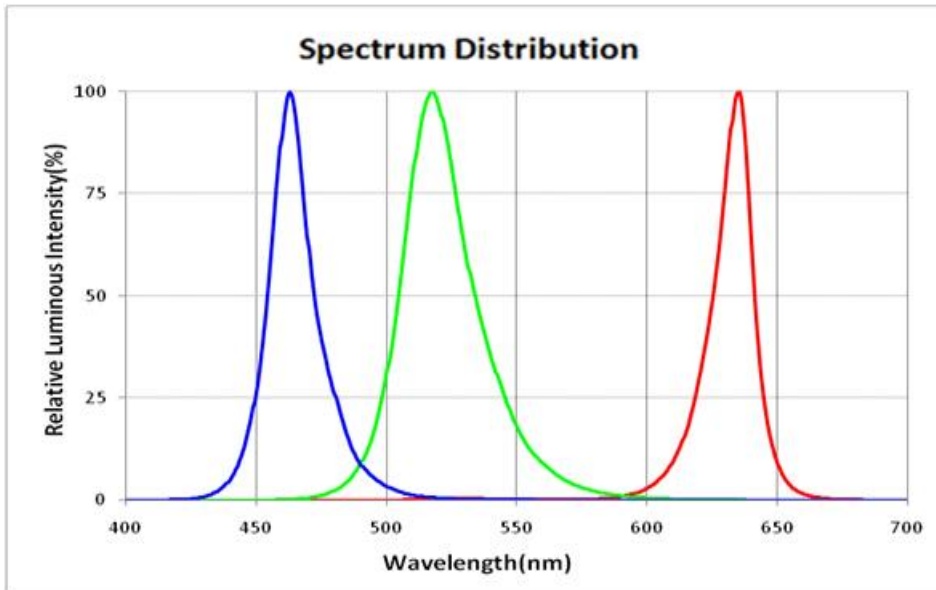
Bin Range Of Luminous Voltage

Bin	Min	Max	Unit	Condition
BF	2.5	3.2	V	$I_F=3mA$

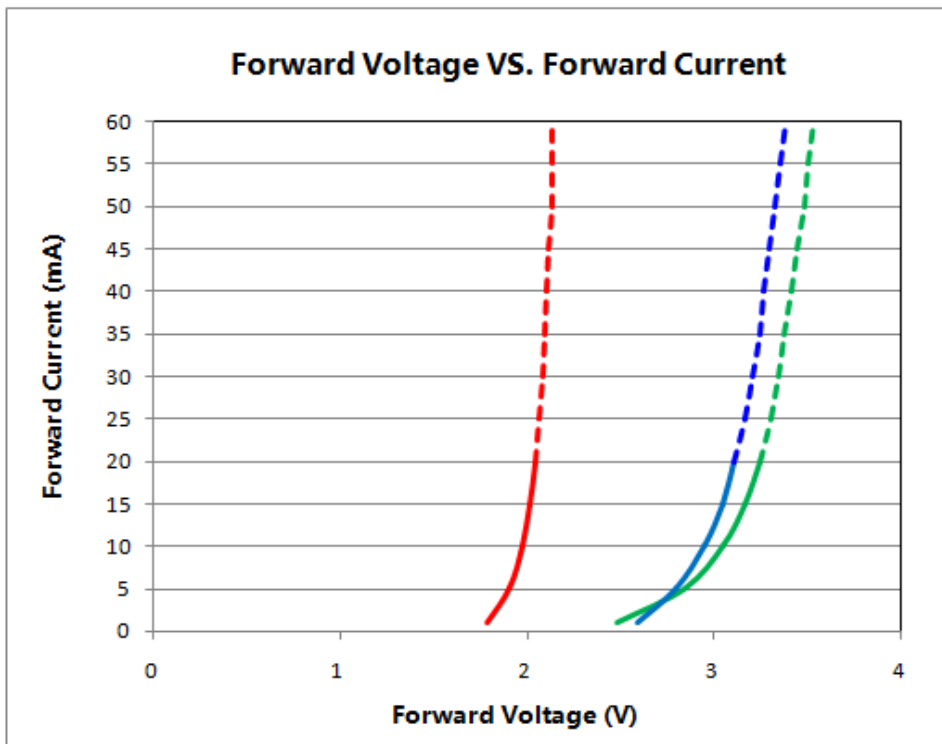
 @3mA/ $T_a=25^{\circ}C$, Tolerance:±0.1V

