



YETDA INDUSTRY LTD.

Technical Data Sheet

MODEL NO : S5060RGBxMG

5060 package 5.0 x 5.5mm RGB LED

Features :

- Package in 8mm tape on 7" diameter reel
- Compatible with automatic placement equipment
- Compatible with reflow solder process
- Common Anode.

Applications :

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

Dice material	Emitted color	Lens Color
AlGaInP/ InGaN	RGB	Water transparent

Electro-Optical Characteristics (Ta = 25°C)

Parameter		Test Condition	Symbol	Min.	Typ.	Max.	Unit
Forward Voltage	Red	IF = 20mA	VF	1.8		2.6	V
	Green			2.8		3.6	
	Blue			2.8		3.6	
Reverse Current		VR =5V	IR			10	uA
Luminous Intensity	Red	IF = 20mA	Iv		600		mcd
	Green				1800		
	Blue				400		
Wavelength	Red	IF = 20mA	λD	617		629	nm
	Green			518		530	
	Blue			464		473	

Absolute Maximum Ratings(Ta=25°C)

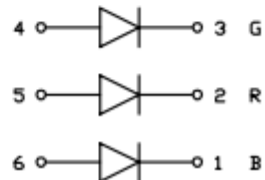
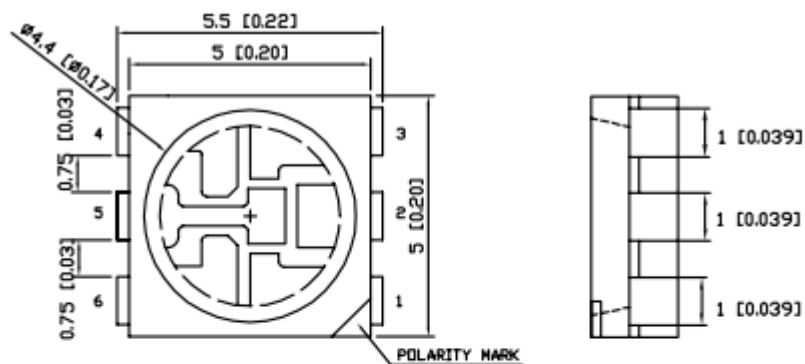
Parameter	Symbol	Value R/G/B	Unit
Power dissipation	Pd	62/100/100	mW
Forward current	IF	25	mA
Reverse voltage	VR	5	V
Operating temperature range	Top	-40 ~+85	°C
Storage temperature range	Tstg	-40 ~+85	°C
Peak pulsing current (1/8 duty f=1kHz)	IFP	100	mA



YETDA INDUSTRY LTD.

PACKAGING DIMENSIONS

(Units:mm)





YETDA INDUSTRY LTD.

