

**SURFACE MOUNT LED TAPE AND REEL**



Lead-Free Parts

**PRELIMINARY**

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

## **LG-3528RGB-SB-MX**

# **DATA SHEET**

DOC. NO : QW0905-LG-3528RGB-SB-MX

REV. : A

DATE : 28 - Oct. - 2024

### Features:

1. Top view LED.
2. SMT package.
3. Leadframe package with individual 6 pin.
4. Wide viewing angle.
5. Soldering methods: IR reflow soldering.
6. Feature of the device: more light due to higher optical efficiency; extremely wide viewing angle; ideal for backlighting and coupling in light guide.

### Descriptions:

The 3528 SMD has wide viewing angle and optimized light coupling by inter reflector, The low current requirement makes this device ideal for portable equipment or any other application where power is at a premium.

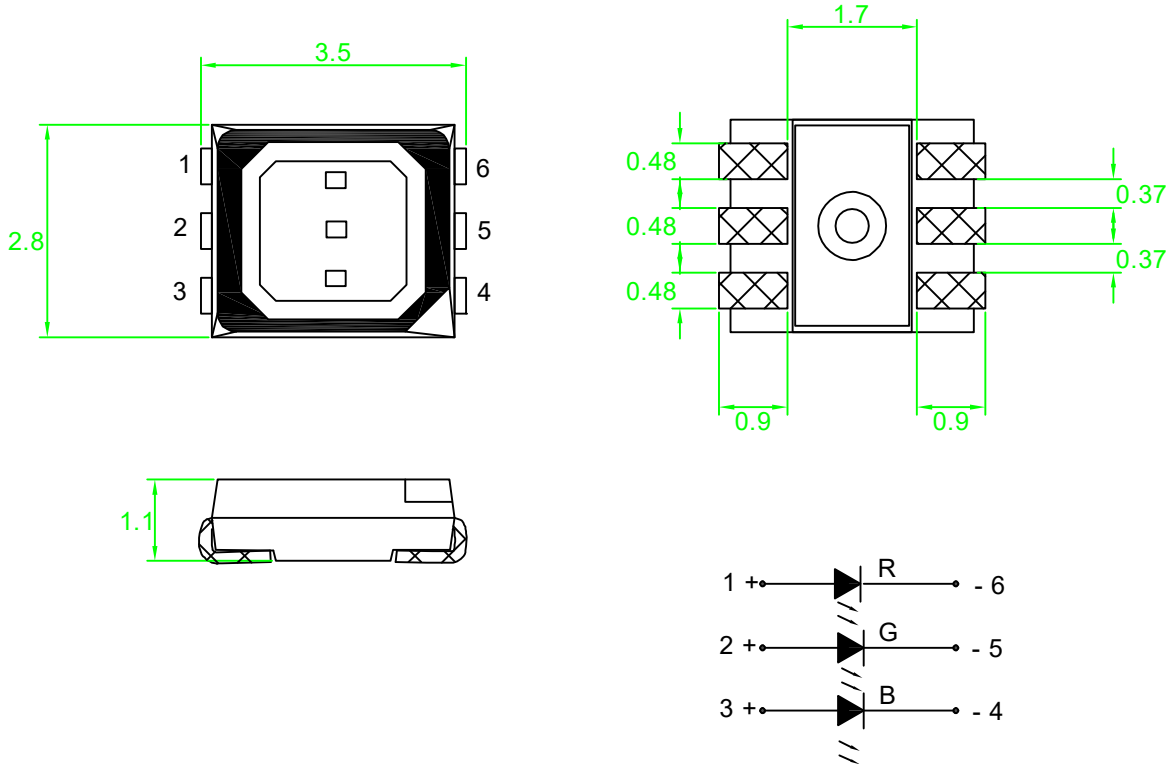
### Applications:

1. Indicators.
2. Detector.

### Device Selection Guide:

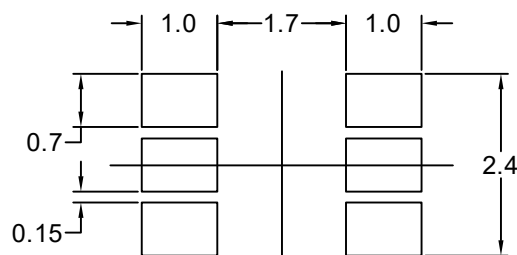
PART NO	MATERIAL	COLOR	
		Emitted	Lens
LG-3528RGB-SB-MX	AlGaInP	Red	Water Clear
	InGaN	Green	
	InGaN	Blue	

### Package Dimensions



Note : 1.All dimension are in millimeter tolerance is  $\pm 0.2\text{mm}$  unless otherwise noted.  
2.Specifications are subject to change without notice.

