



Date Sheet

Customer:

Part No: CL-SP1010RGB-02(BLACK-L)

Sample No: _____

Description: _____

Item No: _____

Customer			
Check	Inspection	Approval	Date

Features

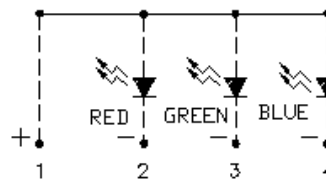
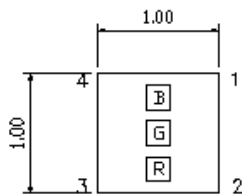
- 1010 package.
- Full-color type.
- Compatible with infrared and vapor phase reflow solder process.
- Package:18000pcs/reel)
- Pb-free.
- Component weight is 1.0mg.



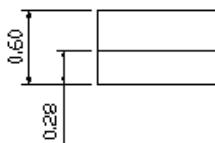
Applications

- Indoor signage display applications.
- Indoor decorating and entertainment design.
- Flat backlight for LCD, switch and symbol.. General use.

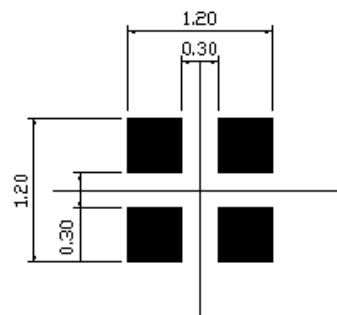
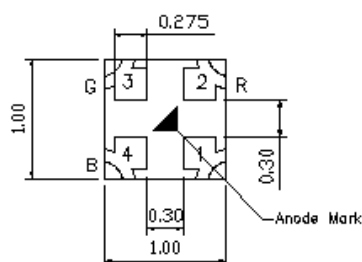
Package Dimensions



Polarity



For reflow soldering (Propose)



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

Electro-Optical Characteristics (Ta=25℃)

Symbol		Parameter	Min.	Typ.	Max.	Unit	Condition
I _v	R	Luminous Intensity	15.2	----	31.0	mcd	I _F =5mA
	G		53.0	----	107.6		
	B		9.0	----	18.3		
V _F	R	Forward Voltage	1.7	----	2.3	V	
	G		2.5	----	3.5		
	B		2.5	----	3.5		
Wd	R	Dominant Wavelength	----	622	----	nm	
	G		----	525	----		
	B		----	467	----		
2θ1/2		Viewing angle	----	115	----	deg	
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℃)

Symbol	Parameter	Value	Unit
P _d	Power Dissipation	R:50 G:60 B:60	mW
V _R	Reverse Voltage	5	V
I _F	Forward Current	R:20 G:20 B:20	mA
I _{FP}	Peak Forward Current (Duty 1/10 @1KHz)	R:50 G:50 B:50	mA
T _j	Junction Temperature	115	℃
ESD	Electrostatic Discharge(HBM)	R:2000 G:1000 B:1000	V
T _{opr}	Operating Temperature	-40~ +85	℃
T _{stg}	Storage Temperature	-40~ +110	℃
T _{sol}	Soldering Temperature	260	℃

R:

Bin Range Of Luminous Intensity

Bin	Min	Max	Unit	Condition
E1	15.2	21.0	mcd	$I_F=5\text{mA}$
F1	21.0	31.0		

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

Bin Range Of Dominant Wavelength

Bin	Min	Max	Unit	Condition
R1	619.5	623.0	nm	$I_F=5\text{mA}$
R2	623.0	626.5		

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

Bin Range Of Luminous Voltage

Bin	Min	Max	Unit	Condition
R0	1.7	2.3	V	$I_F=5\text{mA}$

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

G:

Bin Range Of Luminous Intensity

Bin	Min	Max	Unit	Condition
L1	53.0	78.0	mcd	$I_F=5\text{mA}$
M1	78.0	107.6		

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

Bin Range Of Dominant Wavelength

Bin	Min	Max	Unit	Condition
G1	521.0	524.5	nm	$I_F=5\text{mA}$
G2	524.5	528.0		

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

Bin Range Of Luminous Voltage

Bin	Min	Max	Unit	Condition
G0	2.5	3.5	V	$I_F=5\text{mA}$

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

B:

Bin Range Of Luminous Intensity

Bin	Min	Max	Unit	Condition
A1	9.0	12.4	mcd	$I_F=5\text{mA}$
C1	12.4	18.3		

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

Bin Range Of Dominant Wavelength

Bin	Min	Max	Unit	Condition
B1	465.0	468.5	nm	$I_F=5\text{mA}$
B2	468.5	472.0		

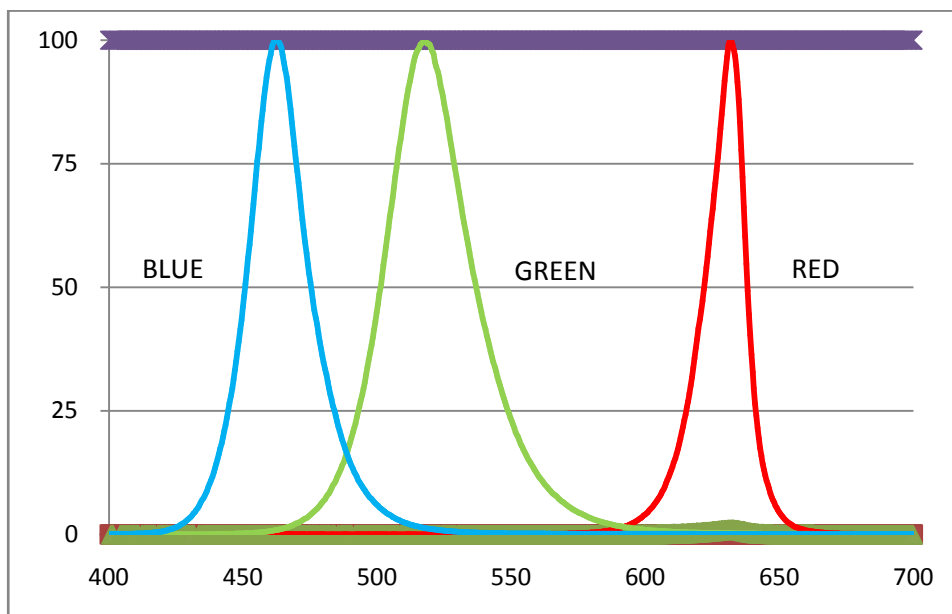
@5mA/ $T_a=25^{\circ}\text{C}$, Tolerance: $\pm 1\text{nm}$

Bin Range Of Luminous Voltage

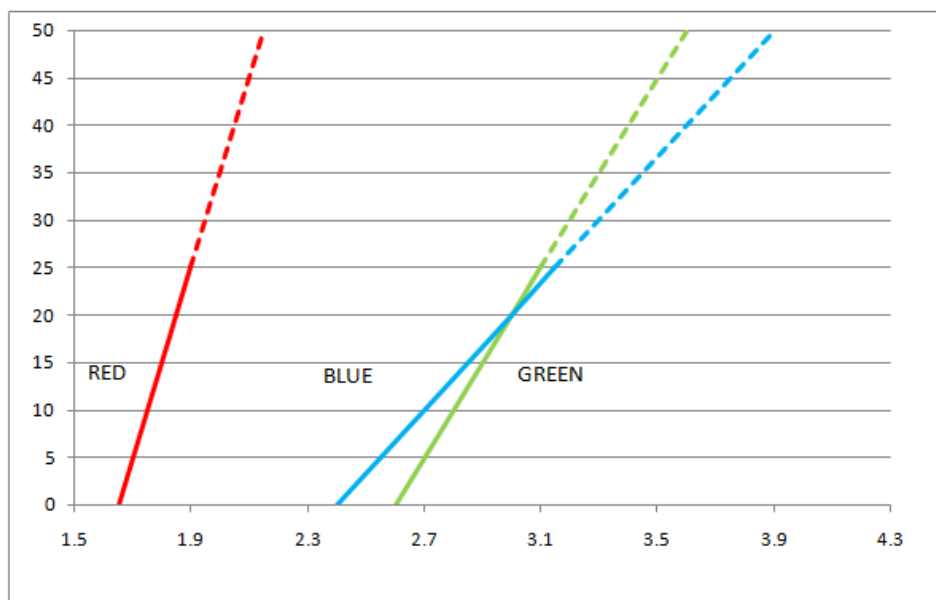
Bin	Min	Max	Unit	Condition
B0	2.5	3.5	V	$I_F=5\text{mA}$

