



BRIGHTTEK
BRIGHTTEK (EUROPE) LIMITED

Brighten up The World With LED!



ISO/TS 16949:2009



BS EN ISO 14001:2004



QC 080000 IECQ HSPM

PRODUCT DATASHEET



- ▶ Ceramic SMD
- ▶ 5864 1.21t Series
- ▶ W/R/G/B 4-in-1

NOM62S29Z



Release Date: 06 September 2022 Version: A1.0



5864 1.21t Series

RoHS
Compliant



FEATURES:

* in order of White/Red/Green/Blue

- **Package:** TOP View Ceramic WRGB SMT Package
- **Forward Current:** 1~5A per colour
- **Forward Voltage (typ.):** 3.1/2.2/3.1/3.1V*
- **Luminous Flux (typ.):** 55lm/140lm/520lm/2500mW@1.4A
- **Colour:** Cook White/Red/Green/Royal Blue
- **CCT/Wavelength:** 6500K/620/525/455nm
- **Viewing angle:** 120°
- **Materials:**
 - Die: InGaN/AlGaInP/InGaN/InGaN
 - Resin: Glass
 - L/T Finish: Au plated
- **Operating Temperature:** -40~+85°C
- **Storage Temperature:** -40~+85°C
- **Electrostatic Discharge (HBM):** 8000V per colour
- **Grouping parameters:**
 - Forward Voltage
 - Luminous Flux
 - CCT/Dominant Wavelength
- **Soldering methods:** Reflow
- **MSL Level:** 3 according to J-STD020
- **Packing:** 16mm tape with max.500/reel, ϕ 178mm (7")

APPLICATIONS:

- Decorative Lighting
- Stage Lighting
- Outdoor Lighting
- Commercial Lighting
- Architectural Lighting
- Pool and Fountain Light
- Led Torch
- Mini Projector

CHARACTERISTICS:

Absolute Maximum Characteristics (Ta=25°C)

Parameter	Symbol	Ratings	Unit
DC Forward Current	I _F	5000	mA
Junction Temperature	T _j	125	°C
Electrostatic Discharge (HBM)	ESD	8000	V
Operating Temperature	T _{OPR}	-40~+85	°C
Storage Temperature	T _{STG}	-40~+85	°C
Soldering Temperature	T _{SOL}	230 or 260 for 10S	°C

