



YETDA INDUSTRY LTD.

Technical Data Sheet

MODEL NO : Q190H4

Package: 1.6*08*0.6mm LED

<p>Features :</p> <ul style="list-style-type: none"> ● Package in 8mm tape on 7" diameter reel ● Compatible with automatic placement equipment ● Compatible with reflow solder process <p>Applications :</p> <ul style="list-style-type: none"> ● Optical Indicator ● Indoor Display ● Automotive Lighting ● Backlight for LCD, Display ● Tubular Light Application 	<p>Features</p> <ul style="list-style-type: none"> ■ High lumen output and efficacy ■ Uses the eutectic technology, with low thermal resistance and high reliability characteristics. ■ Suitable for different working environment
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Dice material	Emitted color	Lens Color
AlGaInP	Deep Red	Water Clear

Electrical/Optical Characteristics(Ta=25°C)

Parameter	Test Condition	Symbol	Value			Unit
			Min	Typ	Max	
Dominant wavelength	I _F =20mA	WD	630		640	nm
Forward voltage	I _F =20mA	V _F	1.8		2.4	V
Luminous intensity	I _F =20mA	I _v	50		120	mcd
Reverse current	V _R =5V	I _R			10	μA
Viewing angle at 50% I _v	I _F =20mA	2θ 1/2		120		Deg

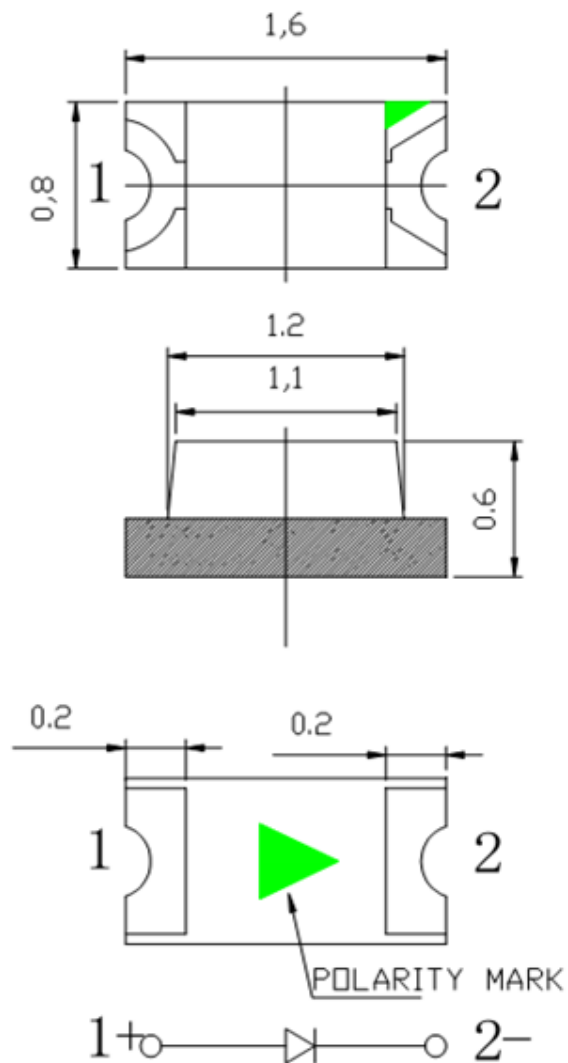
Absolute Maximum Ratings(Ta=25°C)

Parameter	Symbol	Value	Unit
Power dissipation	P _d	72	mW
Forward current	I _F	20	mA
Reverse voltage	V _R	5	V
Operating temperature range	T _{op}	-20 ~+80	°C
Storage temperature range	T _{stg}	-40 ~+85	°C
Peak pulsing current (1/8 duty f=1kHz)	I _{FP}	125	mA



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PACKAGING DIMENSIONS (mm):



Notes: (备注)

