



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-A1206WH1(0.68)

1206 Package 3.2*1.6mm Surface Mount LEDs Series

SPECIFICATION FOR CUSTOMER APPROVAL

P/N: TY-A1206WH1(0.68)

DATE : June 9, 2020

PREPARED BY : STEVEN

CONFIRMED BY :

PLEASE CONFIRM & SIGN BACK THIS SHEET TO US

CUSTOMER: _____

(COMPANY CHOP)

APPROVAL BY: _____

(SIGNATURE)



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✧ Features:

- 3.2*1.6*0.68 mm
- Mono-color type
- Soldering methods :All SMT assembly methods
- Comply ROHS standard

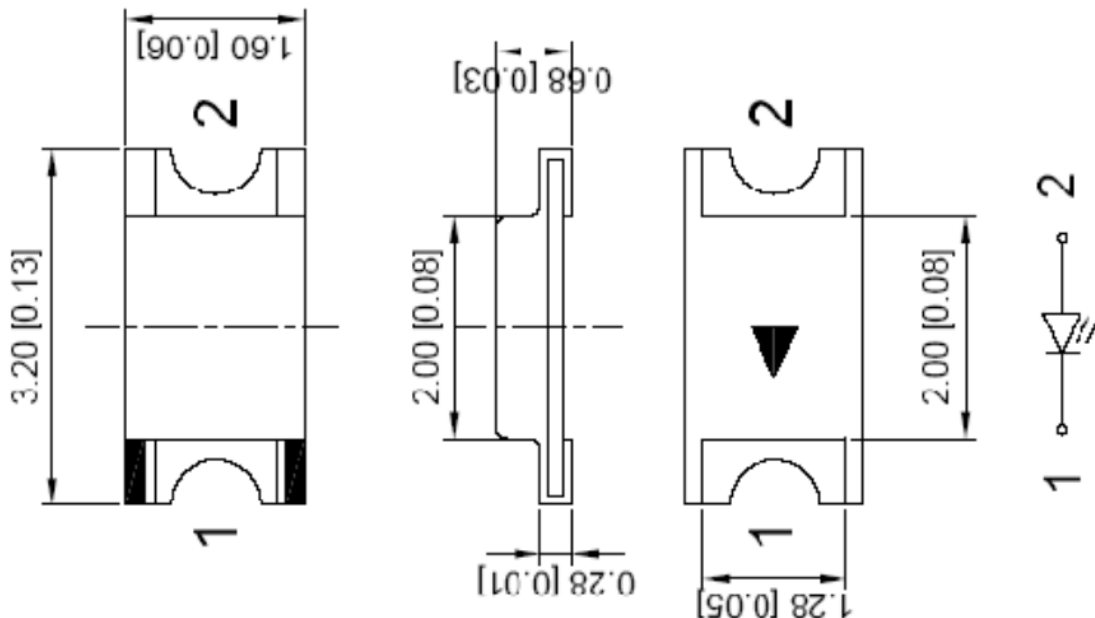
✧ Description

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

✧ Application

- Optical indicator
- Indicator and backlighting in telephone and fax
- Flat backlight for LCD, switch and symbol
- Light pipe application
- General use

✧ Package Dimensions



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	Len's Color	Chip Material
TY-A1206WH1(0.68)	White	Yellow	InGaN

✧ Absolute Maximum Ratings(Ta=25°C)

Item	Symbol	Maximum	Unit
Power Dissipation	PD	105	mW
Continuous Forward Current	I _{Fmax}	30	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	2.8	---	3.4	V
Luminous Intensity	I _V	I _F =20mA	1000	1300	---	mcd
Color Temperature	T _c	I _F =20mA	---	6500	---	K
Coordinates X,Y	X	I _F =20mA	--	0.31	--	--
	Y	I _F =20mA	--	0.32	--	--
Viewing Angle	2θ _{1/2}	I _F =20mA	--	140	--	Deg
Reverse Current	I _R	V _R =5V	--	--	10	uA