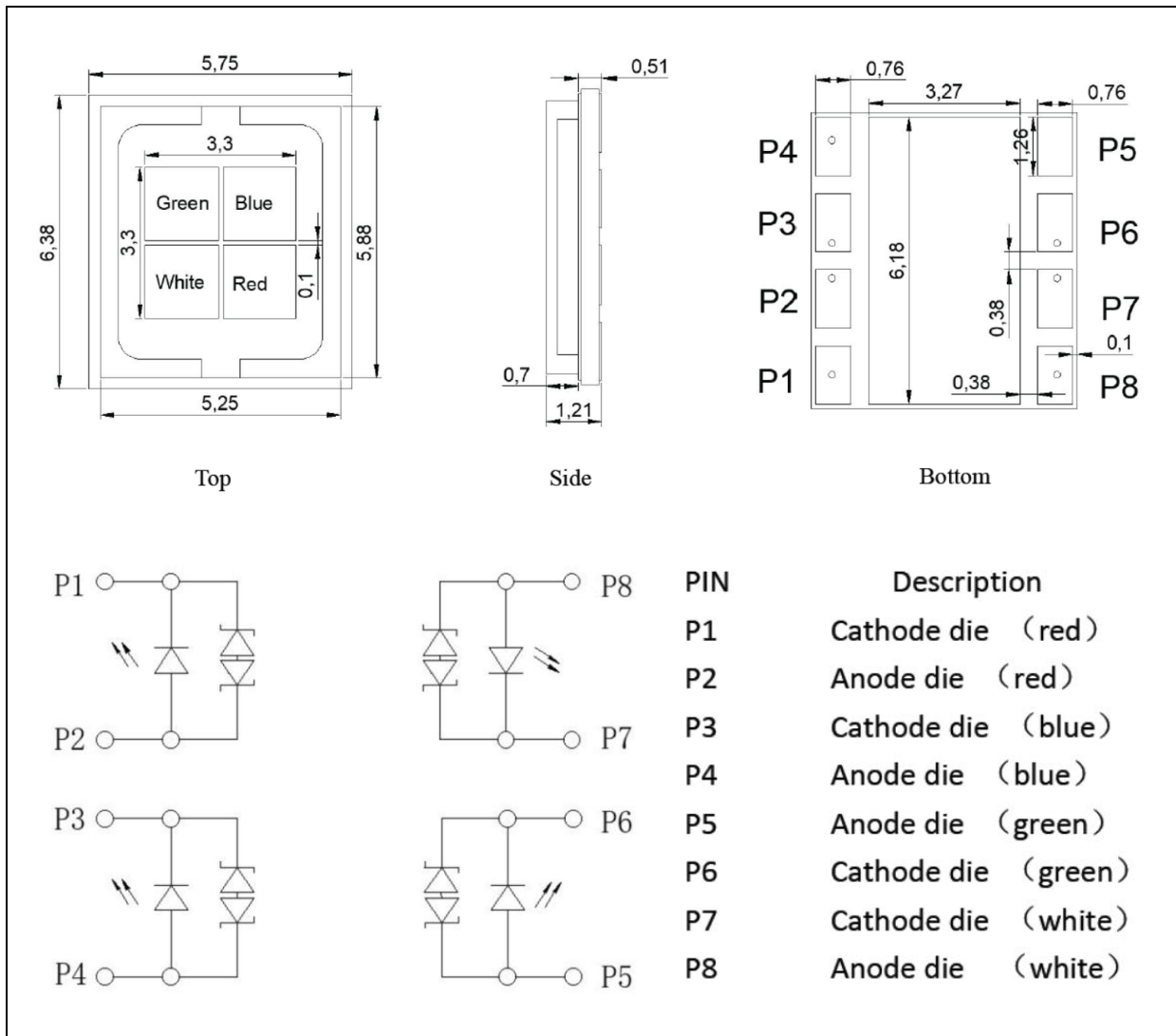
Electrical & Optical Characteristics (Ta=25°C)

Parameter	Symbol	Values			Unit	Test Condition	
		Min.	Typ.	Max.			
Forward Voltage	V _F	2.6/1.8/2.6/2.6*	3.1/2.2/3.1/3.1	---	V	I _F =1.4A	
Luminous Flux	W	Φ _v	450	555	---	lm	I _F =1.4A
	R		100	140	---		
	G		400	520	---		
Radiant Power	B	P _o	2000	2500	---	mW	I _F =1.4A
Chromaticity Coordinates	X	---	0.3130	---	---	I _F =1.4A	
	Y	---	0.3280	---			
White Colour Temperature	CCT	---	6500	---	K	I _F =1.4A	
R/G/B Dominant Wavelength	λ _D	615/520/450	620/525/455	630/530/460	nm	I _F =1.4A	
Viewing Angle	2θ _{1/2}	---	120	---	deg	I _F =1.4A	