Typical Electro-Optical Characteristics Curve: for Red

Fig 1. Forward Current vs. Forward Voltage

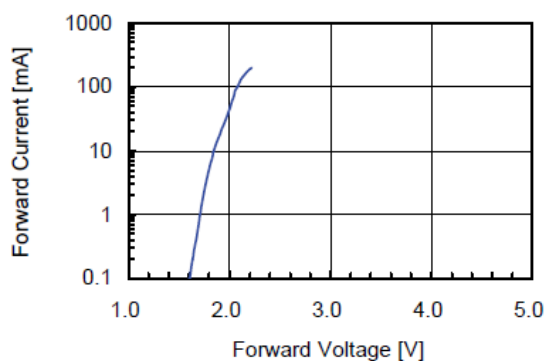


Fig 2. Relative Intensity vs. Forward Current

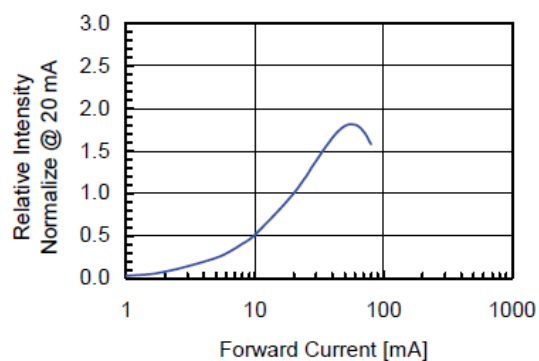


Fig 3. Forward Voltage vs. Temperature

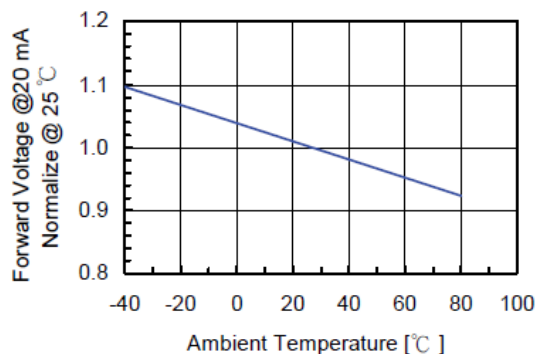


Fig 4. Relative Intensity vs. Temperature

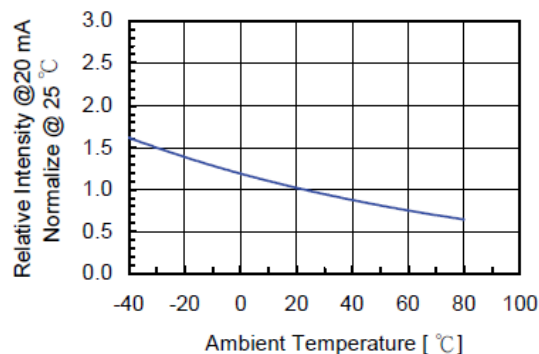
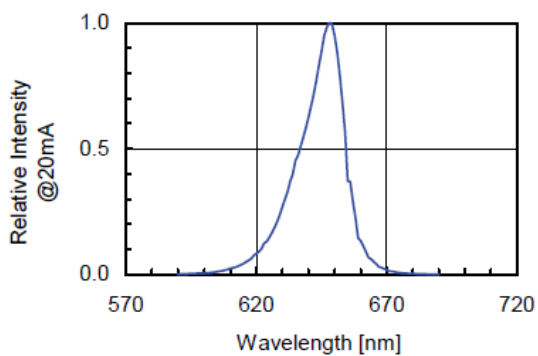


Fig 5. Relative Intensity vs. Wavelength





YETDA INDUSTRY LTD.

