

YETDA INDUSTRY LTD.

Technical Data Sheet

MODEL NO : 776RGB4-M

3528 Package 2.8*3.2mm Chip

Features :

- Package in 8mm tape on 7" diameter reel
- 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
AlGaInP/ InGaN	RGB	Water transparent

Electro-Optical Characteristics (Ta = 25°C)

Parameter	Test Condition	Symbol	Min.	Typ.	Max.	Unit
Forward Voltage	IF = 20mA	VF	Red		2.6	V
			Green	1.8	2.6	
			Blue	2.8	3.6	
Reverse Current	VR =5V	IR			10	uA
Luminous Intensity	IF = 20mA	Iv	Red		385	mcd
			Green	170	170	
			Blue	80	500	
Wavelength	IF = 20mA	λD	Red		629	nm
			Green	617	576	
			Blue	568	473	

Absolute Maximum Ratings(Ta=25°C)

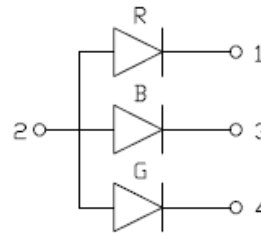
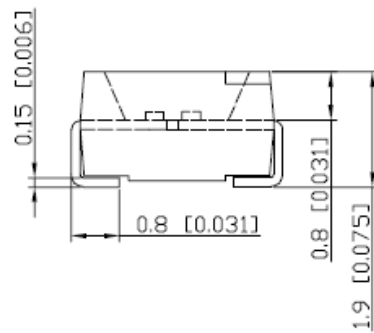
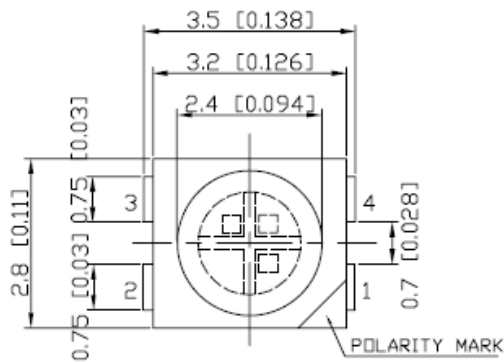
Parameter	Symbol	Value R/G/B	Unit
Power dissipation	Pd	62/62/100	mW
Forward current	IF	20	mA
Reverse voltage	VR	5	V
Operating temperature range	Top	-20 ~+80	°C
Storage temperature range	Tstg	-40 ~+80	°C
Peak pulsing current (1/8 duty f=1kHz)	IFP	125	mA



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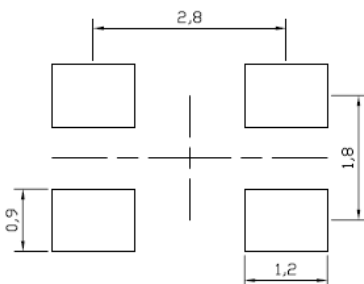
PACKAGING DIMENSIONS

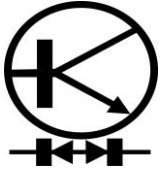
(Units:mm)



Recommended soldering pattern

(Units:mm)





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Typical Electro-Optical Characteristics Curve: for Red

