



YETDA INDUSTRY LTD.

Technical Data Sheet

MODEL NO : 5060RGB4-M

Features :

- 5.0x5.0x1.6mm SMD LED
- Compatible with automatic placement equipment
- Compatible with reflow solder process

Applications :

- Indicators
- Automotive : backlighting in dashboard and switch
- Backlight for LCD

Dice material	Emitted color	Lens Color
InGaN	BLUE	Water Clear
InGaAlP	RED	
InGaN	GREEN	

Electrical/Optical Characteristics(Ta=25°C)

Parameter	Test Condition	Symbol	Color	Value			Unit
				Min	Typ	Max	
Dominant wavelength	I _F =20mA	λ _D	B	464	-	473	nm
			R	617	-	629	
			G	518	-	530	
Forward voltage	I _F =20mA	V _F	B	2.8	-	3.6	V
			R	1.8	-	2.6	
			G	2.8	-	3.6	
Luminous intensity	I _F =20mA	I _v	B	295	-	650	mcd
			R	385	-	650	
			G	845	-	1800	
Viewing angle at 50% I _v	I _F =20mA	2θ 1/2	RGB	-	120	-	Deg
Reverse current	V _R =5V	I _R	RGB	-	-	10	μA

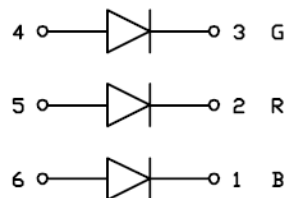
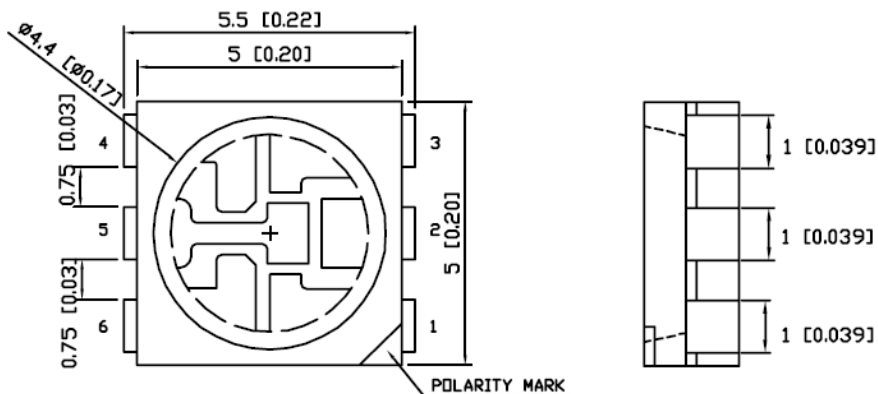


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Absolute Maximum Ratings(Ta=25°C)

Parameter	Symbol	Value			Unit
		B	R	G	
Power dissipation	Pd	100	62	100	mW
Forward current	I _F	25			mA
Reverse voltage	V _R	5			V
Operating temperature range	Top	-40 ~+85			°C
Storage temperature range	Tstg	-40 ~+100			°C
Peak pulsing current (1/8 duty f=1kHz)	I _{FP}	100			mA

PACKAGING DIMENSIONS (mm):