Typical Electro-Optical Characteristics Curve: Green

Fig 1. Forward Current vs. Forward Voltage

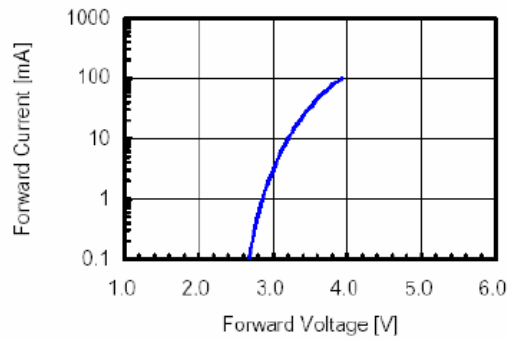


Fig 2. Relative Intensity vs. Forward Current

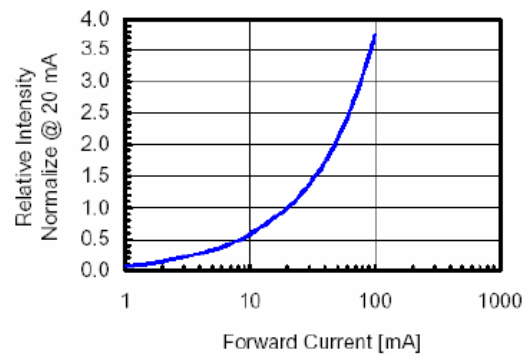


Fig 3. Forward Voltage vs. Temperature

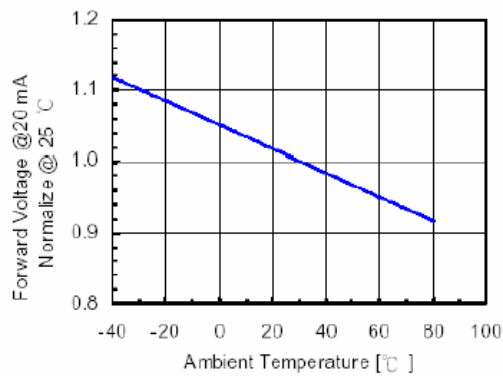


Fig 4. Relative Intensity vs. Temperature

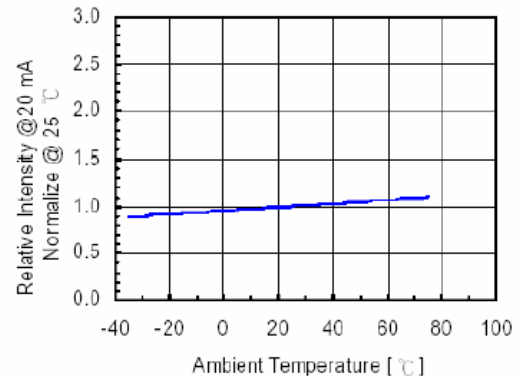
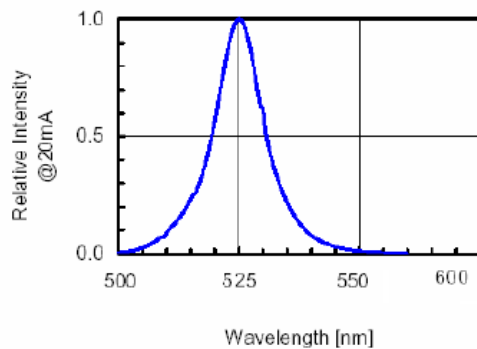


Fig 5. Relative Intensity vs. Wavelength





YETDA INDUSTRY LTD.