### Recommended Soldering Pad Dimensions



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

### Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Ratings			UNIT
		R	G	B	
Forward Current	IF	50	30	30	mA
Peak Forward Current Duty 1/10@10KHz	IFP	90	100	100	mA
Power Dissipation	PD	130	108	105	mW
Reverse Current @5V	Ir	10	50	50	μA
Electrostatic Discharge	ESD	2000	500	500	V
Operating Temperature	Topr	- 40 ~ + 85			°C
Storage Temperature	Tstg	- 40 ~ + 100			°C

### Typical Electrical & Optical Characteristics (Ta=25°C)

Items	Symbol	Min.	Typ.	Max.	UNIT	CONDITION	
Luminous Intensity	Iv	R	500	700	----	mcd	IF=20mA
		G	1000	1300	----		
		B	200	320	----		
Dominant Wavelength	λD	R	----	622	----	nm	IF=20mA
		G	----	520	----		
		B	----	465	----		
Spectral Line Half-Width	Δλ	R	----	20	----	nm	IF=20mA
		G	----	36	----		
		B	----	30	----		
Forward Voltage	VF	R	1.7	----	2.6	V	IF=20mA
		G	2.8	----	3.6		
		B	2.7	----	3.5		
Viewing Angle	2θ 1/2	R	----	120	----	deg	IF=20mA
		G	----	120	----		
		B	----	120	----		

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

**Color Cade Classification**

BIN CODE		Iv(mcd) at 20mA	
		Min.	Max.
R	U	500	800
	V-1	800	1000
	V-2	1000	1250

BIN CODE		Iv(mcd) at 20mA	
		Min.	Max.
G	V-2	1000	1250
	W-1	1250	1600
	W-2	1600	2000

