

C1010 RGB Series LED



Lead-Free Parts

PRELIMINARY

This is just a preliminary design
to let you evaluate the concept

LG-C1010RGB-DT-T12

DATA SHEET

DOC.NO : LG-C1010RGB-DT-T12

REV. : B

DATE : 18 – Aug – 2025

Features :

1. Package in 8.0mm carrier tape on 7" diameter reel.
2. Compatible with automatic placement equipment.
3. Compatible with infrared and vapor phase reflow solder process

Applications :

Consumer product, Gaming, Toys

Backlighting in dashboard and switch

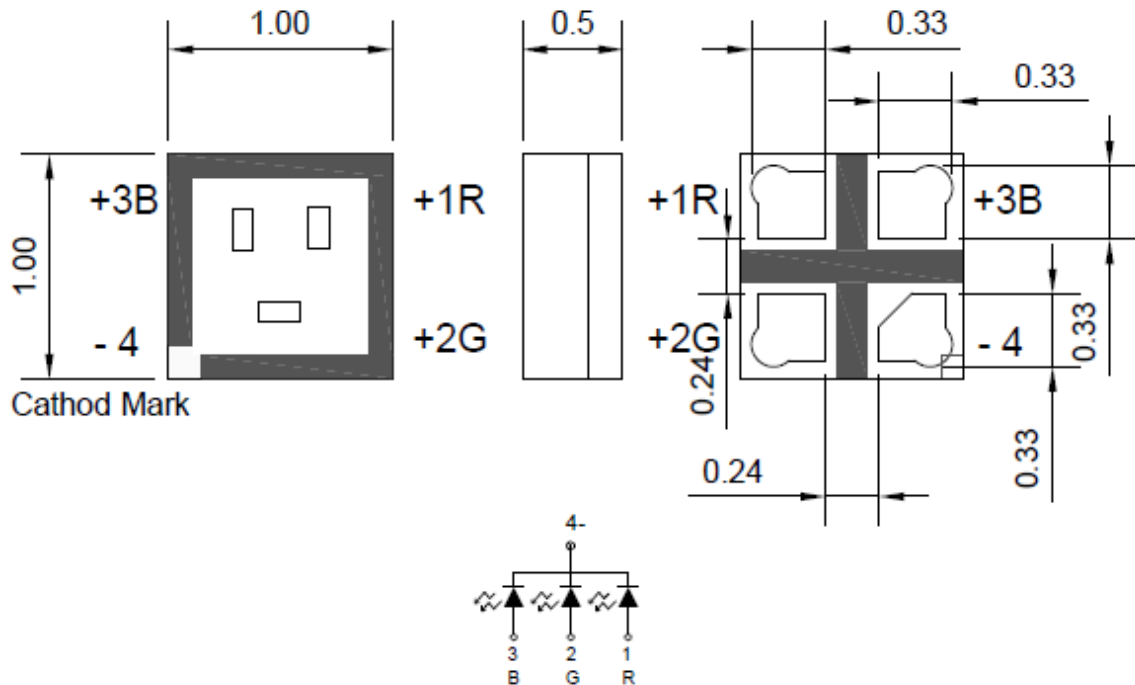
Home appliances indicator light

Telecommunication and 5G equipment

Device selection guide :

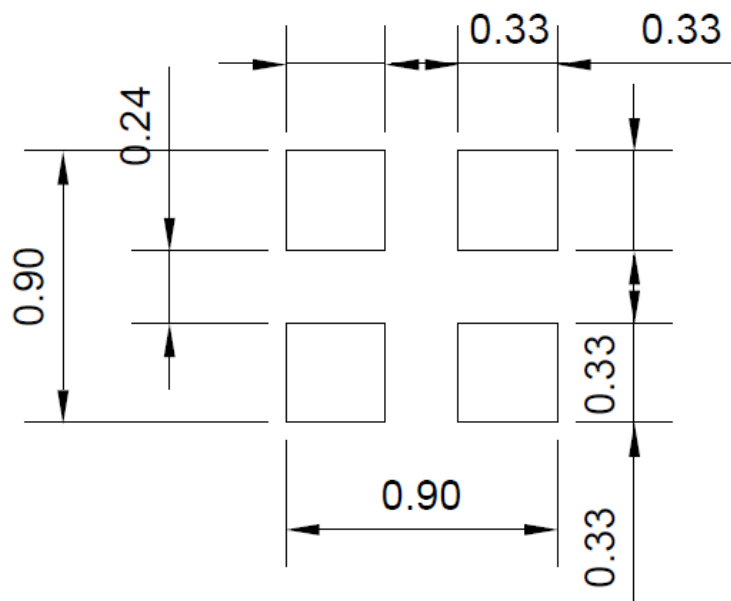
Part No	Material	Color	
		Emitted	Lens
LG-C1010RGB-DT-T12	AlGaInP	Red	White Diffused
	InGaN	Green	
	InGaN	Blue	

Package Dimensions



- Note : 1. All dimension are in millimeter tolerance is $\pm 0.1\text{mm}$ unless otherwise noted.
2. Specifications are subject to change without notice.