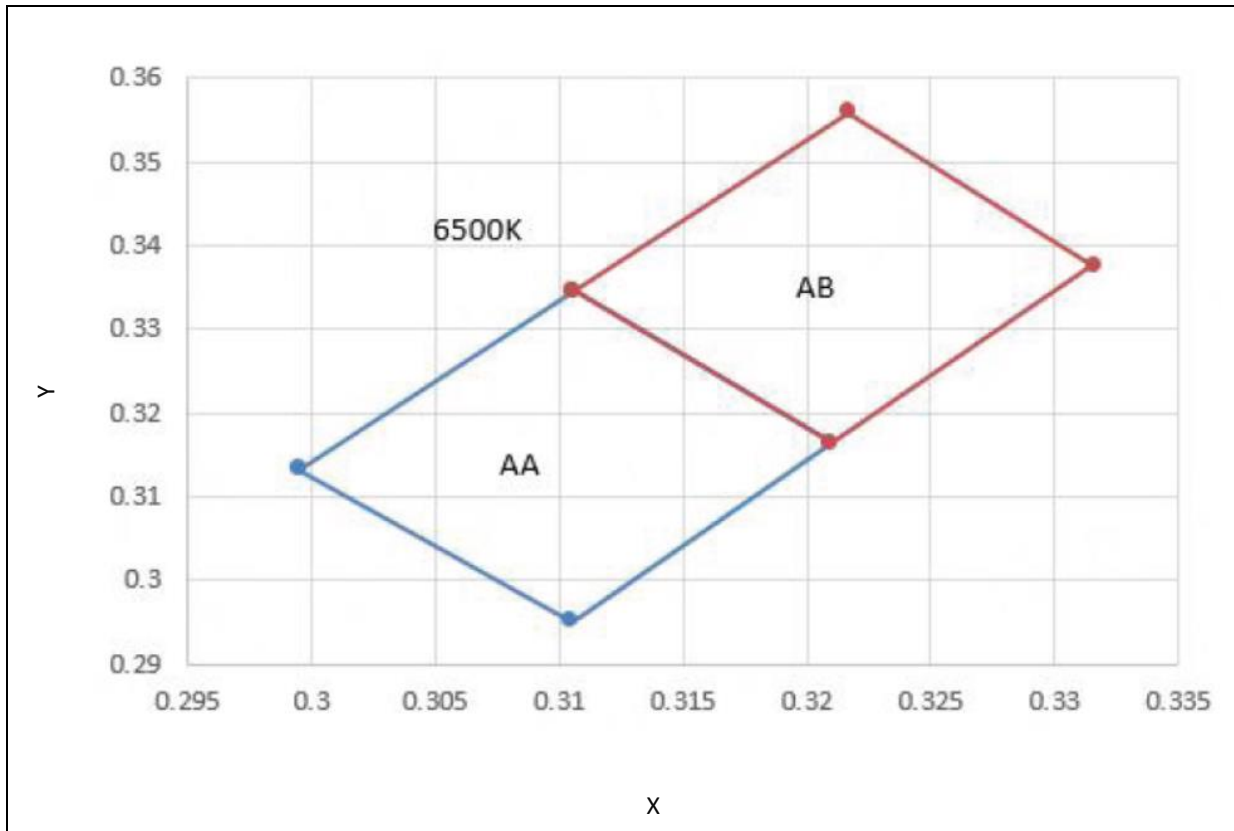
1. Luminous flux (Φ_v) ±10%, Forward Voltage (V_F) ±0.5V
2. * in order of White/Red/Green/Blue

OUTLINE DIMENSION:

Package Dimension:



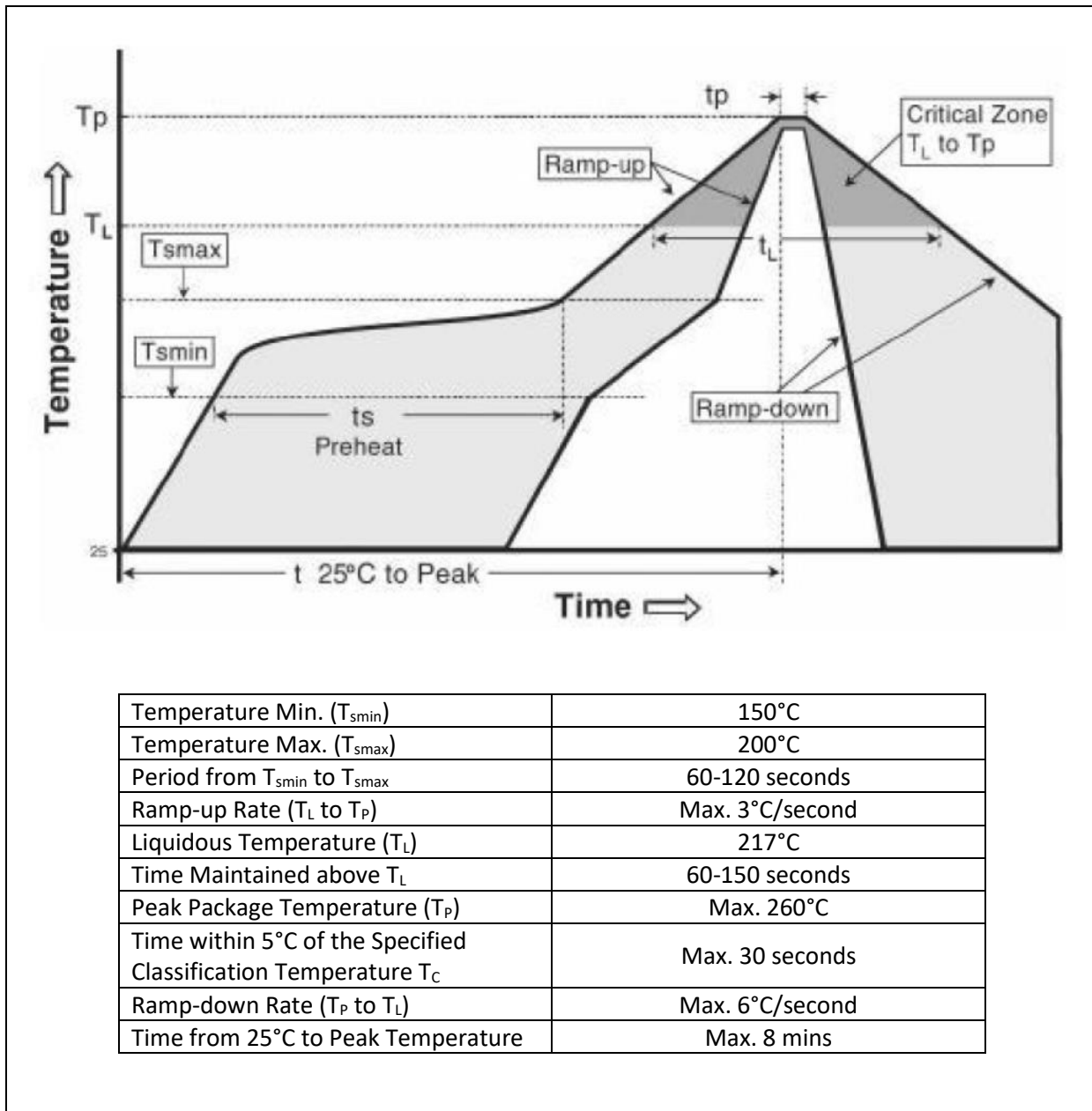
1. All dimensions are in millimetre (mm).
2. Tolerance ± 0.2 mm, unless otherwise noted.

CIE CHROMATICITY DIAGRAM:

 Chromaticity Coordinates Classifications ($I_F = 1.4A$):

	1		2		3		4	
	X	Y	X	Y	X	Y	X	Y
AA	0.2995	0.3132	0.3106	0.3345	0.3210	0.3164	0.3105	0.2951
AB	0.3106	0.3345	0.3217	0.3558	0.3315	0.3376	0.3210	0.3164

RECOMMENDED SOLDERING PROFILE:

Reflow Lead-free Solder:



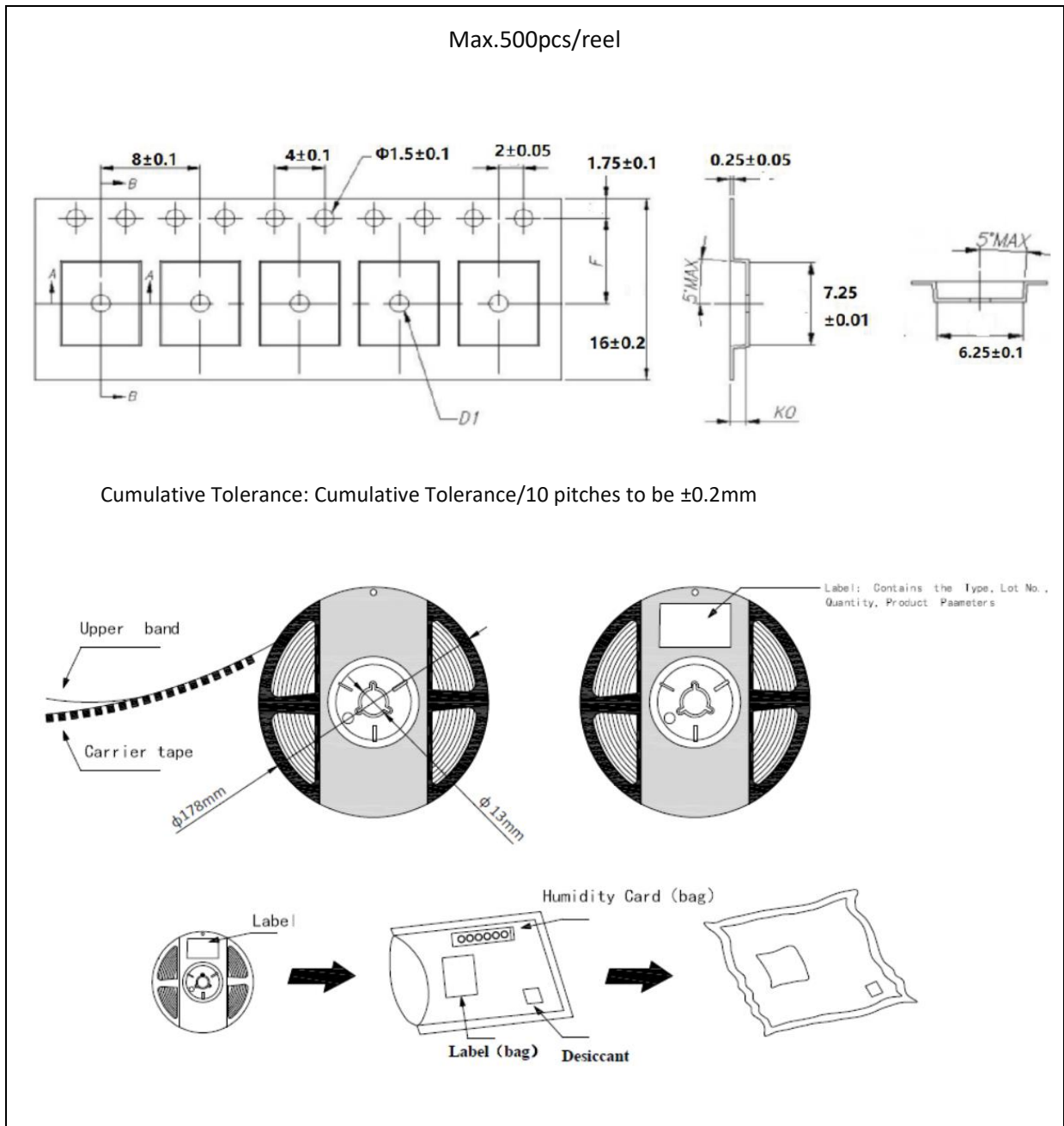
Note:

1. Die slug is to be soldered.
2. Maximum reflow soldering: 2 times. Between two soldering it should not be longer than 24 hours.
3. Before, during, and after soldering, should not apply stress on the components and PCB board.
4. Recommended soldering temperature: 240°C. The maximum soldering temperature should be limited to 260°C for max. 10seconds.



PACKING SPECIFICATION:

Reel Dimension:



PRECAUTIONS OF USE:

Storage:

It is recommended to store the products in the following conditions:

- Humidity: 60% R.H. Max.
- Temperature: 5°C~30°C (41°F ~86°F).

Shelf life in sealed bag: 12 months at 5°C~30°C and <60% R.H.

Once the package is opened, the products should be used within a week. Otherwise, they should be kept in a damp-proof box with desiccating agent <10% R.H. and apply baking before use.

Baking:

It is recommended to bake the LED before soldering if the pack has been unsealed for longer than 24hrs. The suggested baking conditions are as followings:

- 60±5°C x 24hrs and <5%RH, taped / reel package.

It's normal to see slight color fading of carrier (light yellow) after baking in process.

Testing Circuit:



Must apply resistor(s) for protection (over current proof).

Cleaning:

Use alcohol-based cleaning solvents such as isopropyl alcohol to clean the LED carrier / package. Avoid putting any stress force directly on to the LED lens.

