



TOYO LED ELECTRONICS LIMITED

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

Tel : (852) 2540 7288
http://www.toyo-led.com

Fax : (852) 2517 1797
E-mail : sales@toyo-led.com



P/N: TY-P0402PW1(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



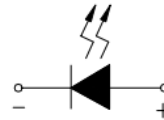
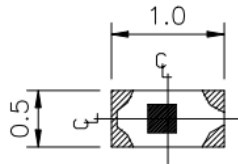
◆ Description

The Blue source color devices are made with InGaN on sapphire Light Emitting Diode.

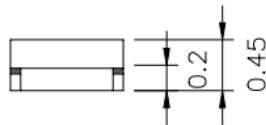
◆ Application

- LCD backlight
- Illuminations

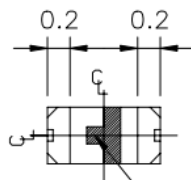
◆ Package Dimensions



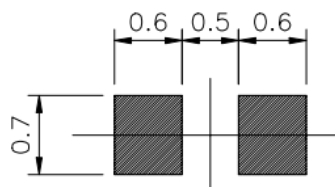
POLARITY



For Reflow Soldering



Cathode Mark



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-P0402PW1(0.45)	Pure White	Yellow Diffused	InGaN

✧ Absolute Maximum Ratings(Ta=25°C)

Item	Symbol	Maximum	Unit
Power Dissipation	PD	110	mW
Continuous Forward Current	I _{Fmax}	25	mA
Peak Forward Current(1/10 Duty Cycle 0.1ms Pulse Width)	I _{FP}	100	mA
Reverse Voltage	V _R	5	V
Operating Temperature Range	T _{opr}	-40 to+85	°C
Storage Temperature Range	T _{stg}	-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 _F	I _F =20mA	2.7	--	3.6	V
Luminous Intensity	I _v	I _F =20mA	45	--	120	mcd
CIE Coordinates	X	I _F =20mA		0.31		--
	Y			0.31		
Typical Correlated Color Temperature	T _c	I _F =20mA	5000	7000	9000	K
Viewing Angle	2θ _{1/2}	I _F =20mA	--	120	--	Deg
Reverse Current	I _R	V _R =5V	--	--	10	uA



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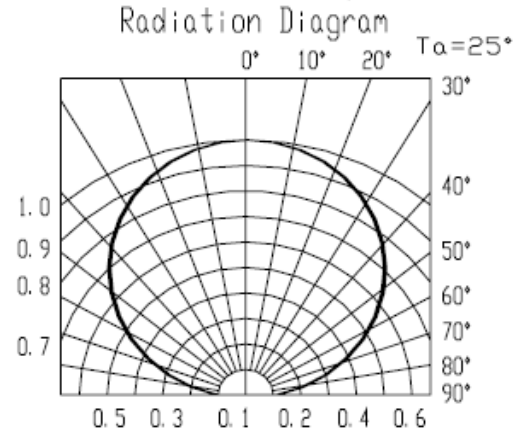
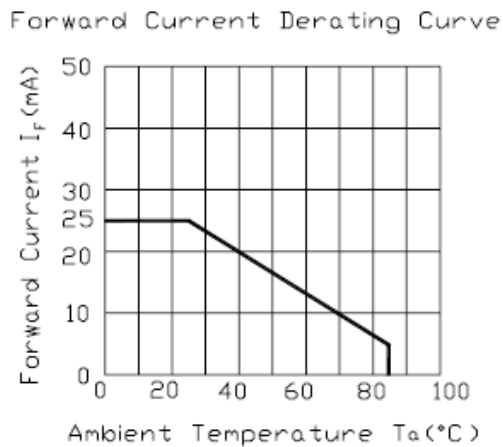
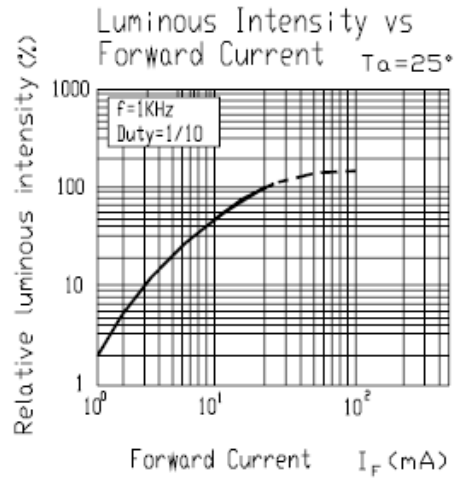
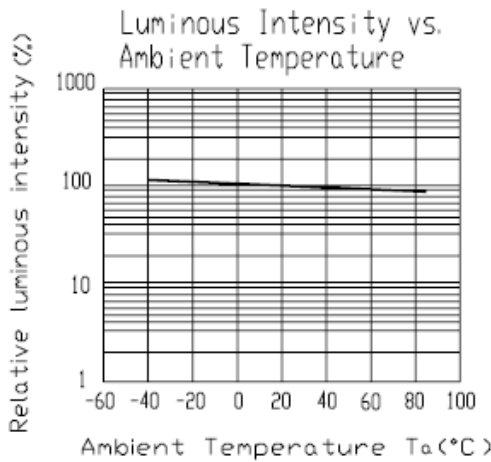
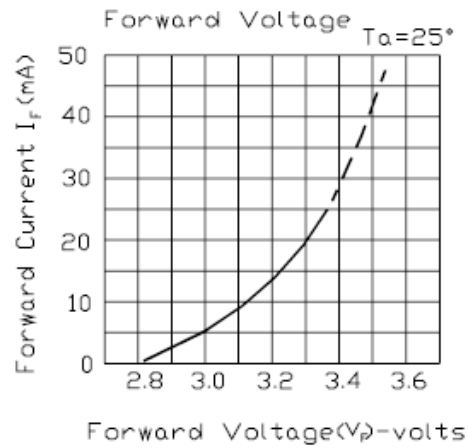
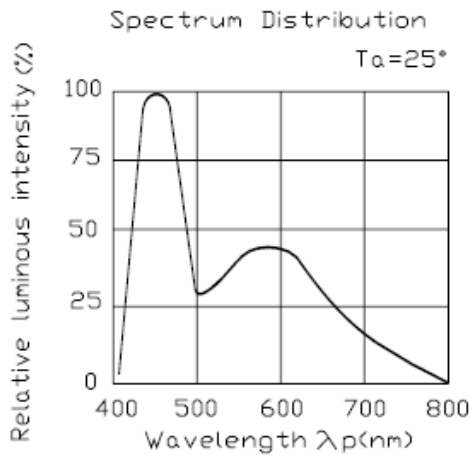
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◇ Typical Electro-Optical Characteristics Curves