Recommended Soldering Pad Dimensions



Note:1.The tolerance unless mentioned is $\pm 0.1\text{mm}$,unit=mm.

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Ratings			UNIT
		R	G	B	
Power Dissipation	Pd	60	60	60	mW
Peak Forward Current Duty 1/10@10KHz	I _{FP}	100	100	100	mA
Forward Current	I _F	25	20	20	mA
Reverse voltage @ 5V	I _r	10	50	50	uA
Operating Temperature	T _{opr}	-40~ +100			°C
Storage Temperature	T _{stg}	-40 ~ +100			°C

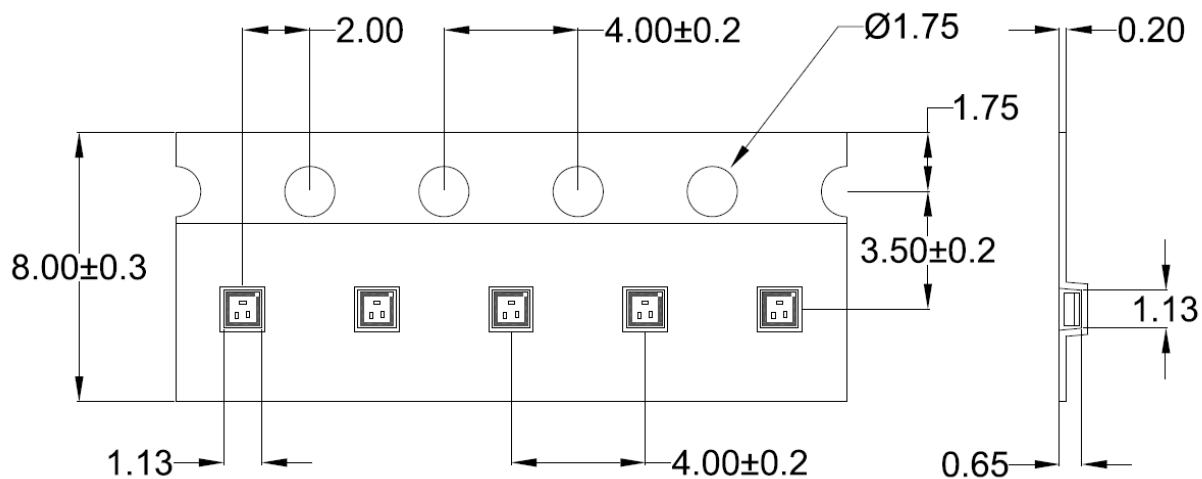
Electrical / Optical Characteristics TA=25°C

Parameter	Symbol		Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I _v	R	----	200	----	mcd	I _F =12mA
		G	----	360	----		
		B	----	87	----		
Dominant Wavelength	λ _d	R	----	622	----	nm	
		G	----	520	----		
		B	----	475	----		
Spectral Line Half-Width	Δ λ	R	----	20	----	nm	
		G	----	36	----		
		B	----	30	----		
Forward Voltage	V	R	----	2.3	----	V	
		G	----		----		
		B	----		----		
Viewing Angle	2θ1/2		----	130	----	deg	

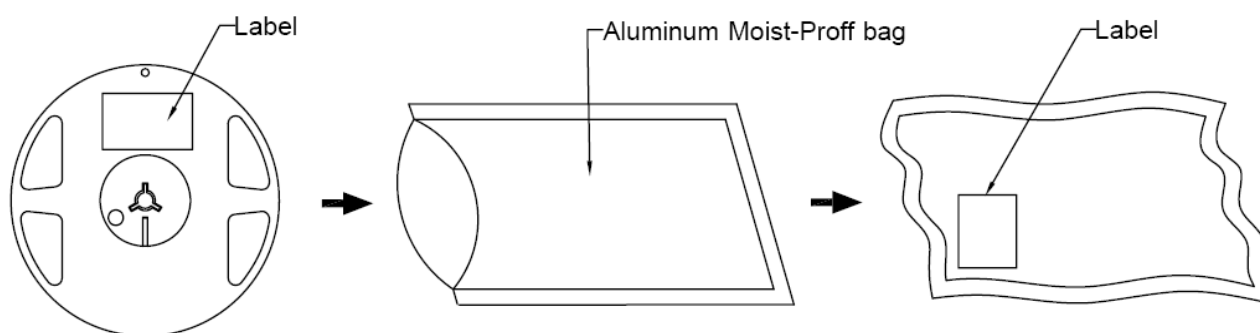
Note :