BIN CODE		Iv(mcd) at 20mA	
		Min.	Max.
B	S	200	320
	T	320	500
	U	500	800

## Typical Electro-Optical Characteristics Curve

### R CHIP

Fig.1 Forward current vs. Forward Voltage

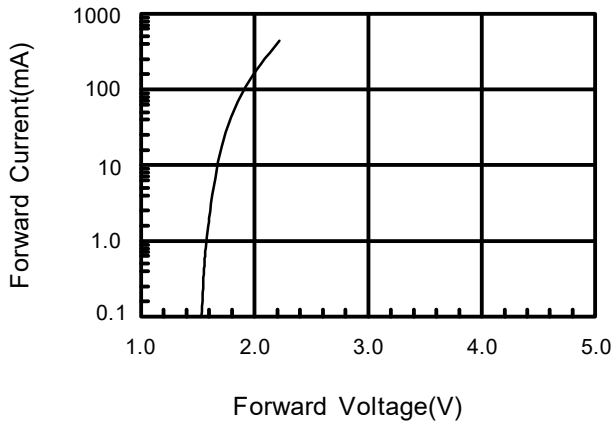


Fig.2 Relative Intensity vs. Forward Current

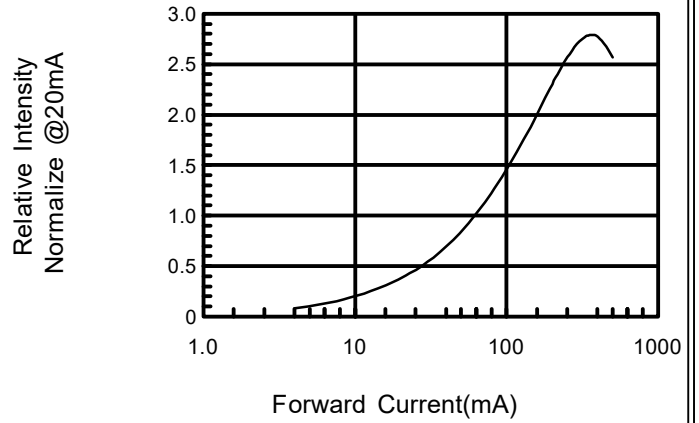


Fig.3 Forward Voltage vs. Temperature

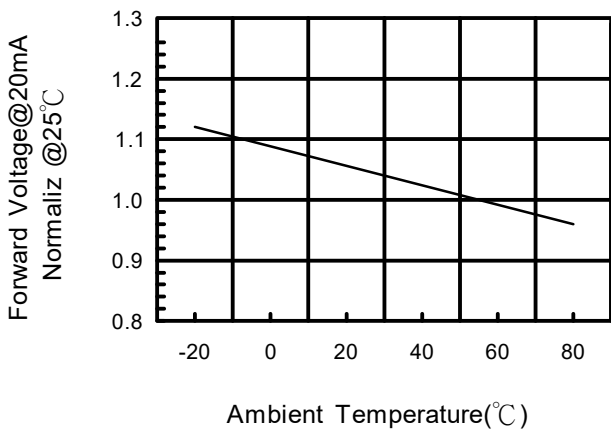


Fig.4 Relative Intensity vs. Temperature

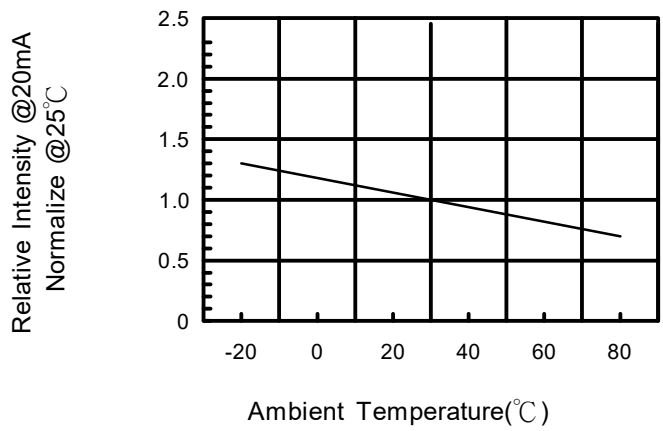


Fig.5 Relative Intensity vs. Wavelength

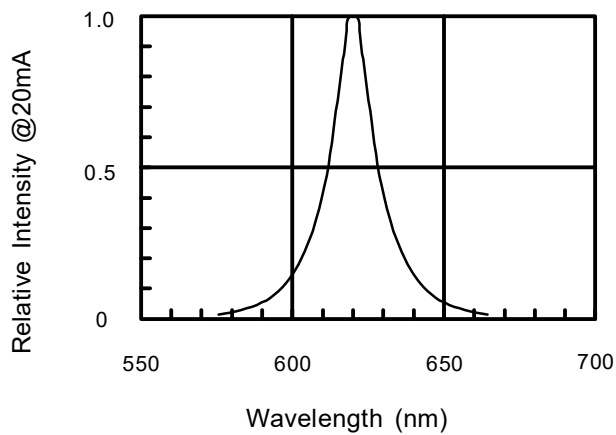
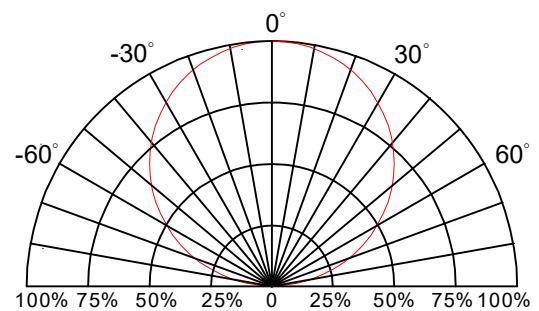