Typical Electro-Optical Characteristics Curve: for Blue

Fig 1. Forward Current vs. Forward Voltage

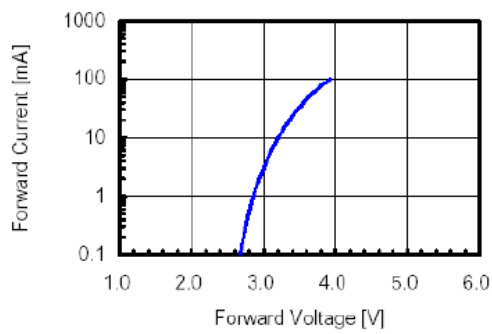


Fig 2. Relative Intensity vs. Forward Current

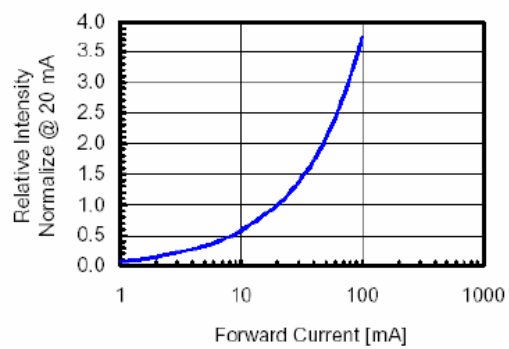


Fig 3. Forward Voltage vs. Temperature

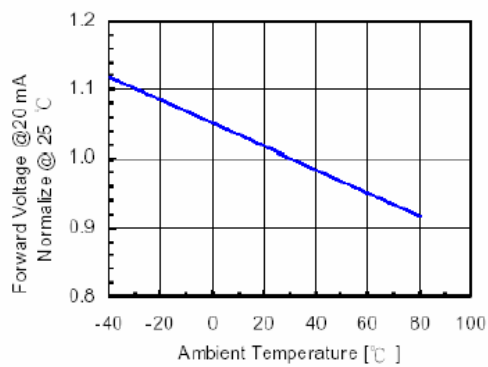


Fig 4. Relative Intensity vs. Temperature

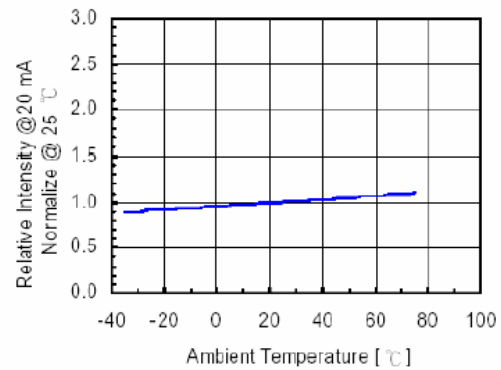
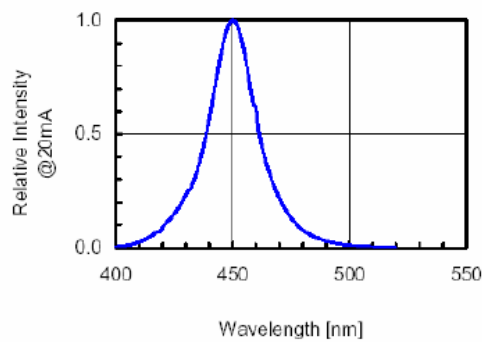


Fig 5. Relative Intensity vs. Wavelength





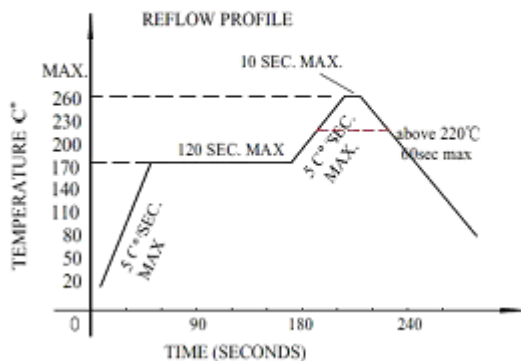
YETDA INDUSTRY LTD.

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.

■ Reflow Temp/Time

■ Temperature-profile (Surface of circuit board)

Use the following conditions shown in the figure.



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

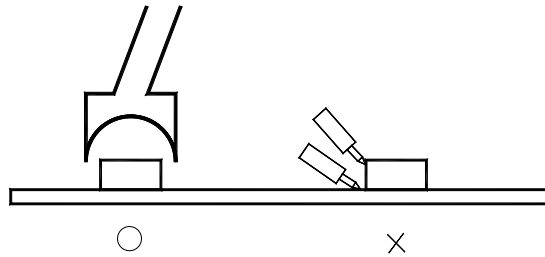
Basic spec is $\leq 5\text{sec}$ when 260°C . If temperature is higher, time should be shorter ($+10^{\circ}\text{C} \rightarrow -1\text{sec}$). Power dissipation of iron should be smaller than 20W, and temperatures should be controllable . Surface temperature of the device should be under 230°C .



YETDA INDUSTRY LTD.

■ 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.



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

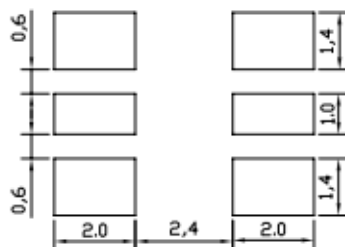


Reflow Soldering Profile For Lead-free SMT Process.



1. We recommend the reflow temperature 245°C(+/-5°C). The maximum soldering temperature should be limited to 260°C.
2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

(Units:mm)



(Units:mm)

