

# YETDA INDUSTRY LTD.

## Technical Data Sheet

MODEL NO : Q282R4-5mA

0402Package 1.0\*0.5mm Chip LEDs

Features :

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

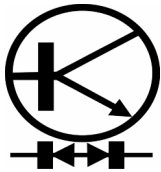
Applications :

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

Dice material	Emitted color	Lens Color
AlGaInP	Red	Water Clear

Electrical/Optical Characteristics(Ta=25°C)

Parameter	Test Condition	Symbol	Value			Unit
			Min	Typ	Max	
Spectral half bandwidth	I <sub>F</sub> =5mA	$\Delta \lambda$		18		nm
Dominant wavelength	I <sub>F</sub> =5mA	$\lambda_D$	626		636	nm
Forward voltage	I <sub>F</sub> =5mA	V <sub>F</sub>	1.7		2.3	V
Luminous intensity	I <sub>F</sub> =5mA	I <sub>v</sub>	16	23	40	mcd
Viewing angle at 50% I <sub>v</sub>	I <sub>F</sub> =5mA	2 $\theta$ 1/2		120		Deg
Reverse current	V <sub>R</sub> =5V	I <sub>R</sub>			10	$\mu$ A



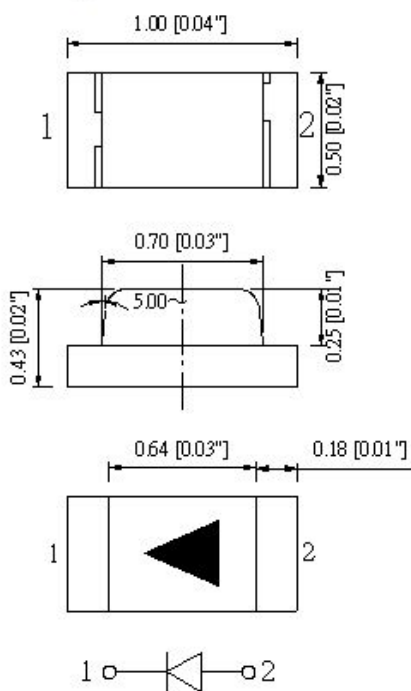
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Absolute Maximum Ratings(Ta=25°C)

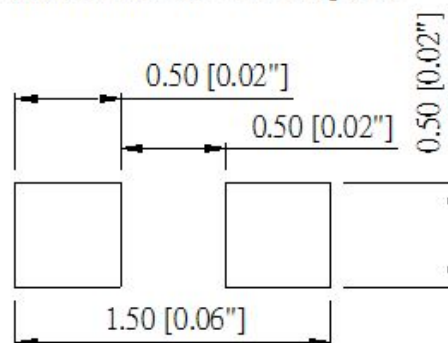
Parameter	Symbol	Value	Unit
Power dissipation	Pd	60	mW
Forward current	IF	25	mA
Reverse voltage	VR	5	V
Operating temperature range	Top	-40 ~+80	°C
Storage temperature range	Tstg	-40 ~+85	°C
Peak pulsing current (1/8 duty f=1kHz)	IFP	125	mA

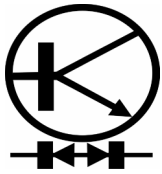
## PACKAGING DIMENSIONS (mm):

### Package outlines



### Recommend Pad Layout



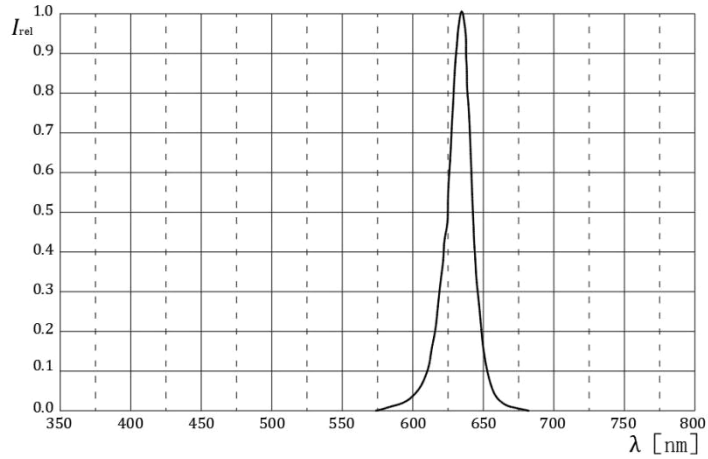


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## Typical Electro-Optical Characteristics Curve:

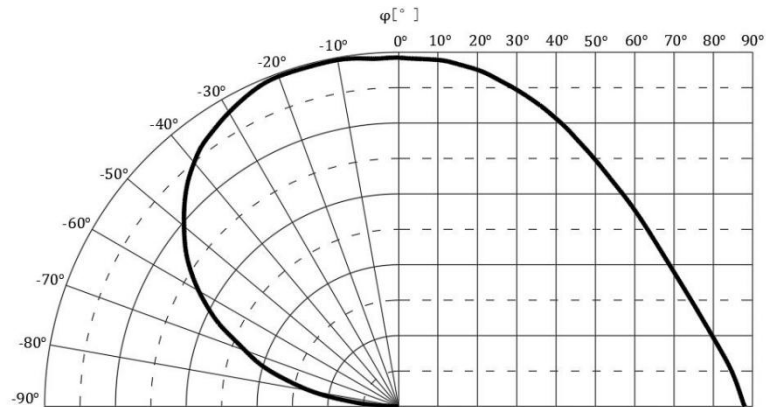
### Relative Spectral Emission

IF=5mA, Ta=25°C



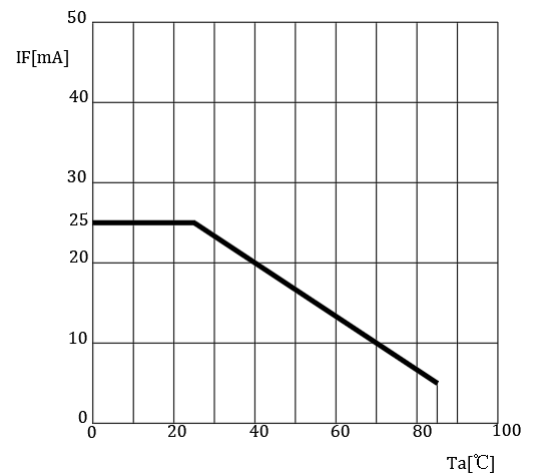
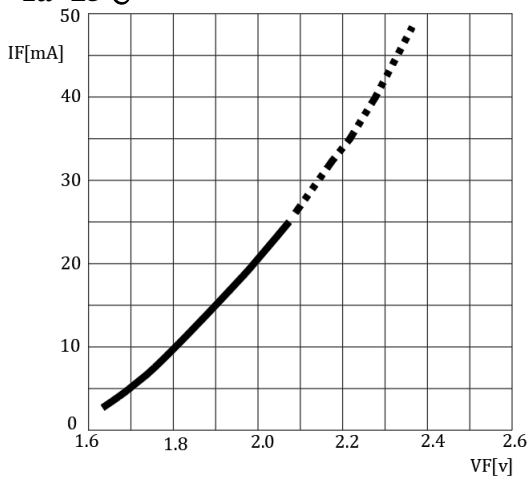
### Radiation Characteristics

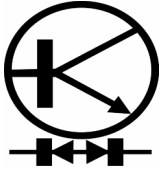
IF=10mA, Ta=25°C



### Forward Current vs Forward Voltage Forward Current Derating Curve

Ta=25°C





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## Precautions For Use :