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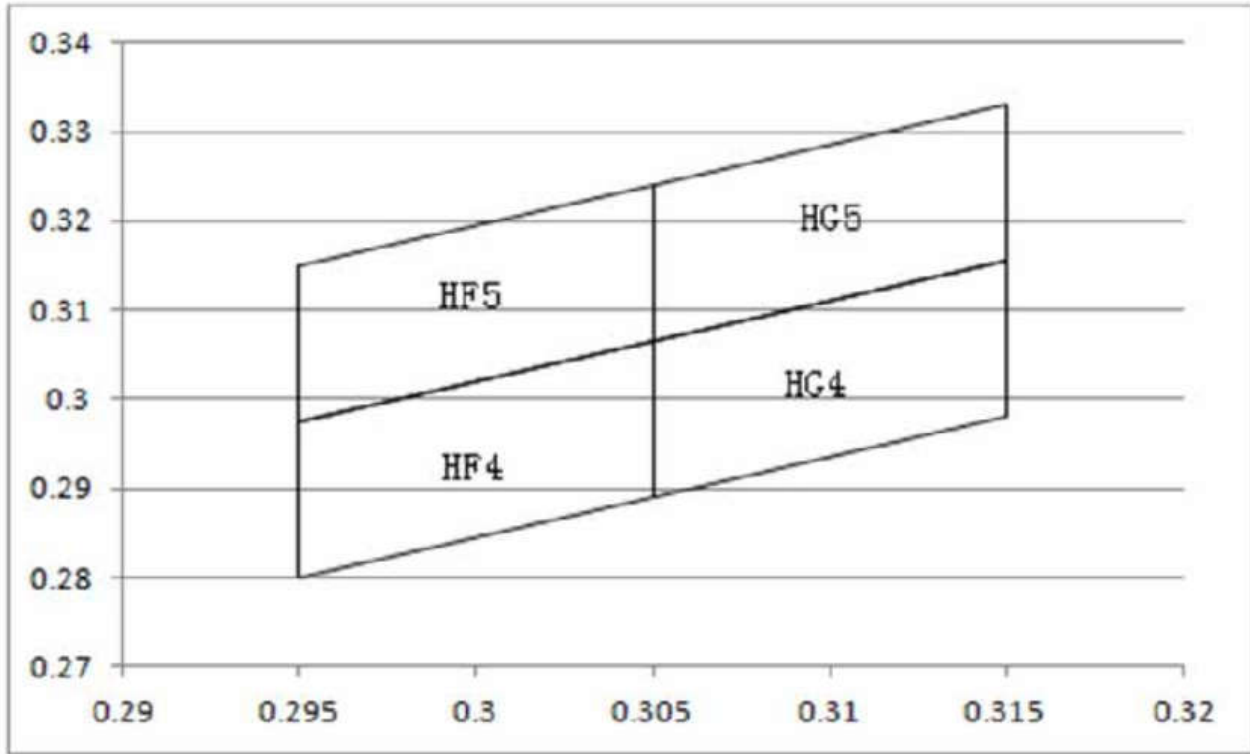
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✧ Chromaticity Coordinates Specifications for BIN Grading



HF5 _o					↻	HF4 _o				
X _o	0.295 _o	0.295 _o	0.305 _o	0.305 _o		X _o	0.295 _o	0.295 _o	0.305 _o	0.305 _o
Y _o	0.2975 _o	0.315 _o	0.324 _o	0.3065 _o		Y _o	0.28 _o	0.2975 _o	0.3065 _o	0.289 _o
HG5 _o						HG4 _o				
X _o	0.305 _o	0.305 _o	0.315 _o	0.315 _o		X _o	0.305 _o	0.305 _o	0.315 _o	0.315 _o
Y _o	0.3065 _o	0.324 _o	0.333 _o	0.3155 _o		Y _o	0.289 _o	0.3065 _o	0.3155 _o	0.298 _o