Fig 1. Forward Current vs. Forward Voltage

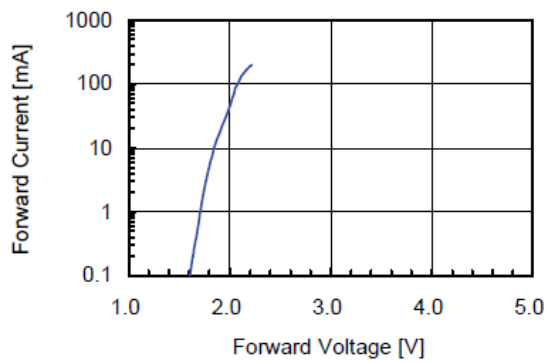


Fig 2. Relative Intensity vs. Forward Current

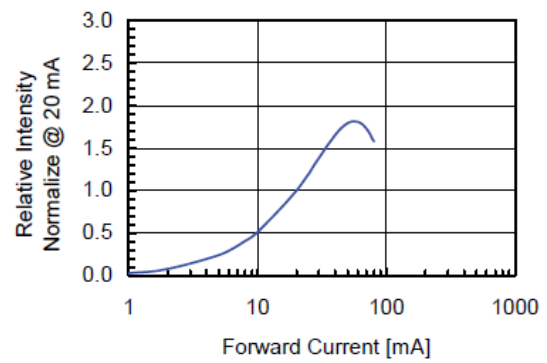


Fig 3. Forward Voltage vs. Temperature

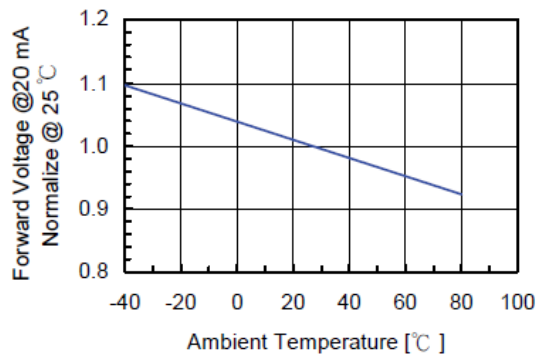


Fig 4. Relative Intensity vs. Temperature

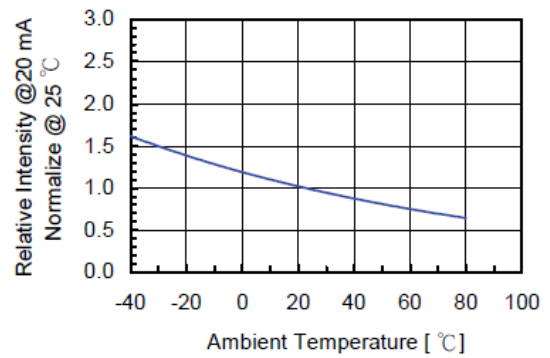
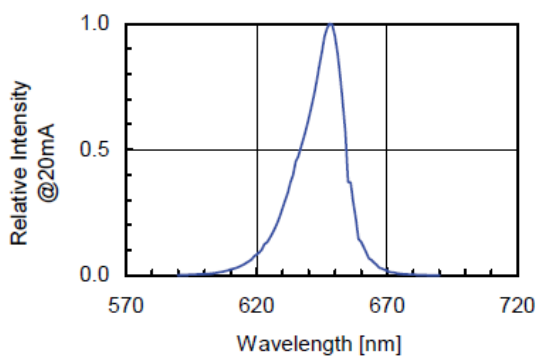
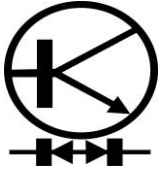