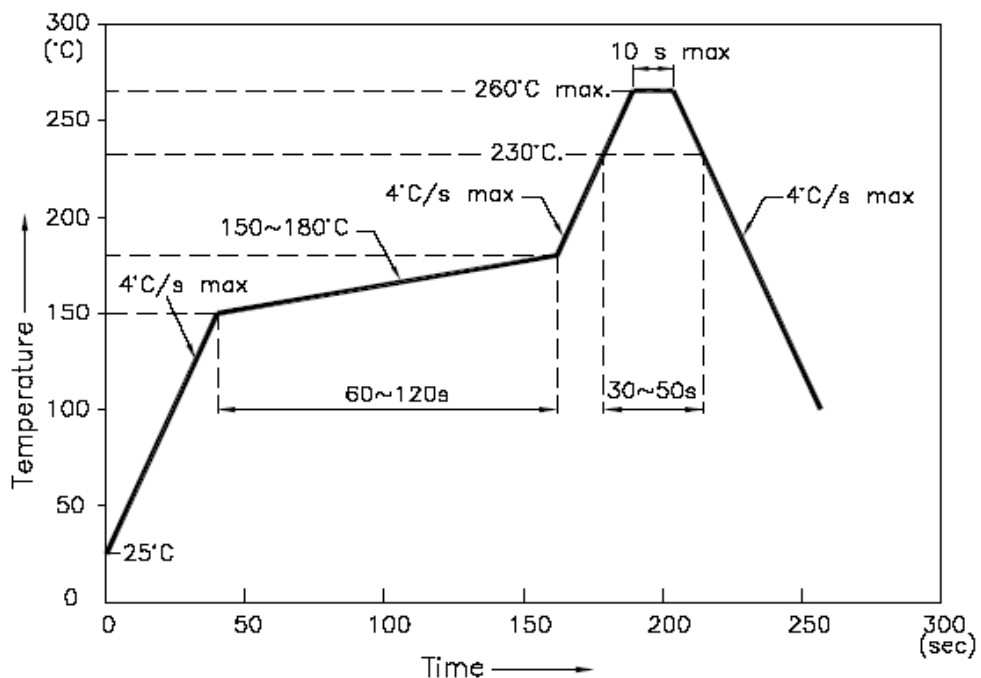
### Over - current - proof

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

### Storage

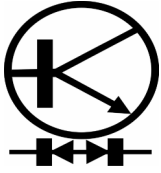
1. The operation of temperature and R.H. are :  $5^{\circ}\text{C} \sim 30^{\circ}\text{C}$  , 60%R.H. Max.
2. Once the package is opened, the products should be used within a week. Otherwise, they should be kept in a dampproof box with desiccating reagent. Considering the tape life, we suggest our customers 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



## 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.



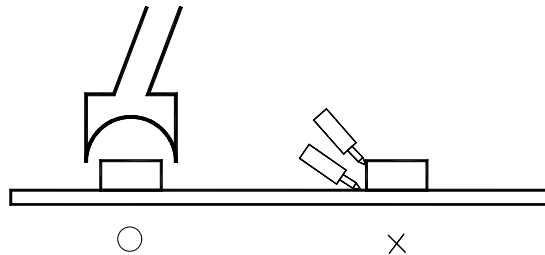
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## ■Soldering iron

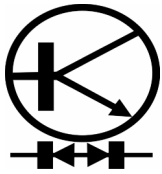
Basic spec is  $\leq 5\text{sec}$  when  $260^{\circ}\text{C}$ . If temperature is higher, time should be shorter ( $+10^{\circ}\text{C} \rightarrow -1\text{sec}$ ). Power dissipation of iron should be smaller than 20W, and temperatures should be controllable. Surface temperature of the device should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

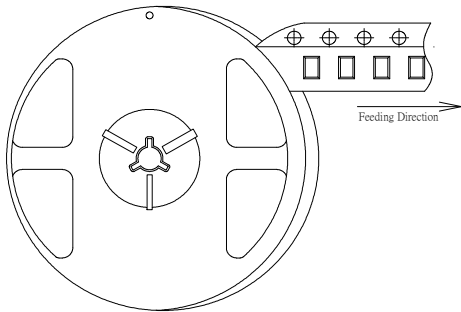


- Avoid rubbing or scraping the resin by any object, during high temperature, for example reflow 、 solder etc.

