



# YETDA INDUSTRY LTD.

## Technical Data Sheet

MODEL NO : Q110A4

3.0\*1.0mm 110 SMD LEDs

### Features :

- 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/GaAs	Amber	Water transparent

### Electrical/Optical Characteristics(Ta=25°C)

Parameter	Test Condition	Symbol	Value			Unit
			Min	Typ	Max	
Wavelength at peak emission	IF=20mA	$\lambda$ peak		610		nm
Spectral half bandwidth	IF=20mA	$\Delta \lambda$		16		nm
Dominant wavelength	IF=20mA	$\lambda$ D	600	608	610	nm
Forward voltage	IF=20mA	VF	1.7	2.0	2.5	V
Luminous intensity	IF=20mA	Iv	80	150	250	mcd
Viewing angle at 50% Iv	IF=20mA	2 $\theta$ 1/2		150		Deg
Reverse current	VR=5V	IR			10	$\mu$ A

### Absolute Maximum Ratings(Ta=25°C)

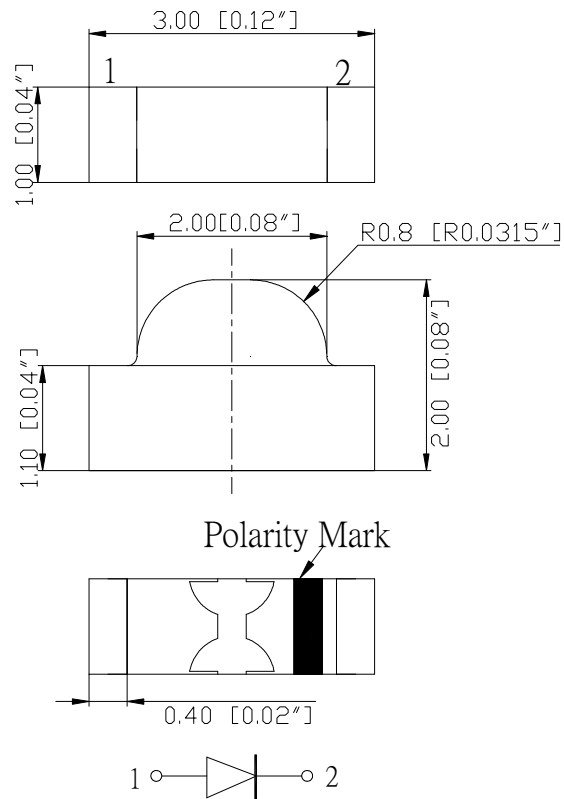
Parameter	Symbol	Value	Unit
Power dissipation	Pd	75	mW
Forward current	IF	30	mA
Reverse voltage	VR	5	V
Operating temperature range	Top	-40 ~+80	°C
Storage temperature range	Tstg	-40 ~+100	°C
Peak pulsing current (1/8 duty f=1kHz)	I <sub>fp</sub>	125	mA

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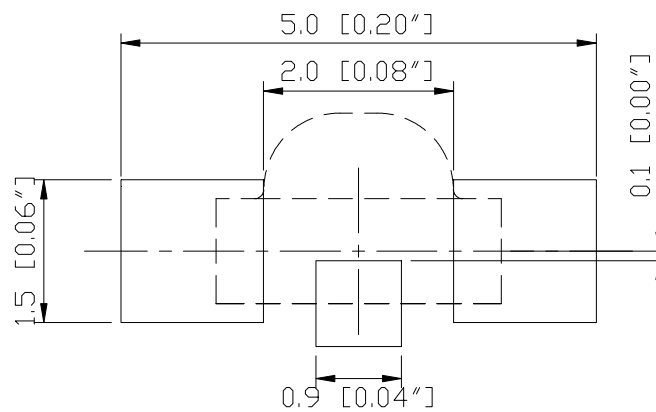