Fig 5. Relative Intensity vs. Wavelength





Typical Electro-Optical Characteristics Curve: Green

Fig 1. Forward Current vs. Forward Voltage

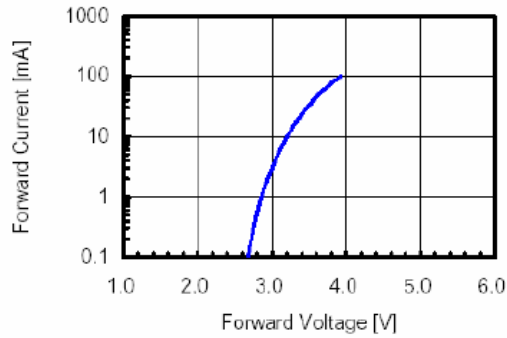


Fig 2. Relative Intensity vs. Forward Current

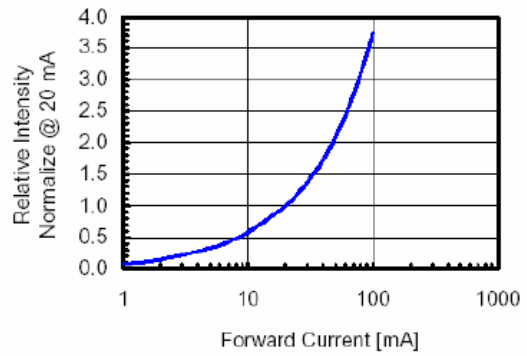


Fig 3. Forward Voltage vs. Temperature

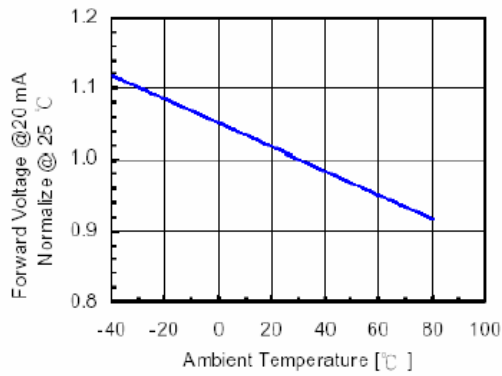


Fig 4. Relative Intensity vs. Temperature

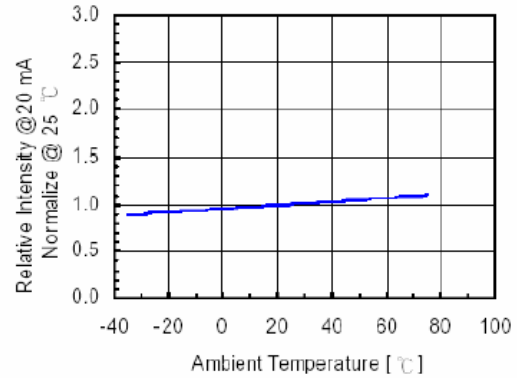
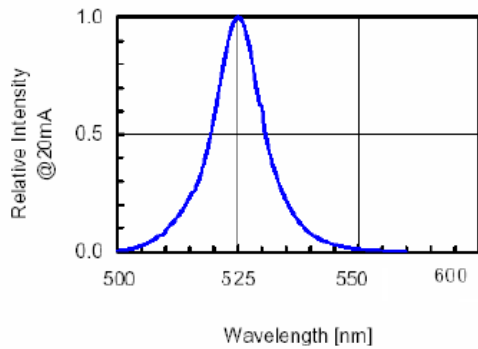
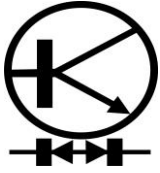


Fig 5. Relative Intensity vs. Wavelength





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Typical Electro-Optical Characteristics Curve: for Blue