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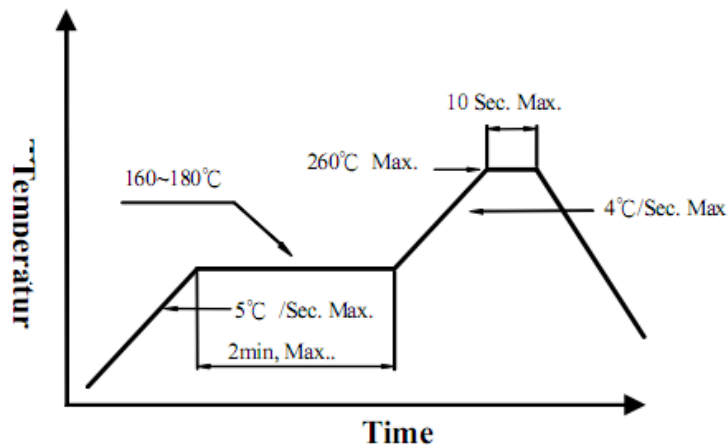
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◇ Reliability Test Items And Conditions

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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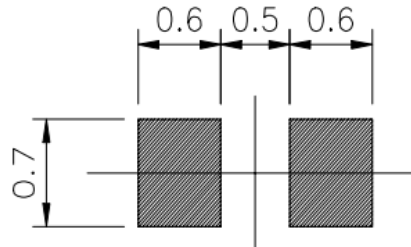
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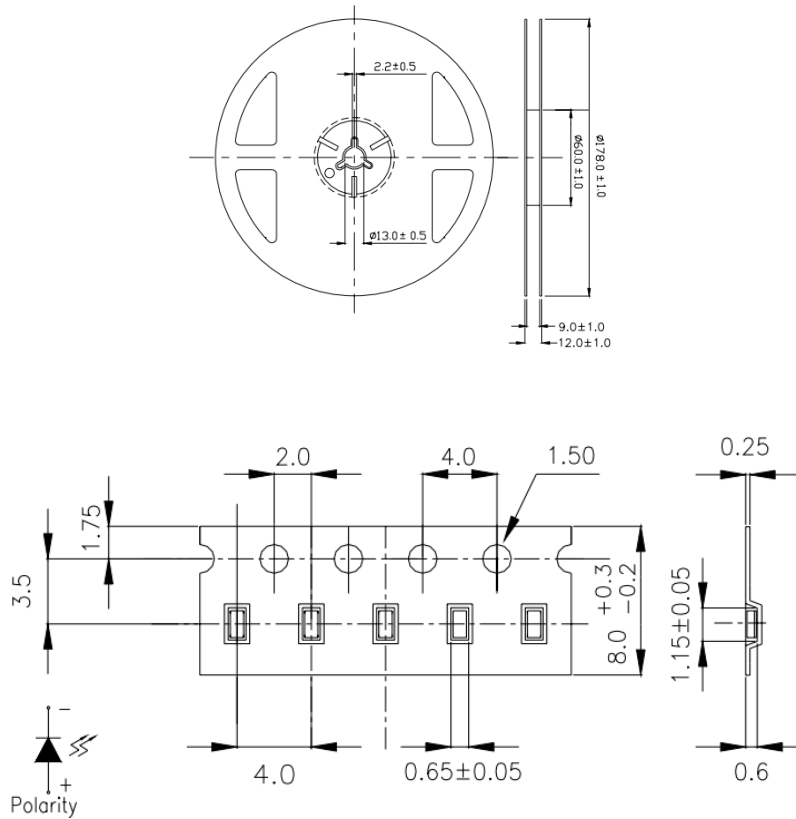
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◇ Recommended Soldering Pad Dimensions:



◇ Tape Specification



◇ Package Label

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