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

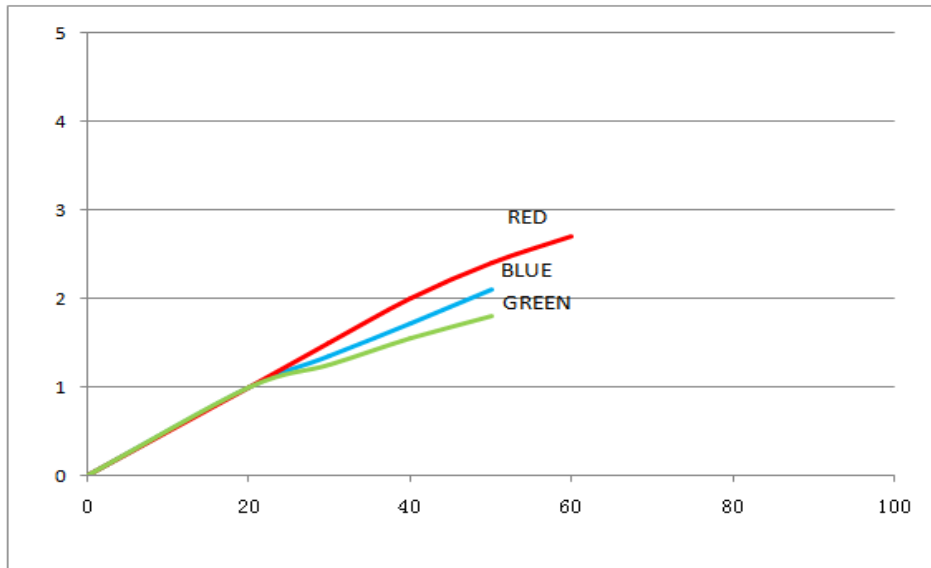
Electro-Optical Characteristics Curves Spectrum Distribution



