



# TOYO LED ELECTRONICS LIMITED

Room 1610, Hong Kong Plaza, 188 Connaught Road West, Hong Kong.

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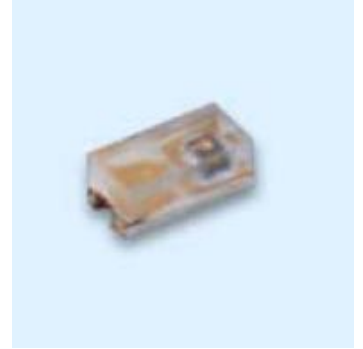


## P/N: TY-P0402UG1(0.45)

0402 Package 1.0\*0.5mm Surface Mount LEDs Series

### ◆ Features:

- Package: 1.0\*0.5\*0.45 mm
- Mono-color type
- Soldering methods :All SMT assembly methods
- Comply ROHS standard



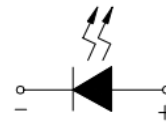
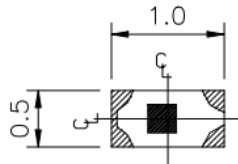
### ◆ Description

The Yellow Green source color devices are made with **AlGaInP** on sapphire Light Emitting Diode.

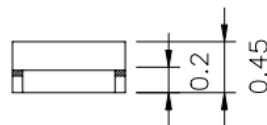
### ◆ Application

- LCD backlight
- Illuminations

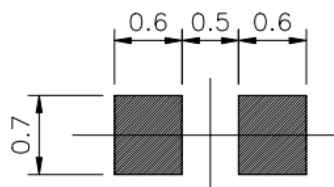
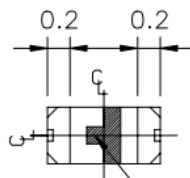
### ◆ Package Dimensions



POLARITY



For Reflow Soldering



### NOTES:

1. All dimensions are in millimeter[unit];
2. Tolerance is  $\pm 0.1\text{mm}$ (0.004") unless other specified;
3. Specifications are subject to change without notice.



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Part No.	Emitted Color	Lens Color	Chip Material
TY-P0402UG1(0.45)	Yellow Green	Water Clear	AlGaInP

### ✧ Absolute Maximum Ratings(Ta=25°C)

Item	Symbol	Maximum	Unit
Power Dissipation	PD	60	mW
Continuous Forward Current	I <sub>Fmax</sub>	25	mA
Peak Forward Current(1/10 Duty Cycle 0.1ms Pulse Width)	I <sub>FP</sub>	60	mA
Reverse Voltage	V <sub>R</sub>	5	V
Operating Temperature Range	T <sub>opr</sub>	-40 to+85	°C
Storage Temperature Range	T <sub>stg</sub>	-40 to+85	°C
Lead Solder Temperature	Tsol	260°C for 3 seconds	

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

Item	Symbol	Condition	Min.	Typ.	Max	Unit
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =20mA	1.7	2.0	2.4	V
Luminous Intensity	I <sub>v</sub>	I <sub>F</sub> =20mA	10	45	---	mcd
Wavelength	λ	I <sub>F</sub> =20mA	568	572	578	nm
Viewing Angle	2θ <sub>1/2</sub>	I <sub>F</sub> =20mA	--	120	--	Deg
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =5V	--	--	10	uA