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## PACKAGING DIMENSIONS



## RECOMMEND PAD LAYOUT



## NOTES:

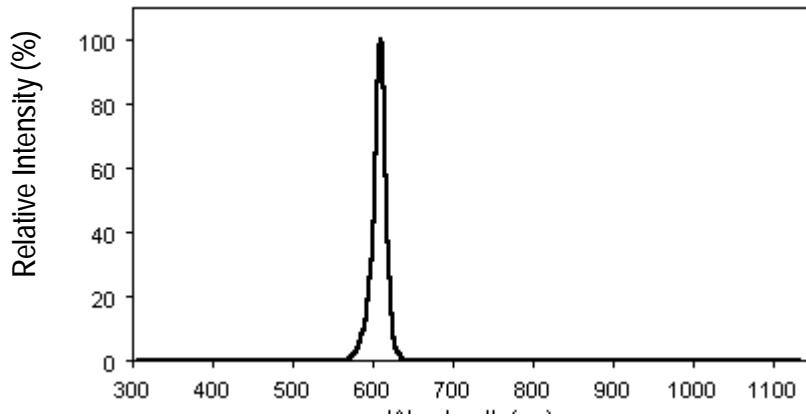
1. All dimensions are in millimeters (inches);
2. Tolerances are  $\pm 0.1\text{mm}$  (0.004inch) unless otherwise noted.



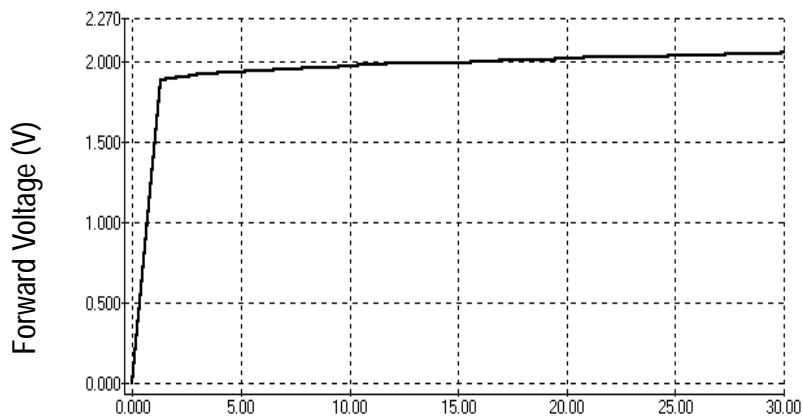
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## Typical Electro-Optical Characteristics Curve:

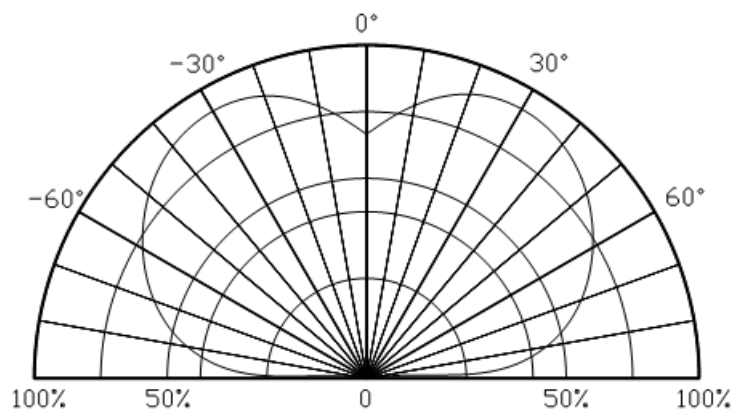
Relative Intensity vs. Wavelength



Forward Current vs. Forward Voltage



Directive Characteristics



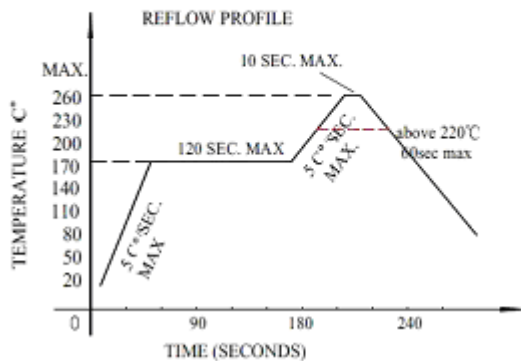


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<b>Precautions For Use :</b>
<b>Over - current - proof</b>
Customer must apply resistors for protection, otherwise slight voltage shift will cause big current change ( Burn out will happen )
<b>Storage</b>
1. The operation of temperature and R.H. are : $5^{\circ}\text{C} \sim 30^{\circ}\text{C}$ , 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  $260^{\circ}\text{C}$ .
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

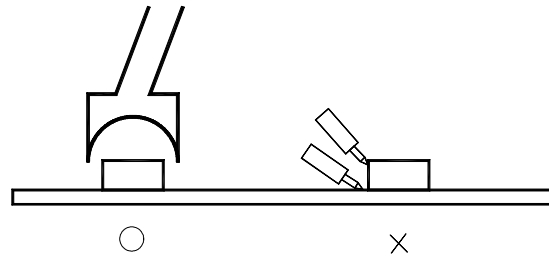
Basic spec is  $\frac{1}{8}$  5sec when  $260^{\circ}\text{C}$ . If temperature is higher, time should be shorter ( $+10^{\circ}\text{C} \rightarrow -1\text{sec}$ ). Power dissipation of iron should be smaller than 20W, and temperatures should be controllable. Surface temperature of the device should be under  $230^{\circ}\text{C}$ .

### ■Rework

1. Customer must finish rework within 5 sec under  $260^{\circ}\text{C}$ .
2. The head of iron can not touch copper foil
3. Twin-head type is preferred.



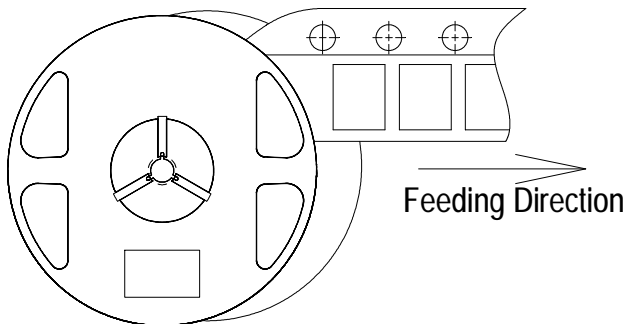
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- Avoid rubbing or scraping the resin by any object, during high temperature, for example reflow 、 solder etc.

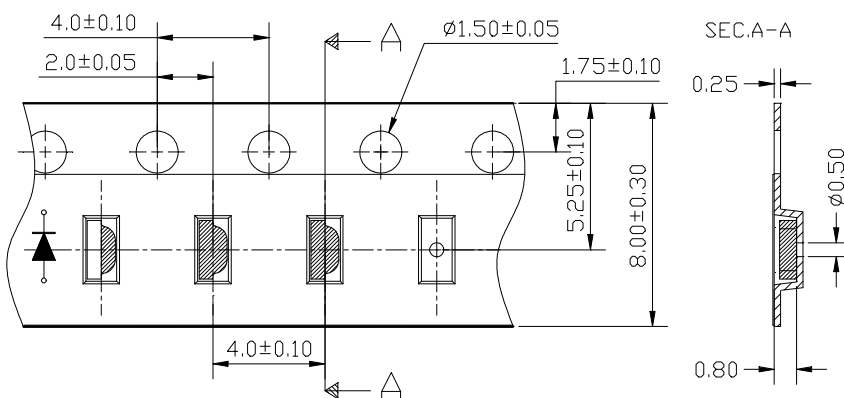


## Feeding Direction



## Tape specifications

(Units:mm)



## Tape specifications