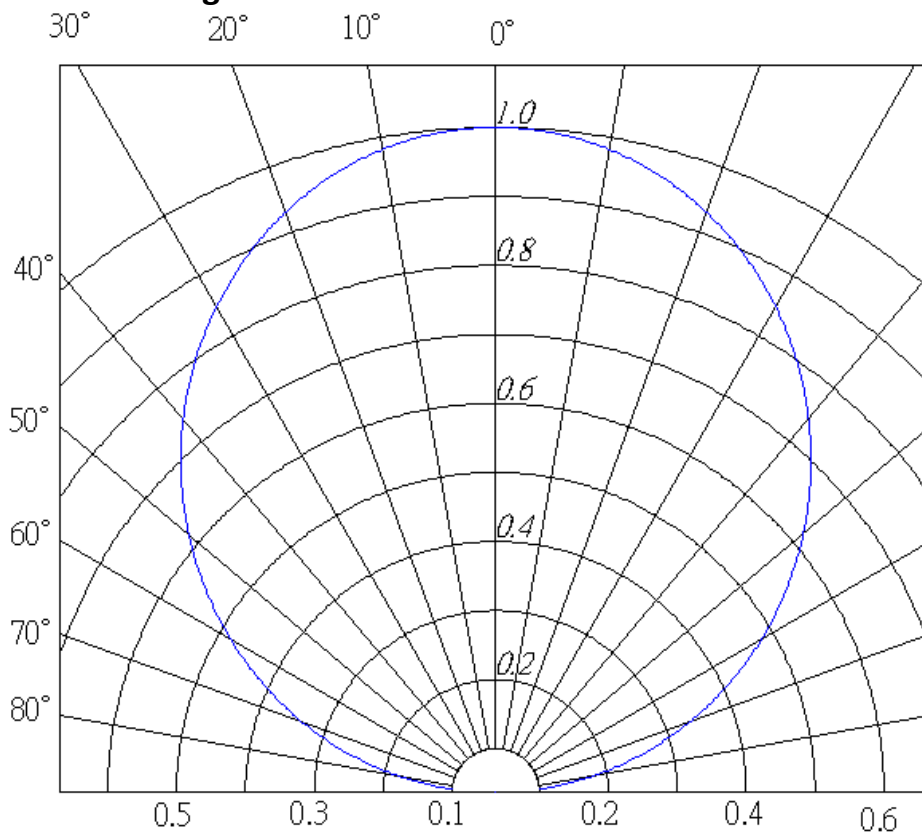
Forward Current vs. Forward Voltage



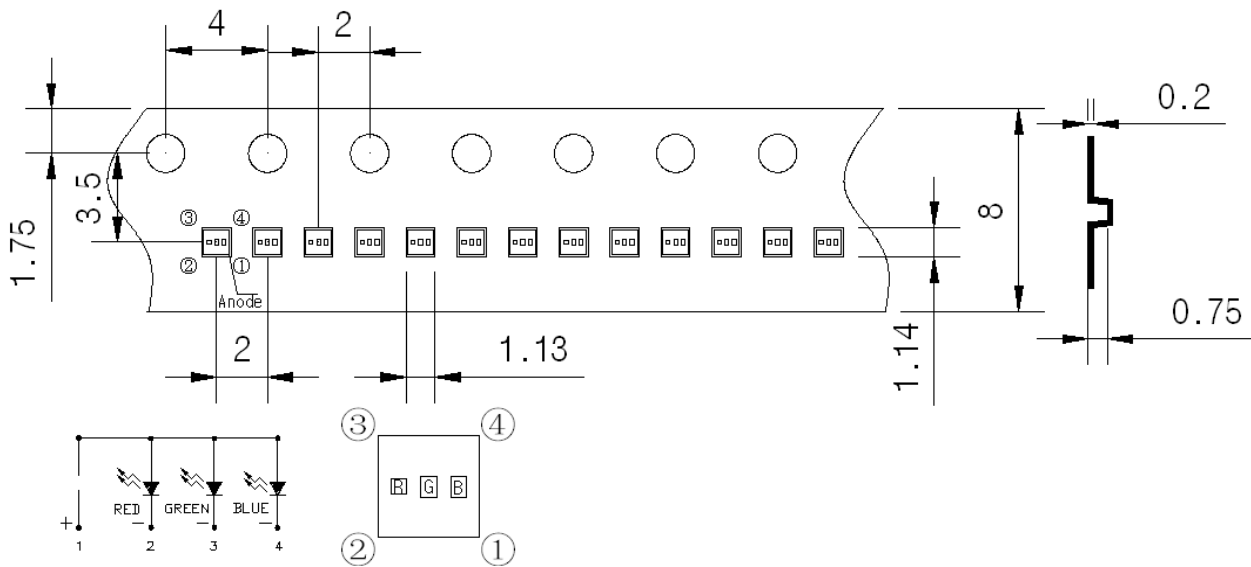
Relative Luminous Intensity vs. Forward Current