Fig 1. Forward Current vs. Forward Voltage

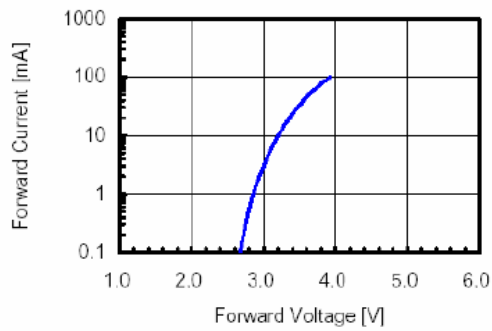


Fig 2. Relative Intensity vs. Forward Current

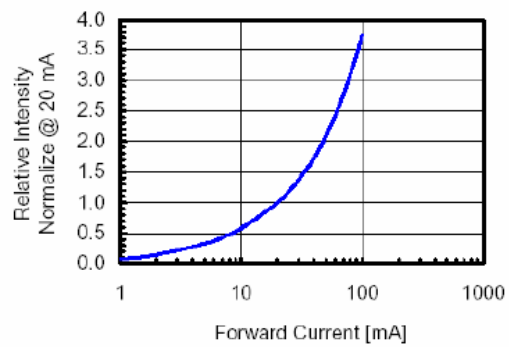


Fig 3. Forward Voltage vs. Temperature

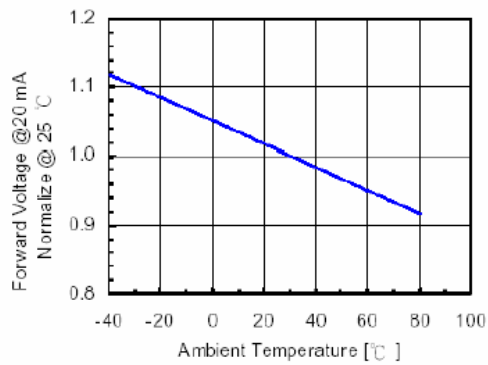


Fig 4. Relative Intensity vs. Temperature

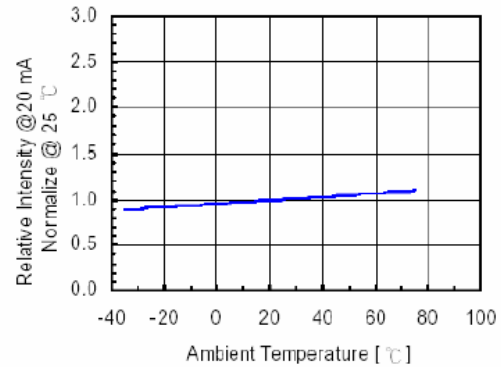
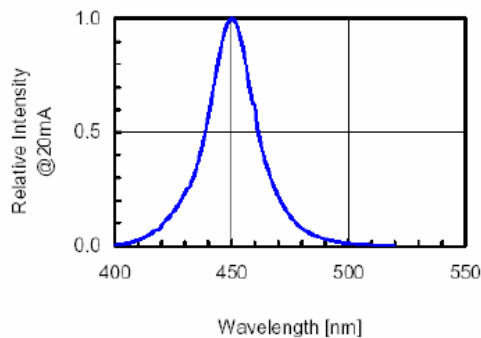
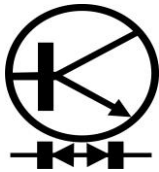


Fig 5. Relative Intensity vs. Wavelength





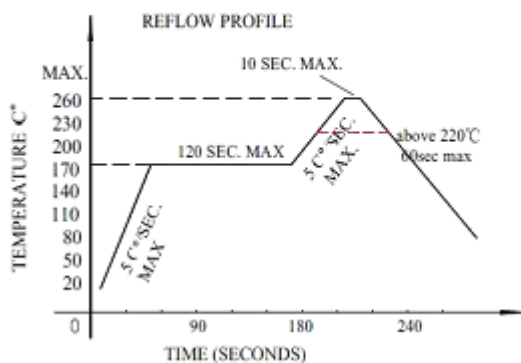
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Precautions For Use :
Over - current - proof
Customer must apply resistors for protection, otherwise slight voltage shift will cause big current change (Burn out will happen)
Storage
1. The operation of temperature and R.H. are : $5^{\circ}\text{C} \sim 30^{\circ}\text{C}$, 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 reagent. 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.

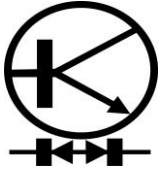


NOTES:

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

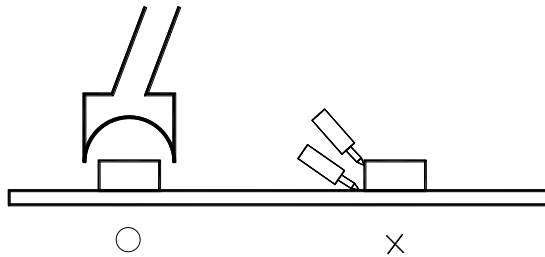
Basic spec is $\leq 5\text{sec}$ when 260°C . If temperature is higher, time should be shorter ($+10^{\circ}\text{C} \rightarrow -1\text{sec}$). Power dissipation of iron should be smaller than 20W, and temperatures should be controllable. Surface temperature of the device should be under 230°C .



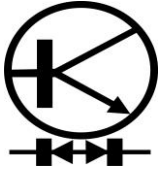
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■ Rework

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.



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Dimensions of Tape (Unit: mm)