- 1.The forward voltage data did not including ±0.1V testing tolerance.
2. The luminous intensity data did not including ±15% testing tolerance.
3. The dominant wavelength data did not including ±1nm testing tolerance

Carrier Tape Dimensions



Packing Specifications



Part No.	Description	Quantity/Reel
LG-C1010RGB-DT-T12	8.0mm tape, 7" reel	4000 devices

Label Explanation

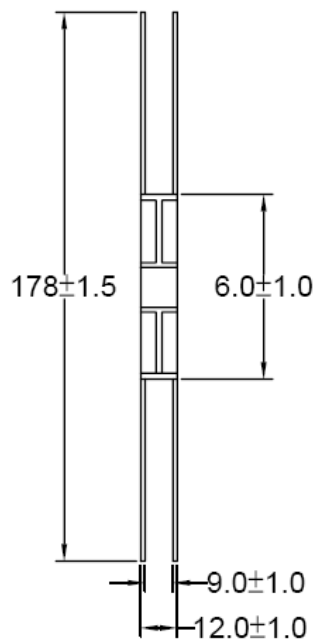
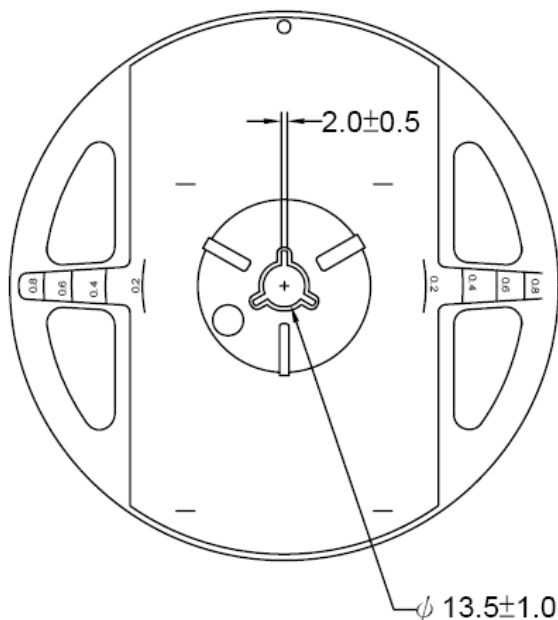
		LIGITEK ELECTRONICS CO., LTD.	
			