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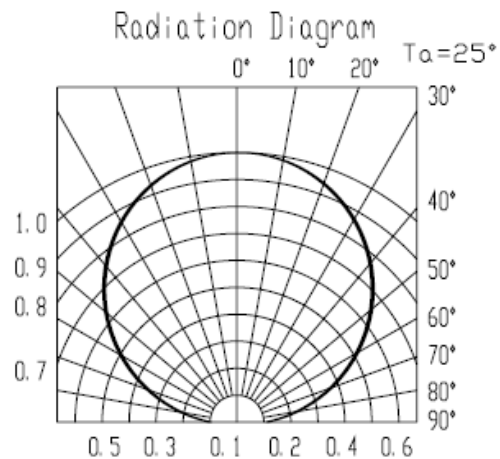
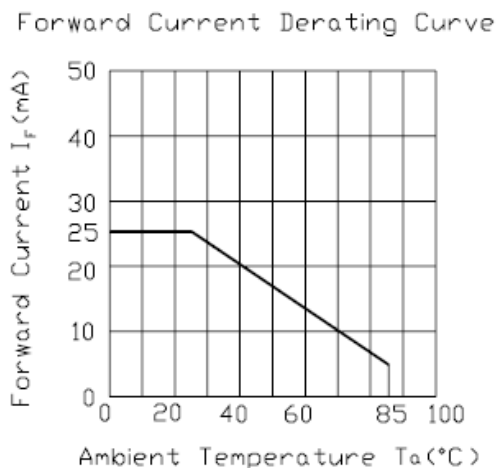
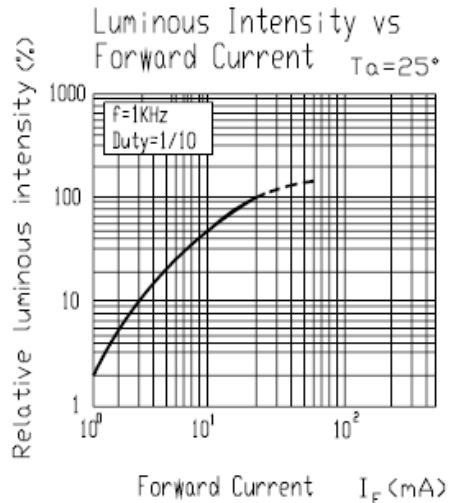
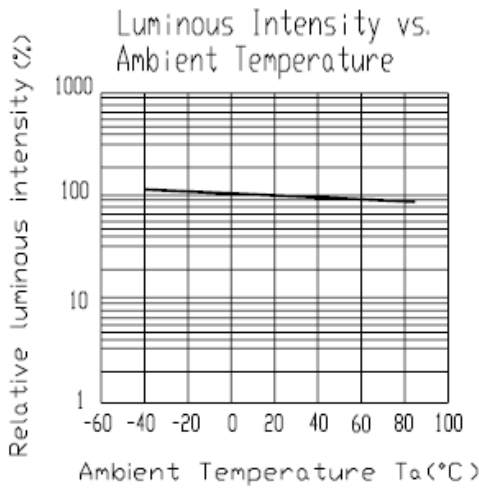
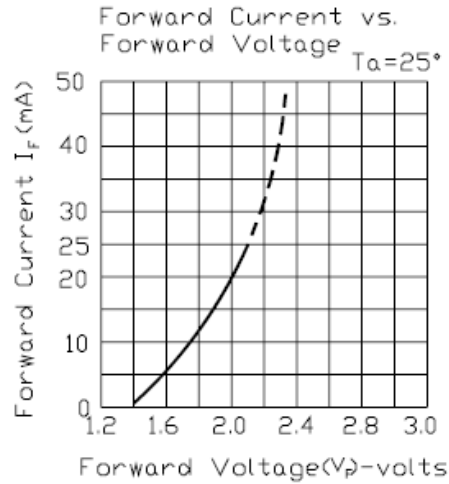
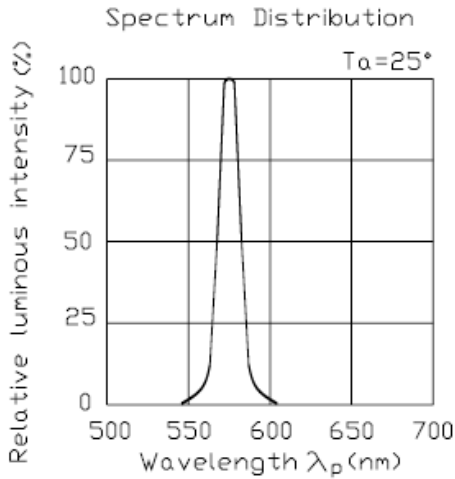
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## ◇ Typical Electro-Optical Characteristics Curves





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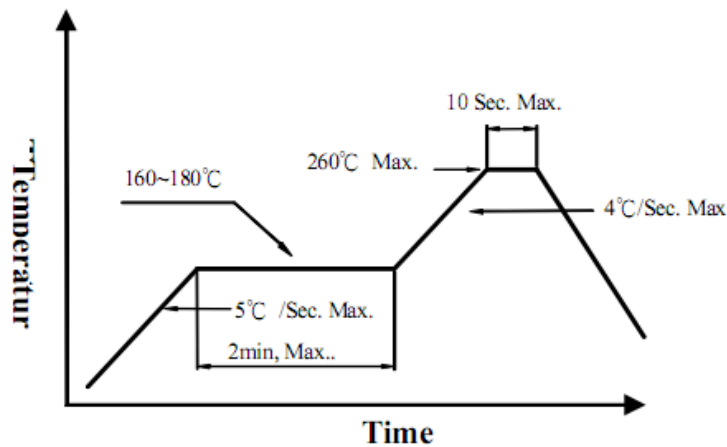
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## ✧ Reliability Test Items And Conditions