Fig.6 Directive Radiation



## Typical Electro-Optical Characteristics Curve

G CHIP

Fig.1 Forward current vs. Forward Voltage

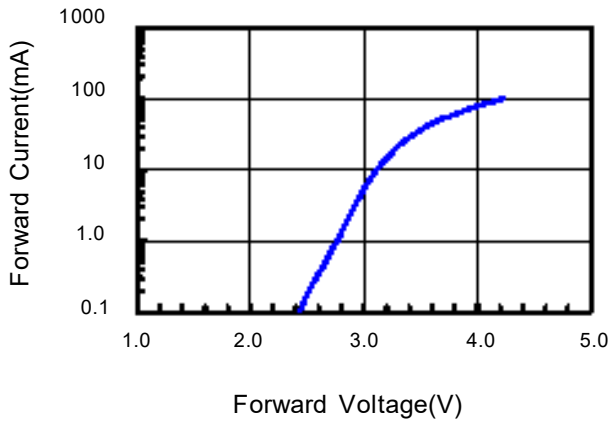


Fig.2 Relative Intensity vs. Forward Current

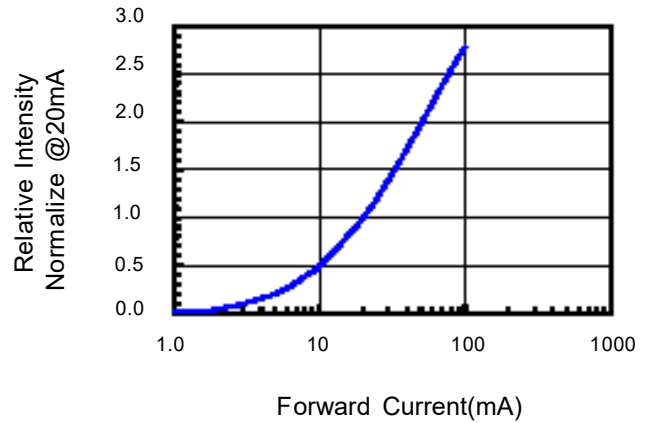


Fig.3 Forward Voltage vs. Temperature

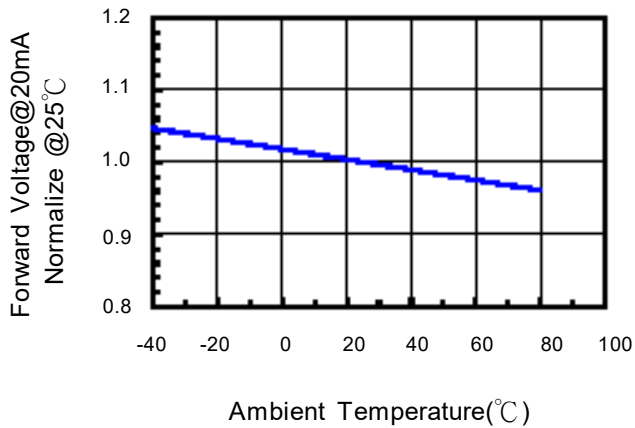


Fig.4 Relative Intensity vs. Temperature

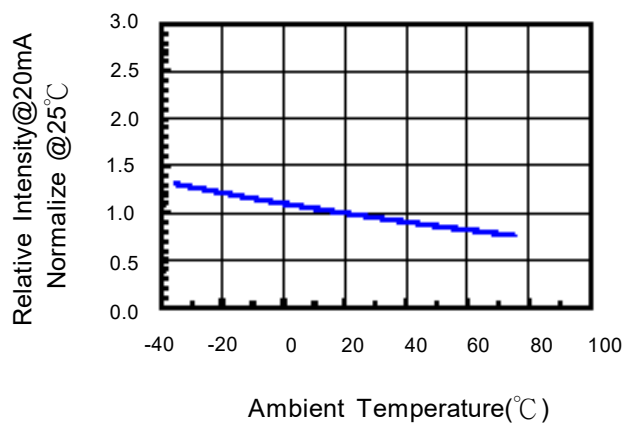


Fig.5 Relative Intensity vs. Wavelength

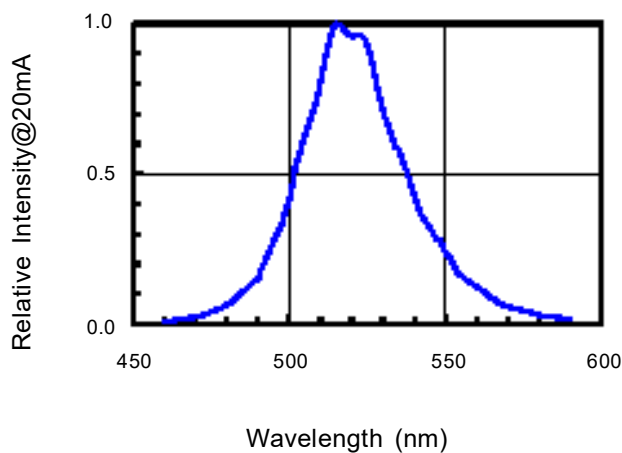
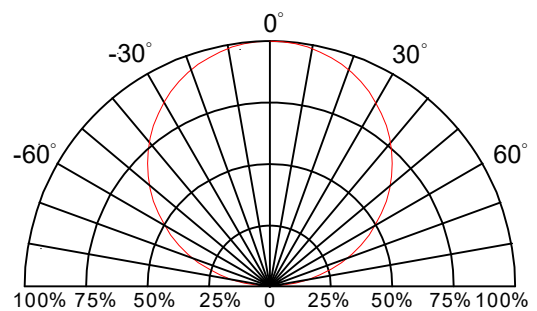