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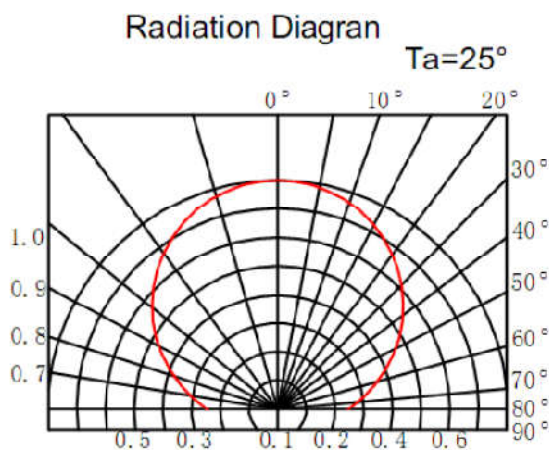
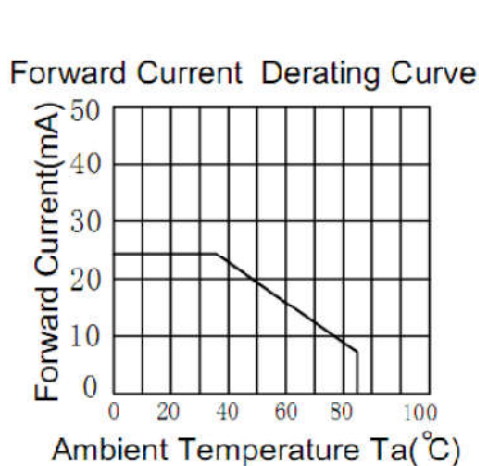
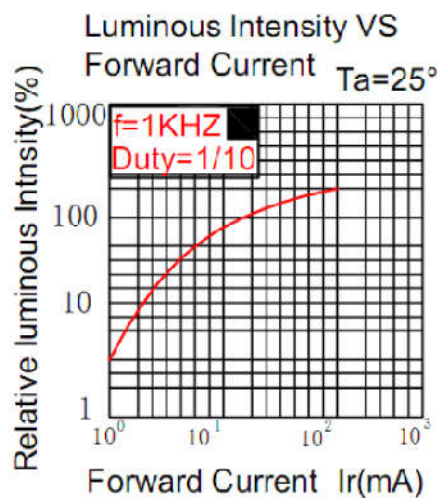
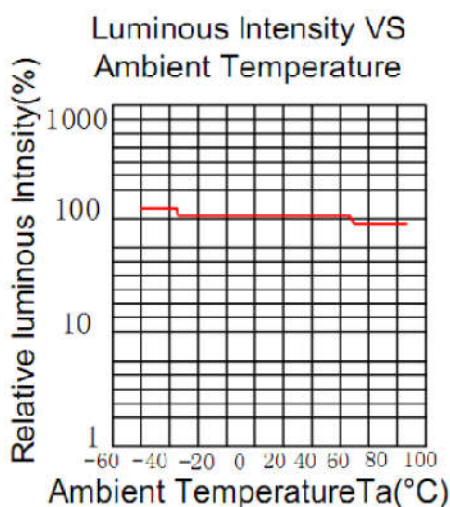
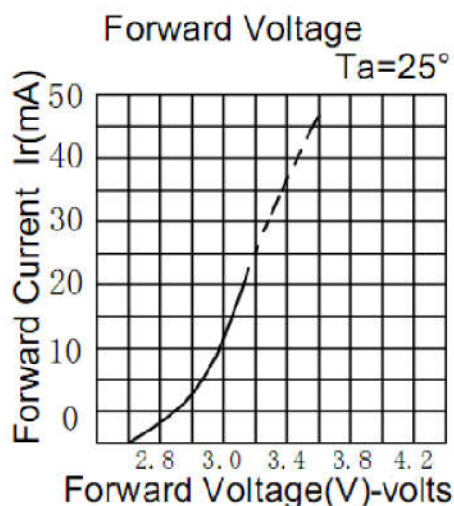
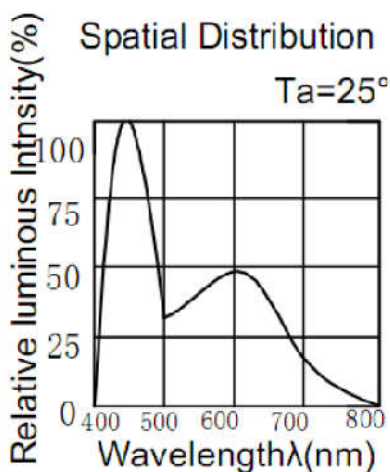
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✧ Typical Electro-Optical Characteristics Curves





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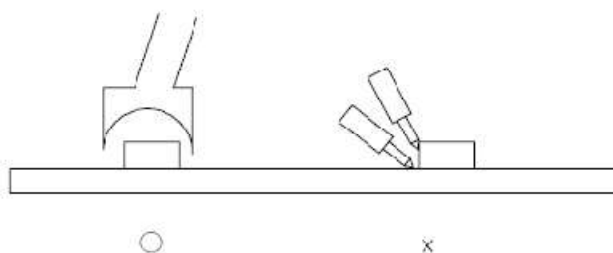
1206 Package 3.2*1.6mm Surface Mount LEDs Series

✧ Reliability Test Items And Conditions

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

Rework

1. Customer must finish rework within 5 sec under 245℃
2. The head of iron can not touch copper foil.
3. Twin-head type is preferred.





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❖ Precautions For Use

1. Over-current-proof

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

2. Storage time

2.1 The operation of Temperature and RH are : $5^{\circ}\text{C}\sim 35^{\circ}\text{C}$, RH60%.

2.2 Once the package is opened, the products should be used within a week.

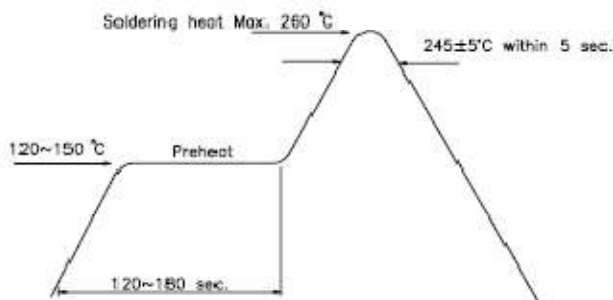
Otherwise, they should be kept in a damp proof box with descanting agent.