NO.	Item	Test Condition	Test Hr/cycle/time	Sample Q'ty	Ac/Re
1	Reflow	TEMP:260±5°C; Min.5Sec	6 min	22pcs	0/1
2	Temperature Cycle	H:+90°C 30mins To(5mins) L:-30°C 30mins	300 cycles	22pcs	0/1
3	Thermal Shock	H:+100°C 20mins To(5mins) L:-40°C 20mins	100 cycles	22pcs	0/1
4	High Temperature Storage	TEMP:+100°C	1000hrs	22pcs	0/1
5	Low Temperature Storage	TEMP:-30°C	1000hrs	22pcs	0/1
6	DC Operating Life	IF=20MA	1000hrs	22pcs	0/1
7	High Temperature	65°C	240hrs	22pcs	0/1
8	High Humidity	R.H.= 85%		22pcs	0/1

## ✧ Reflow Temp/Time :





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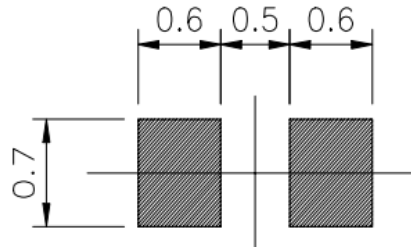
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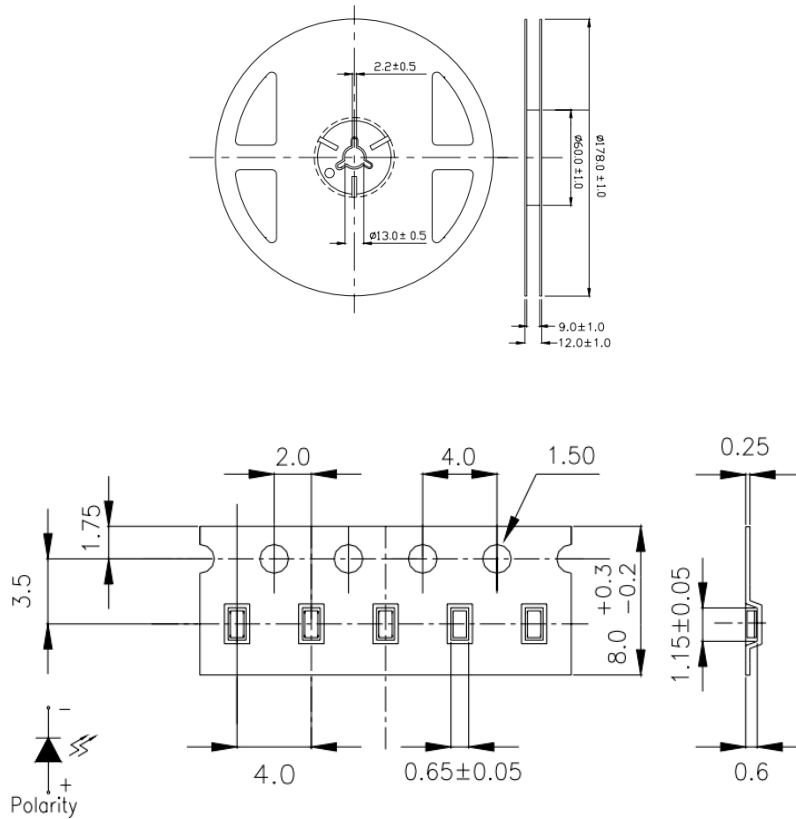
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### ◇ Recommended Soldering Pad Dimensions:



### ◇ Tape Specification



### ◇ Package Label

SMD LED	
PART NO: _____	QA Pass
LOT NO : _____	
Q' TY : _____	Pb
VF : _____ IV : _____	
TC : _____ BIN: _____	
DATE : _____	
TOYO LED ELECTRONICS LIMITED	
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### ❖ Package & Shipping Instructions