ESD (Electrostatic Discharge):

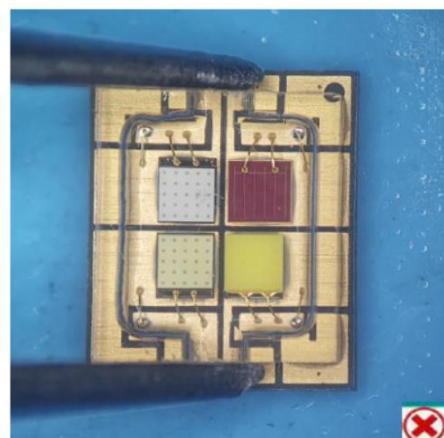
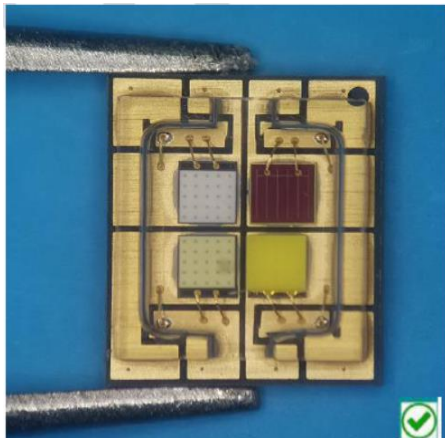
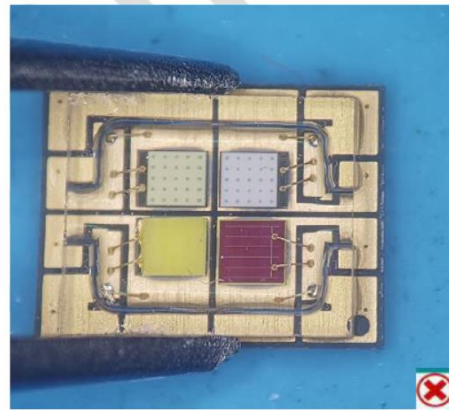
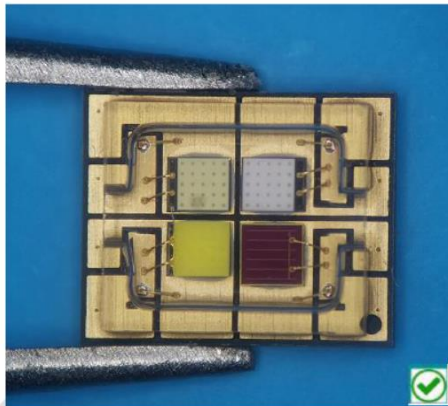
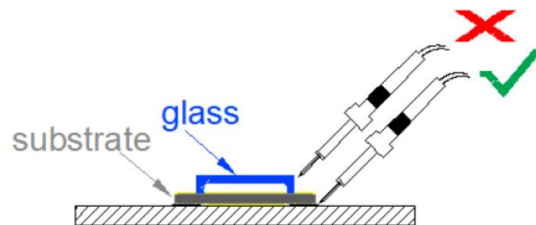
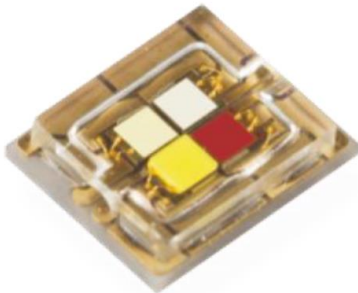
Static Electricity or power surge will damage the LED. Use of a conductive wrist band or anti-electrostatic glove is recommended when handling the LED all time. All devices, equipment, machinery, work tables, and storage racks must be properly grounded.

In the events of manual working in process, make sure the devices are well protected from ESD at any time.

Precautions for taking the product (including glass):

Product is packaged with glass cover to protect the light-emitting zone, please pay attention to the following matters:

1. Please avoid the light-emitting area from being pressed, rubbed, and contact with sharp metal part which would damage the product.
2. Pay attention to the protection of LED surface to avoid damage, pollution, thus will affect normal optical characteristic.
3. Please use anti-static tweezer instead of hand when take LED device, and avoid touching glass, just take the edge of substrate (as below figure).
4. When repairing of the LEDs which have been soldered is unavoidable, a double-head soldering iron should be better to use, if using general electric soldering iron, do not touch light-emitting zone (glass).



REVISION RECORD:

Version	Date	Summary of Revision
A1.0	06/09/2022	Datasheet set-up.