Fig.6 Directive Radiation



## Typical Electro-Optical Characteristics Curve

B CHIP

Fig.1 Forward current vs. Forward Voltage

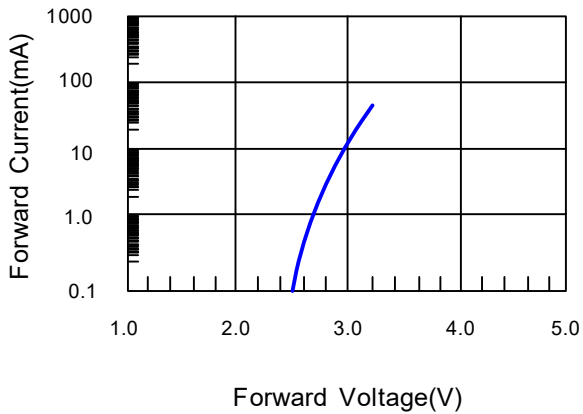


Fig.2 Relative Intensity vs. Forward Current

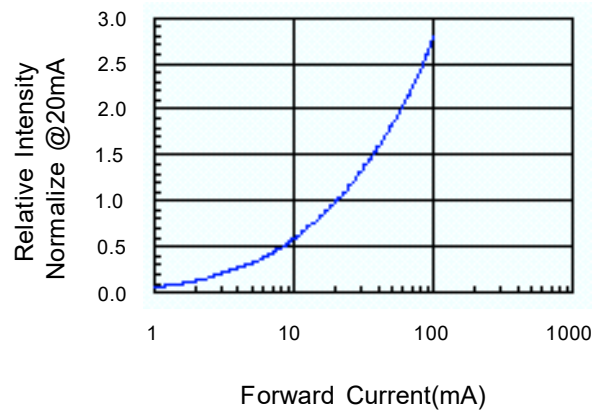


Fig.3 Forward Voltage vs. Temperature

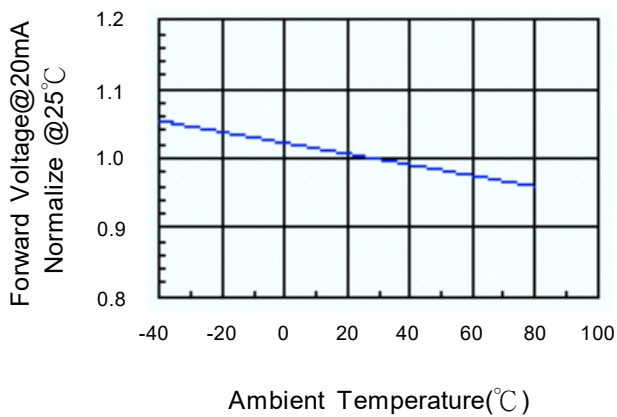


Fig.4 Relative Intensity vs. Temperature

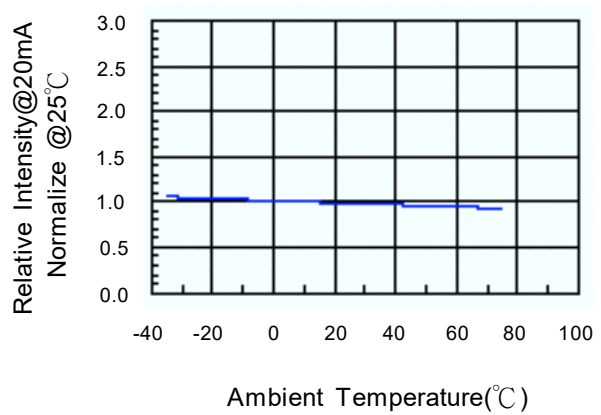