Electro-Optical Characteristics Curves

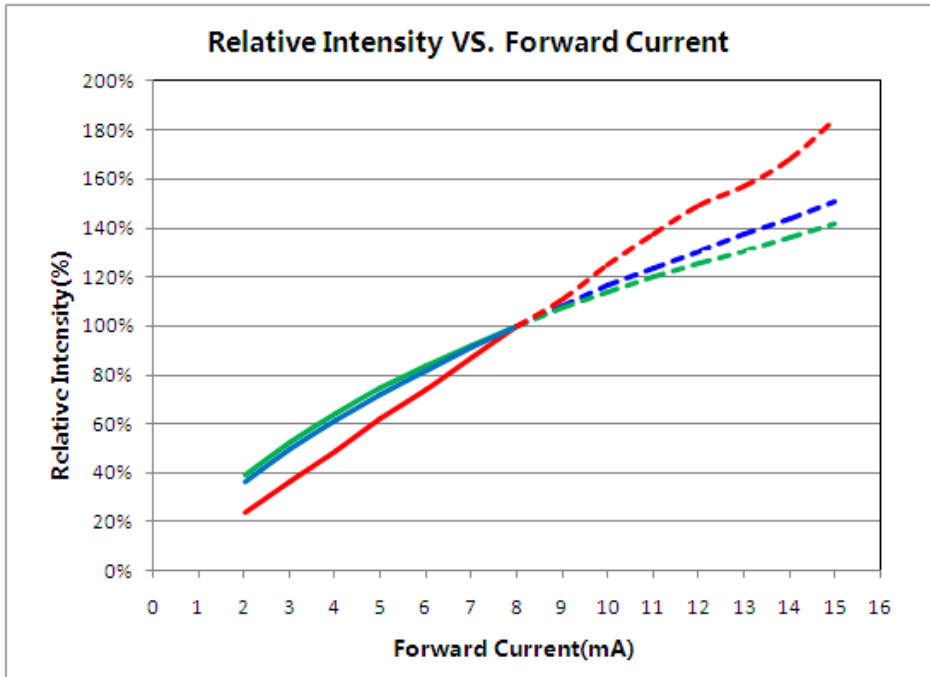
Spectrum Distribution



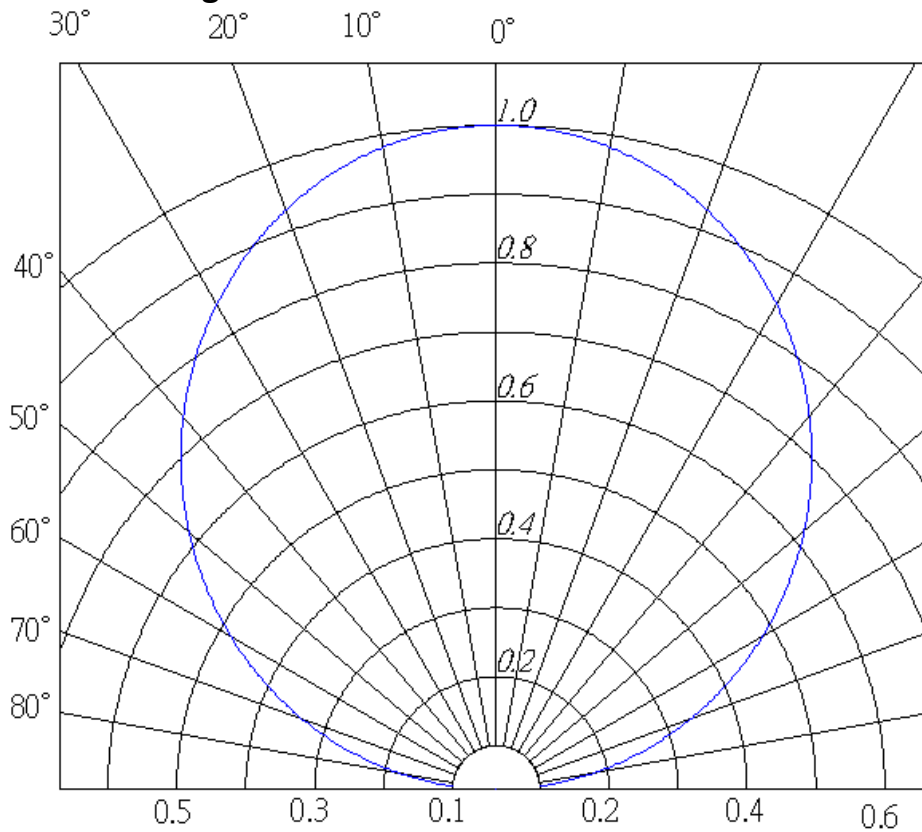
Forward Current vs. Forward Voltage

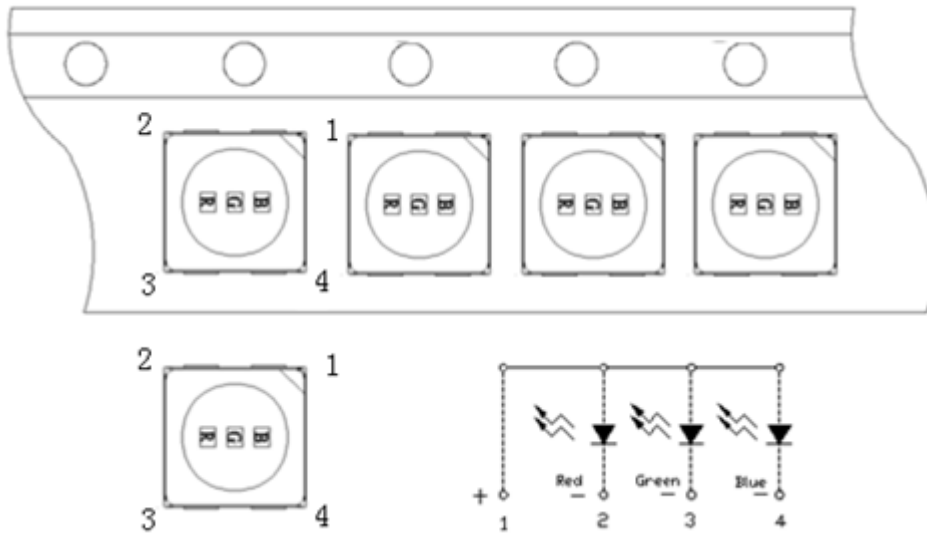


Relative Luminous Intensity vs. Forward Current



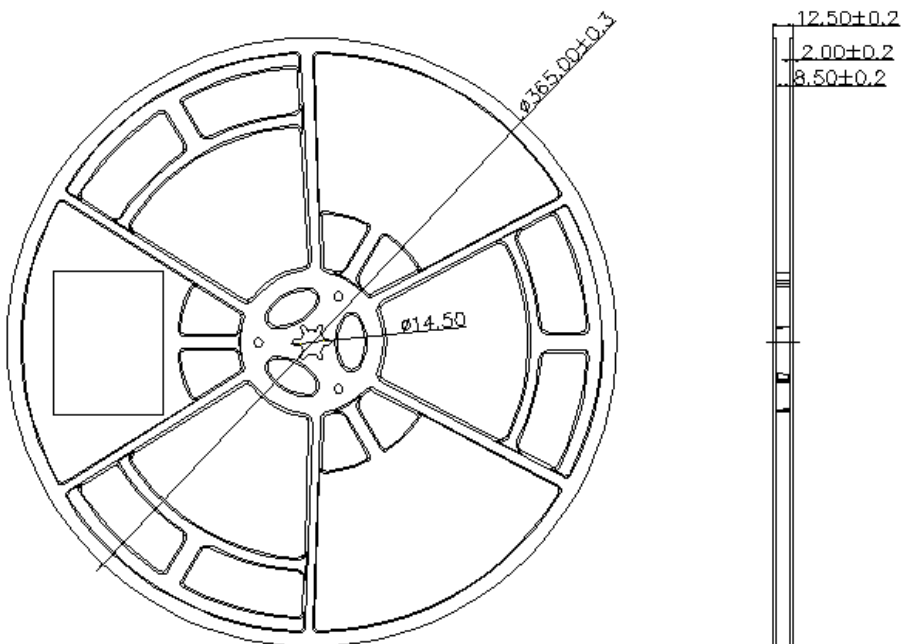
Radiation Diagram



Carrier Tape Dimensions: Loaded Quantity 17000pcs Per Reel


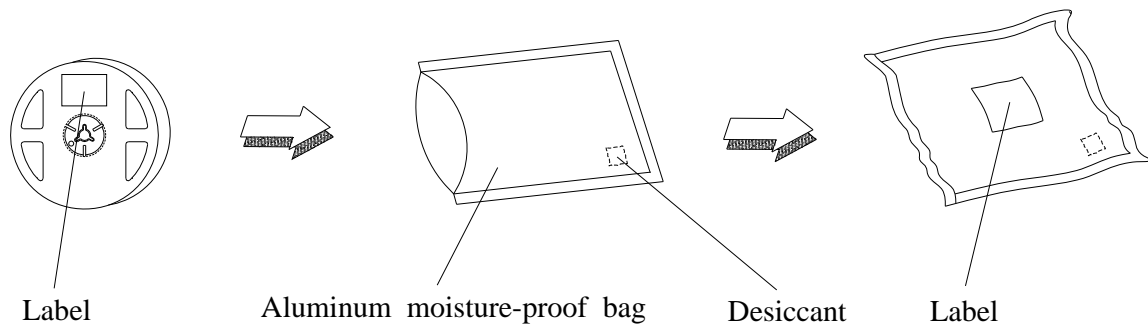
Note:

1. Dimensions are in millimeters.
2. Tolerances unless mentioned are $\pm 0.1\text{mm}$

**Reel Dimensions
(Units: mm)**


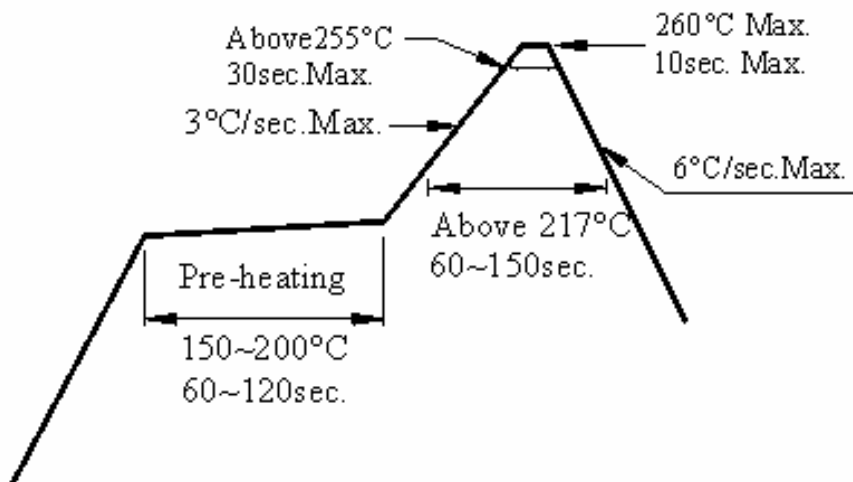
Note: The tolerances unless mentioned is $\pm 0.1\text{mm}$, Unit = mm

Moisture Resistant Packaging



Soldering Condition:

1. Pb-free solder temperature profile



2. Reflow soldering should not be done more than two times.
3. When soldering, do not put stress on the LEDs during heating.
4. After soldering, do not warp the circuit board.

Cleaning:

1. It is recommended to use clean cloth dipped in alcohol (anhydrous ethanol) for wiping , after soldering, and not excessive force, should be controlled at 50 degrees below .
2. Ultrasonic cleaning can be used, but the average power is not more than 300W.

Storage:

1. The product is packaged in anti-static aluminium foil bag with desiccant and humidity card.
2. Storage conditions: when vacuum packaging, storage at 10 DEG ~30 DEG, and humidity is less than 60% RH.
3. After unpacking, please at 10 DEG ~30 DEG, humidity is less than or equal to 60% RH, and completed in the 4H patch, over time, please Re - bake dehumidification conditions: 70 degrees x6h.

Others:

1. Production environment: it is recommended to operate at 20 DEG ~30 DEG &30%~60% RH
2. The service temperature shall be controlled below 280 degrees, and the continuous heating time shall not exceed 30S.
3. When repairing, the sharp object should be directly punched into the colloid, and when picking the material, it is recommended to clamp both ends of the PCB.