1. All dimension units are millimeters. (所有标注尺寸单位为毫米)

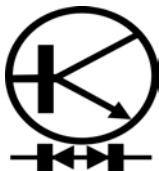
2. All dimension tolerance is $\pm 0.15\text{mm}$ unless otherwise noted. (除特别标注外, 所有尺寸允许公差 $\pm 0.15\text{mm}$)



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Typical optical characteristics curves 典型光学特性曲线

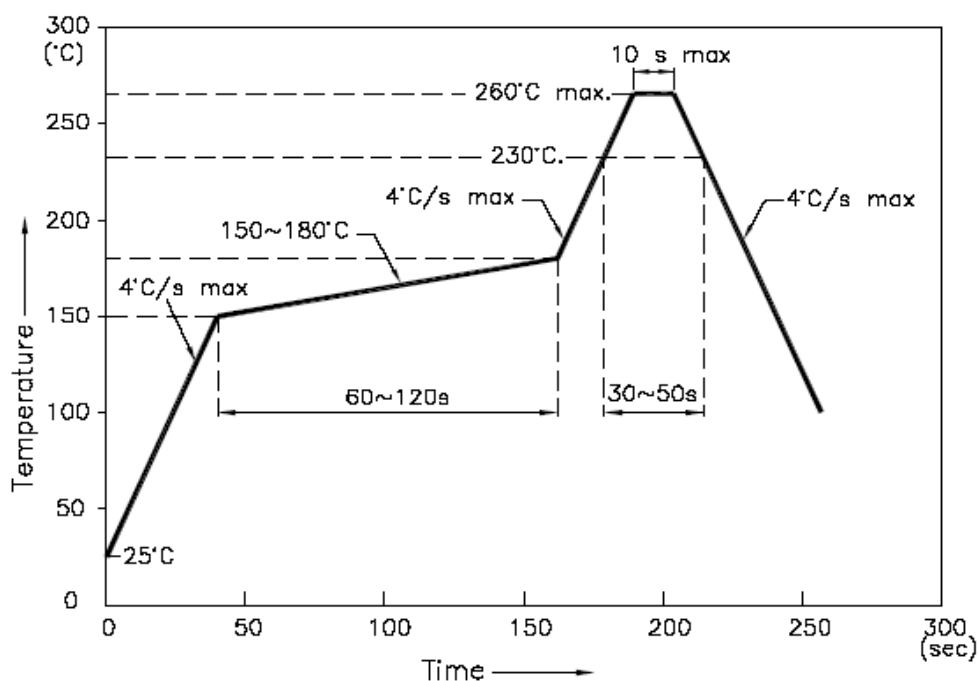
Ambient Temperature vs. Forward Current 环境温度与正向电流特性曲线		Forward Current VS. Relative Intensity 正向电流与相对光强特性曲线	
Forward Current(mA)		Relative luminous Intensity	
	Soldering Temperature °C		Forward Current(mA)
Forward Voltage VS. Forward Current 正向电压与正向电流特性曲线		Ambient Temperature VS. Relative Intensity 环境温度与相对光强特性曲线	
Forward Current(mA)		Relative luminous Intensity	
	Forward Voltage(V)		Ambient Temperature ta °C
Relative spectral emission 相对光谱分布特性曲线		Radiation diagram 辐射图特性曲线	
Relative luminous intensity			
	Wavelength(nm)	SPATIAL DISTRIBUTION	



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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°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.



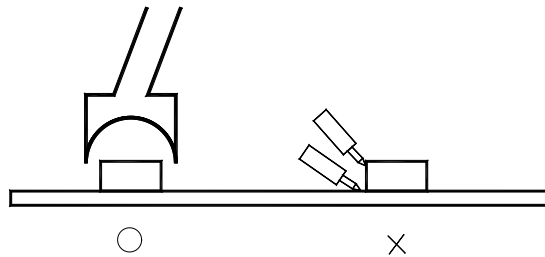
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■Soldering iron

Basic spec is $\leq 5\text{sec}$ when 260°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.



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