Fig.5 Relative Intensity vs. Wavelength

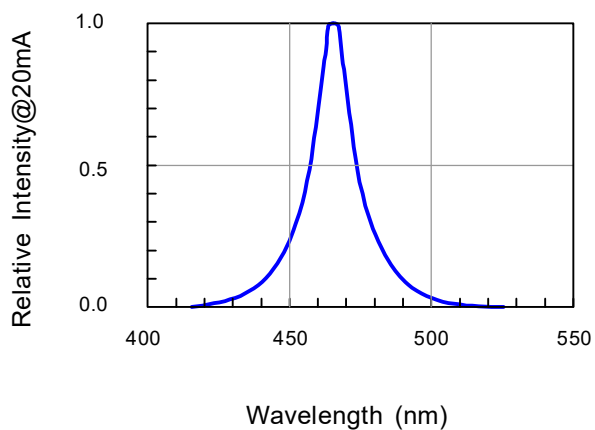
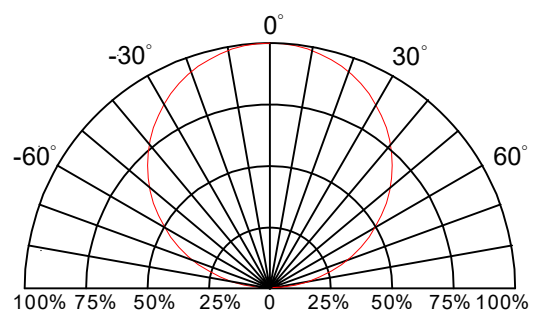
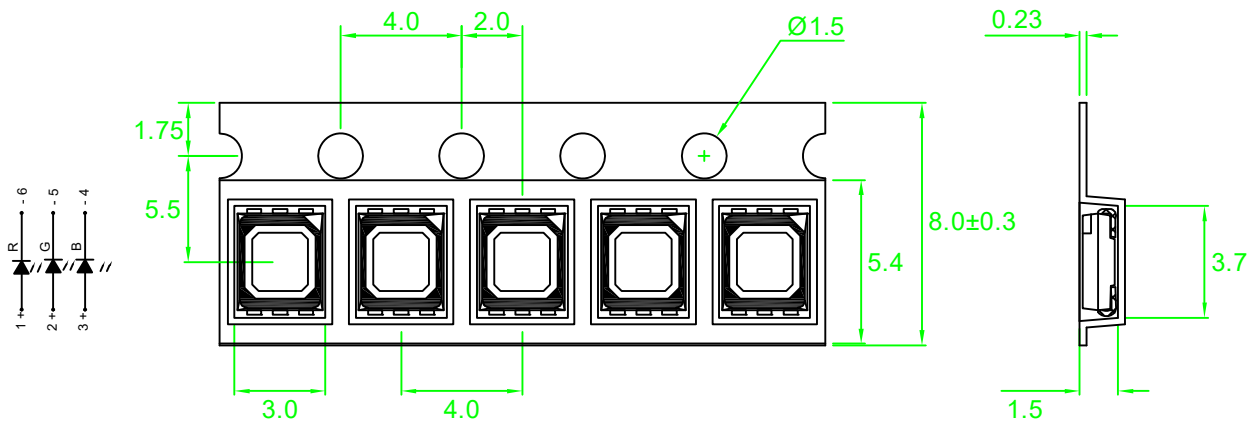


Fig.6 Directive Radiation

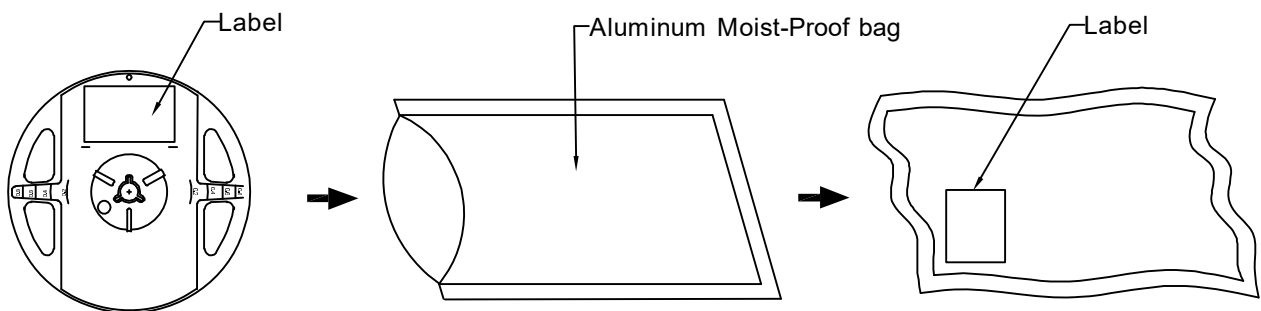


## Carrier Type Dimensions



Note : The tolerances unless mentioned is  $\pm 0.1\text{mm}$ , Angle  $\pm 0.5$ . Unit=mm.

### • Packing Specifications



Part No.	Description	Quantity/Reel
LG-3528RGB-SB-MX	8.0mm tape,7"reel	2000 PCS