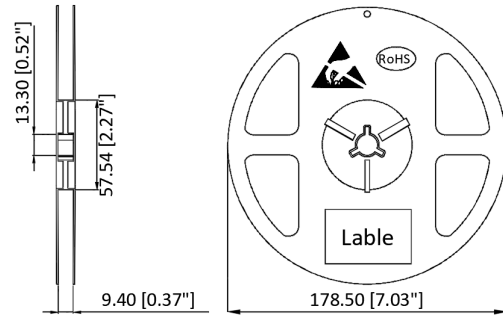


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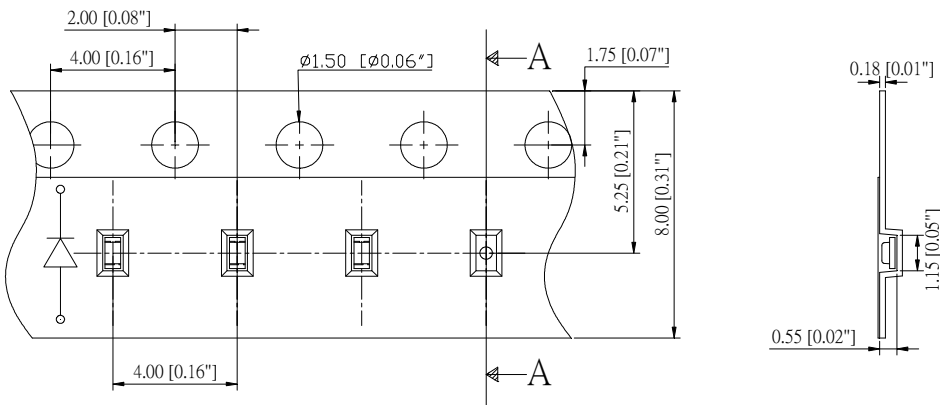
## ■ Feeding Direction



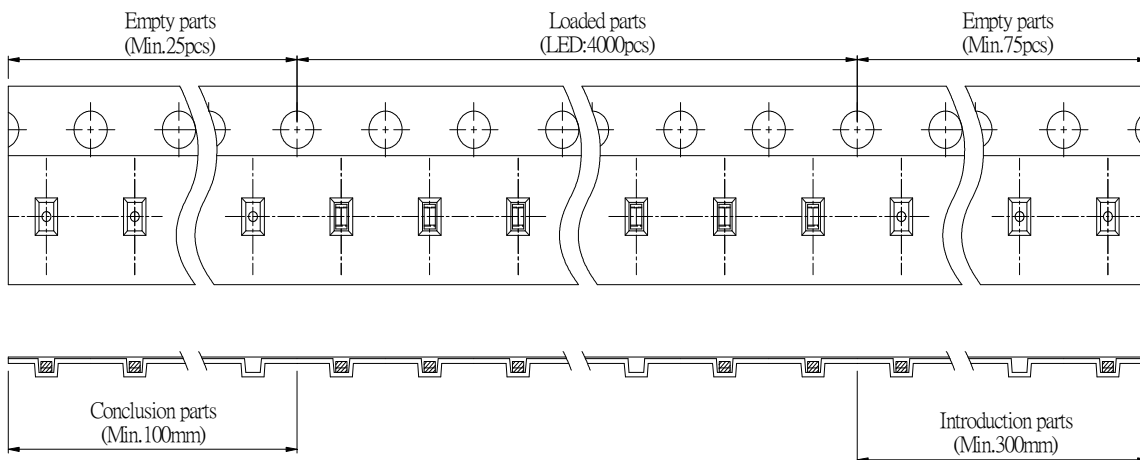
## ● Dimensions of Reel (Unit: mm)



## ■ Dimensions of Tape (Unit: mm)



## ■ Arrangement of Tape



## ■ Note

1. Empty component pockets are sealed with top cover tape;
2. The maximum number of missing lamps is two.
3. 3,000 pcs/Reel.