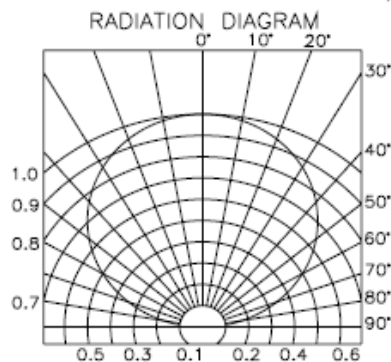
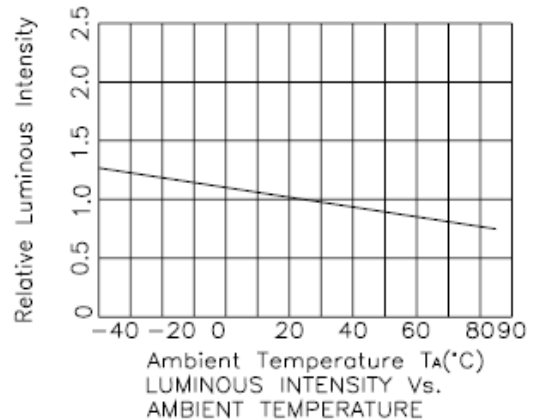
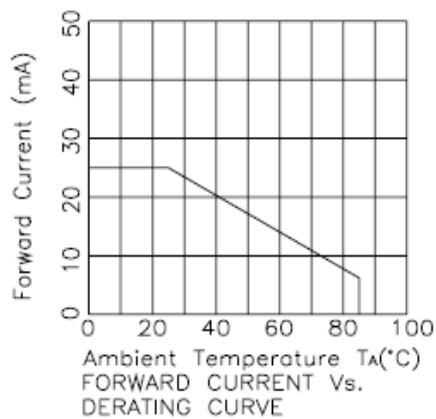
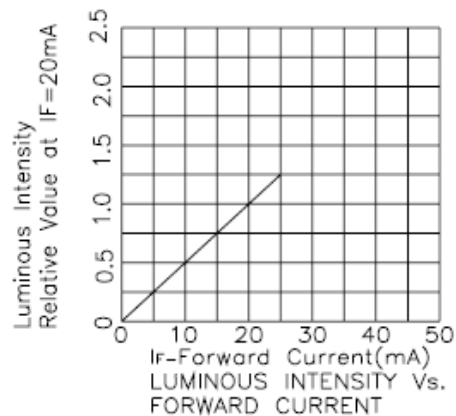
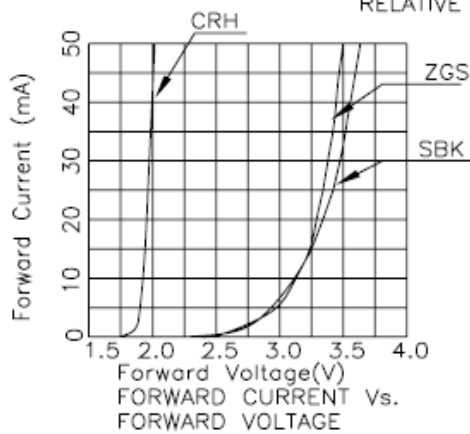
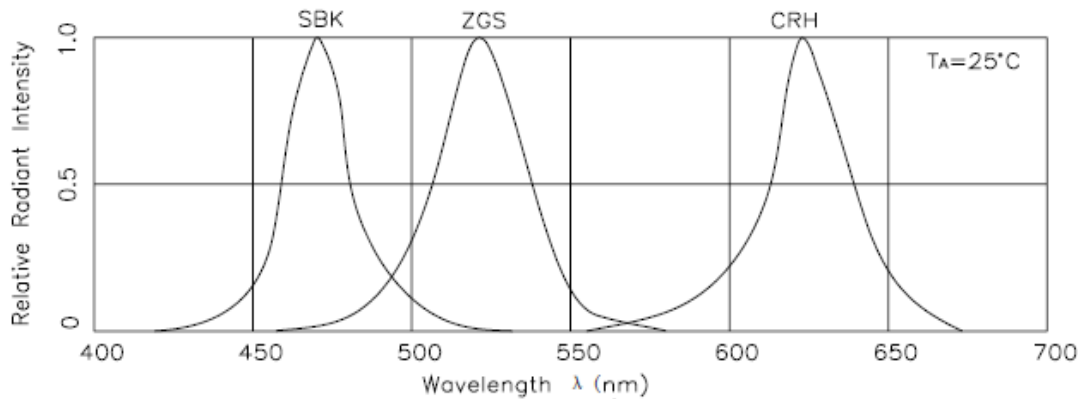
Notes:

1. All dimensions are in millimeters.
2. Tolerance is ± 0.25 unless otherwise noted.
3. Specifications are subject to change without notice.



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Typical Optical Characteristics curves





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◆ λD Rank

BLUE

Rank	λD (nm)		Condition
	Min	Max	
4	464	467	IF=20 mA
5	467	470	
6	470	473	

RED

Rank	λD (nm)		Condition
	Min	Max	
5	617	621	IF=20 mA
6	621	625	
7	625	629	

GREEN

Rank	λD (nm)		Condition
	Min	Max	
7	518	521	IF=20 mA
8	521	524	
9	524	527	
1A	527	530	

Tolerance: ± 1 nm

◆ IV Rank

BLUE

Rank	IV(mcd)		Condition
	Min	Max	
S	295	385	IF=20 mA
T	385	500	
U	500	650	

RED

Rank	IV(mcd)		Condition
	Min	Max	
T	385	500	IF=20 mA
U	500	650	

GREEN

Rank	IV(mcd)		Condition
	Min	Max	
W	845	1100	IF=20 mA
X	1100	1400	
Y	1400	1800	

Tolerance: $\pm 15\%$

Precautions For Use :