PART :	LG-C1010RGB-DT-T12		
LOT :			XX-XX
QTY(PCS):			XX-XX
BIN/HUE :			XX-XX
	X/X-X/X		XX-XX

BIN : Luminous Intensity

HUE : Dominant Wavelength

VF : Forward Voltage

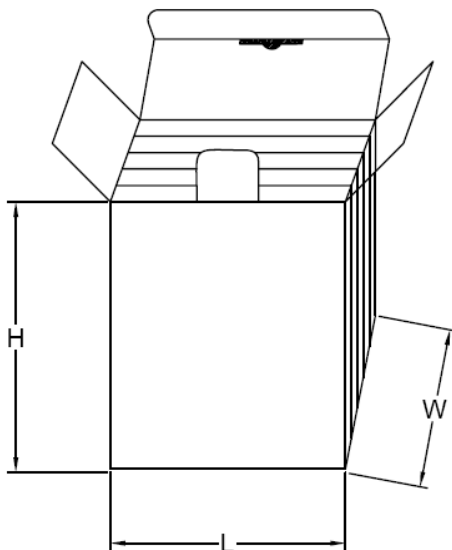
Reel Dimensions



Box Explanation

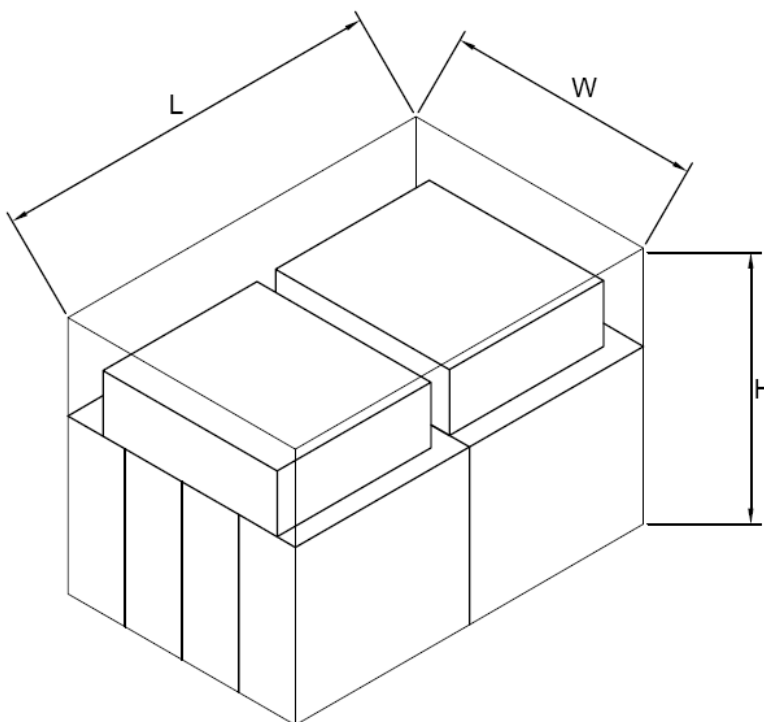
1. 5 BAG / INNER BOX

2. INNER BOX SIZE : L X W X H 23cm X 8.5cm x 26cm



3. 10 INNER BOXES / CARTON

4. CARTON SIZE : L X W X H 58cm X 34cm x 35cm

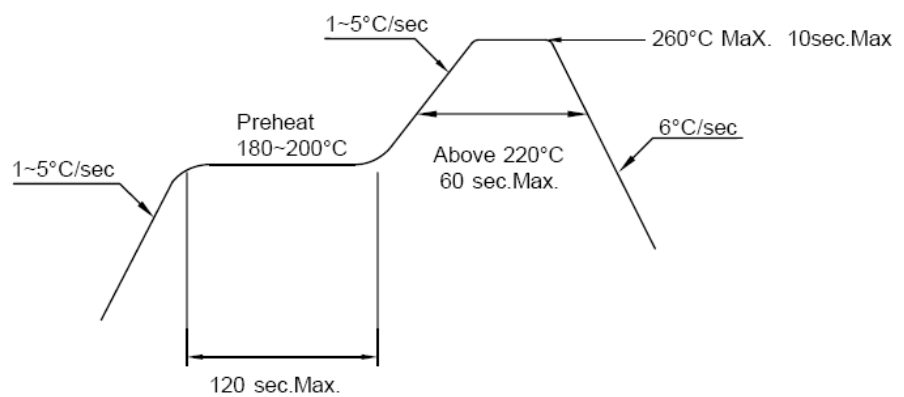


Recommended Soldering Conditions

1. Hand Solder

Basic spec is $\leq 280^{\circ}\text{C}$ 3 sec one time only.

2. PB-Free Reflow Solder



Note:

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

Precautions For Use:

Storage time:

1. Calculated shelf life before opening is 18 months at $< 30^{\circ}\text{C}$ and $< 90\%$ relative humidity (RH)
2. After bag is opened, devices which will be subjected to reflow soldering or other high temperature processes must be
 - a) Assembled within one years in an environment of $\leq 30^{\circ}\text{C} / 60\% \text{ RH}$, or
 - b) Stored at ambient of 10% RH or less
3. Devices are required baking before assembly if:
 - a) Humidity Indicator Card reads $>10\%$ (for level 2a -5a)
or $>60\%$ (for level 2) at ambient temperature $23\pm 5^{\circ}\text{C}$
 - b) 2.a) or 2.b) doesn't meet
4. If baking is required, devices should be baked for >72 hours at $60\pm 5^{\circ}\text{C} / 5\% \text{ RH}$. Performing baking only once, and using the baked devices within 72 hours.

MSL2

Drive Method:

LED is a current operated device, and therefore, require some kind of current limiting incorporated into the driver circuit. This current limiting typically takes the form of a current limiting resistor placed in series with the LED.

Consider worst case voltage variations than could occur across the current limiting resistor. The forward current should not be allowed to change by more than 40% of its desired value.

Cleaning:

Use alcohol-based cleaning solvents such as isopropyl alcohol to clean the LED.

ESD(Electrostatic Discharge):

Static Electricity or power surge will damage the LED. Use of a conductive wrist band or anti-electrostatic glove is recommended when handling these LED. All devices, equipment and machinery must be properly grounded.