Considering the tape life , we suggest our customers to use our products within a year(from production date).

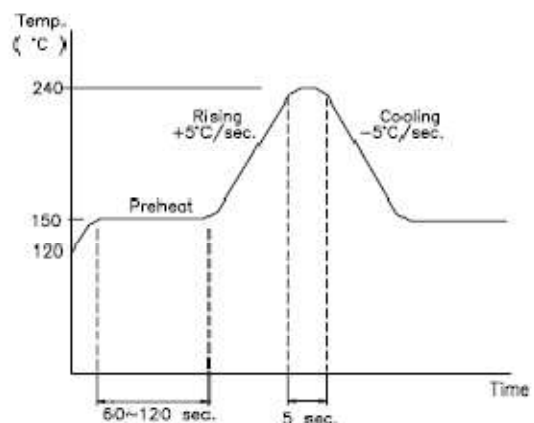
2.3 If opened more than one week in an atmosphere $5^{\circ}\text{C}\sim 35^{\circ}\text{C}$, RH 60%, they should be treated at $60^{\circ}\text{C}\pm 5^{\circ}\text{C}$ for 15hrs.

2.4 When you discover that the desiccant in the package has a pink color (Normal = blue) , you should treat them in the same conditions as 2.3.

Soldering heat



Reflow Temp / Time



Soldering Iron

Basic spec is ≤ 5 sec when 260°C . If temperature is higher, time should be shorter ($+10^{\circ}\text{C} \rightarrow -1$ sec). Power dissipation of Iron should be smaller than 15 W , and temperature should be controllable. Surface temperature of the device should be under 230°C .



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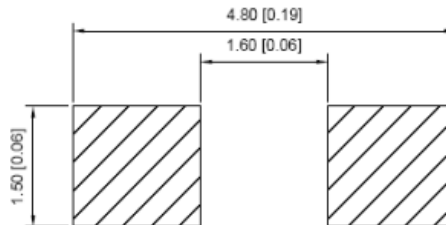
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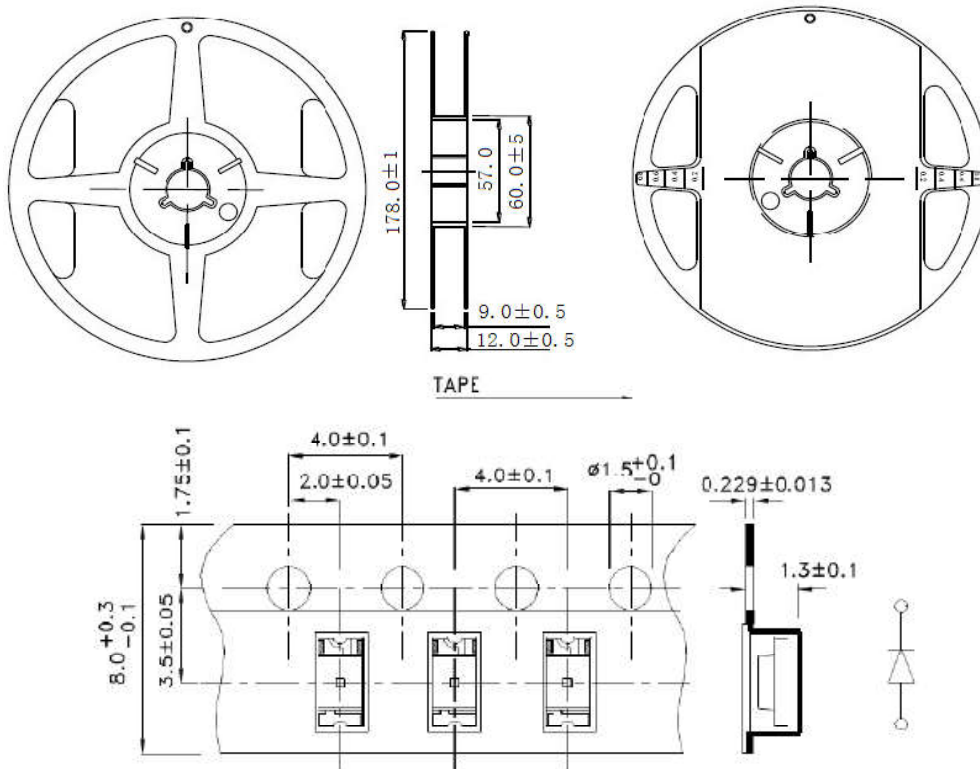
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✧ Recommended Soldering Pad Dimensions



✧ Tape Specification: 4,000pcs



✧ 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