Over - current - proof

Customer must apply resistors for protection, otherwise slight voltage shift will cause big current change (Burn out will happen)

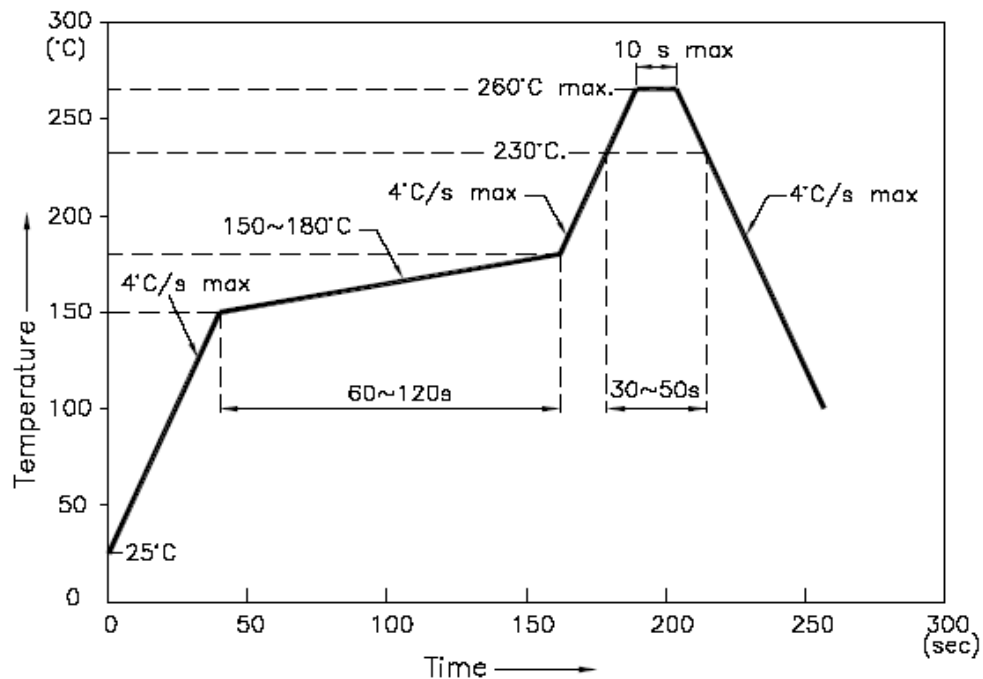
Storage

1. The operation of temperature and R.H. are : $5^{\circ}\text{C} \sim 30^{\circ}\text{C}$, 60%R.H. Max.
2. Once the package is opened, the products should be used within a week. Otherwise, they should be kept in a dampproof box with desiccating regent. Considering the tape life, we suggest our customers to use our products within 1.5 year (from production date) .
3. It's recommended to bake before soldering when the package is unsealed after 72 hrs. The condition is : $60^{\circ}\text{C} \pm 5^{\circ}\text{C}$ for 15hrs.



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■ Reflow Temp/Time



NOTES:

1. We recommend the reflow temperature $245^{\circ}\text{C} (\pm 5^{\circ}\text{C})$. the maximum soldering temperature should be limited to 260°C .
2. dont cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

■Soldering iron

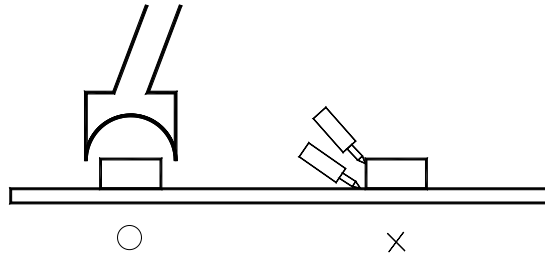
Basic spec is $\leq 5\text{sec}$ when 260°C . If temperature is higher, time should be shorter ($+10^{\circ}\text{C} \rightarrow -1\text{sec}$). Power dissipation of iron should be smaller than 20W, and temperatures should be controllable. Surface temperature of the device should be under 230°C .

■Rework

1. Customer must finish rework within 5 sec under 260°C .
2. The head of iron can not touch copper foil
3. Twin-head type is preferred.



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- Avoid rubbing or scraping the resin by any object, during high temperature, for example reflow 、 solder etc.