Radiation Diagram



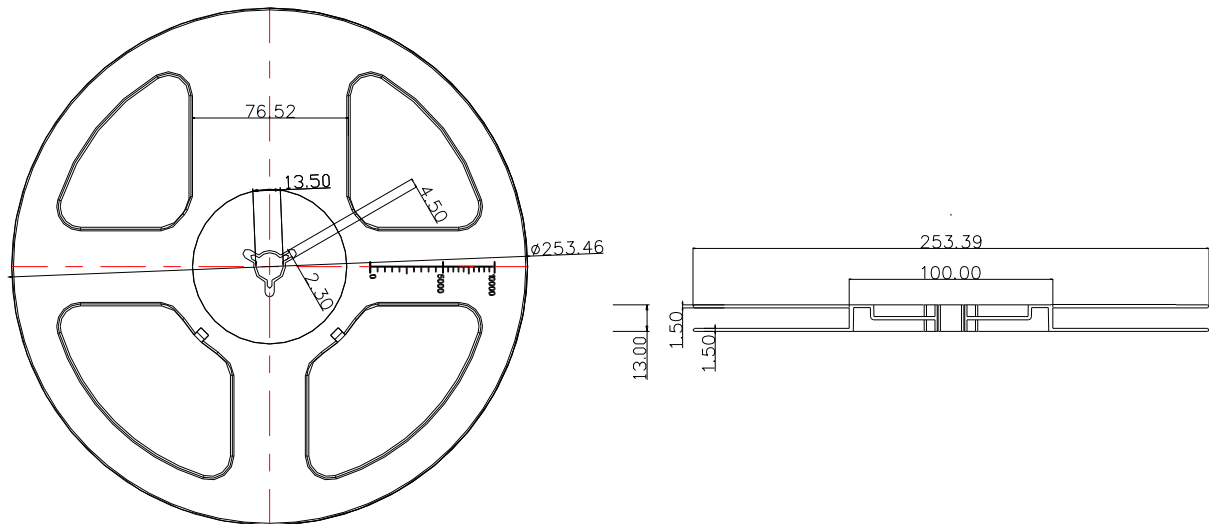
Carrier Tape Dimensions: Loaded Quantity 18000pcs Per Reel



Note:

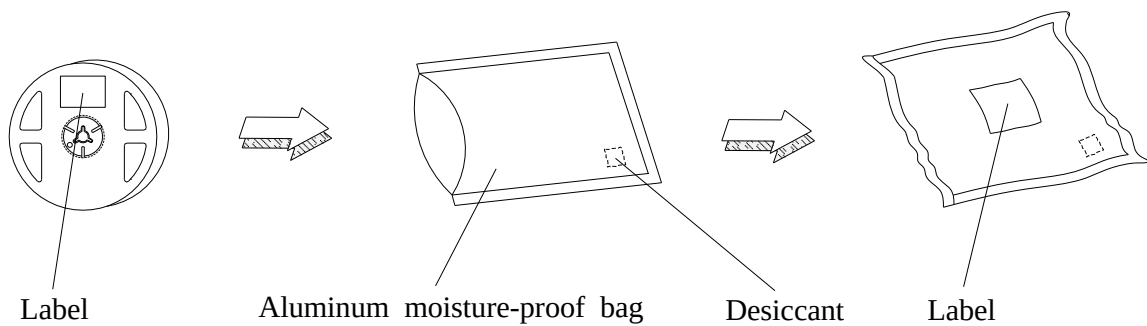
1. Dimensions are in millimeters.
2. Tolerances unless mentioned are $\pm 0.1\text{mm}$

Reel Dimensions (Units: mm)



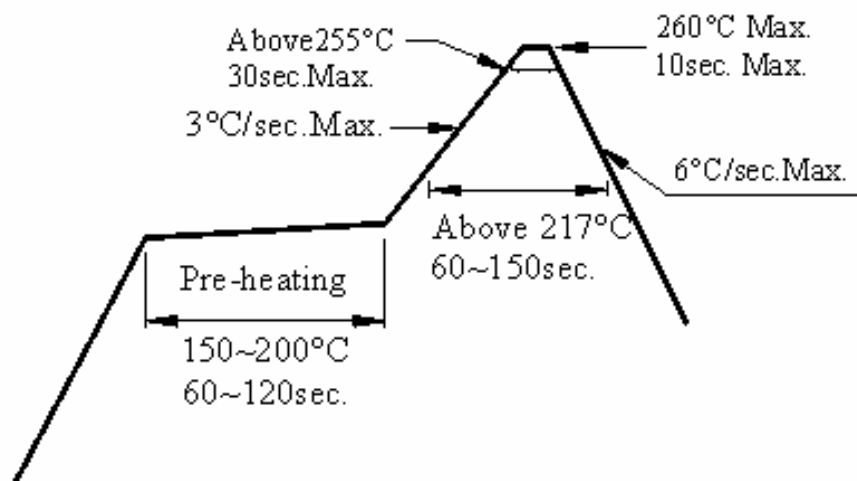
Note: The tolerances unless mentioned is $\pm 0.1\text{mm}$, Unit = mm

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.