



TOYO LED ELECTRONICS LIMITED

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

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P/N: TY-L0603UR1(0.60)

0603 Package 1.6*0.8mm Surface Mount LEDs Series

✧ Features:

- 1.6*0.8*0.6 mm
- Mono-color type
- Soldering methods :All SMT assembly methods
- Comply ROHS standard

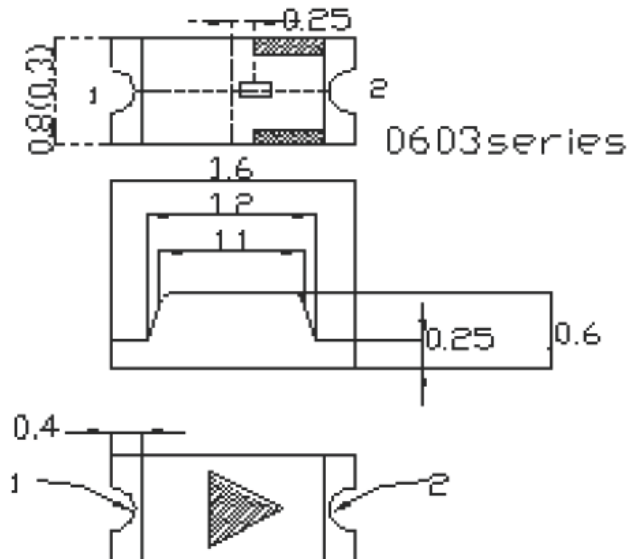
✧ Description

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

✧ Application

- LCD backlight
- Illuminations

✧ 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	Lens Color	Chip Material
TY-L0603UR1(0.60)	Red	Water Clear	AlGaInP

❖ Absolute Maximum Ratings(Ta=25°C)

Item	Symbol	Maximum	Unit
Power Dissipation	PD	70	mW
Continuous Forward Current	I _{Fmax}	30	mA
Peak Forward Current(1/10 Duty Cycle 0.1ms Pulse Width)	I _{FP}	70	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	1.8	2.0	2.2	V
Luminous Intensity	I _V	I _F =20mA	80	100	140	mcd
Wavelength	λ	I _F =20mA	620	625	630	nm
Viewing Angle	2θ _{1/2}	I _F =20mA	---	120	---	Deg
Reverse Current	I _R	V _R =5V	---	---	10	uA



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✧ Typical Electro-Optical Characteristics Curves

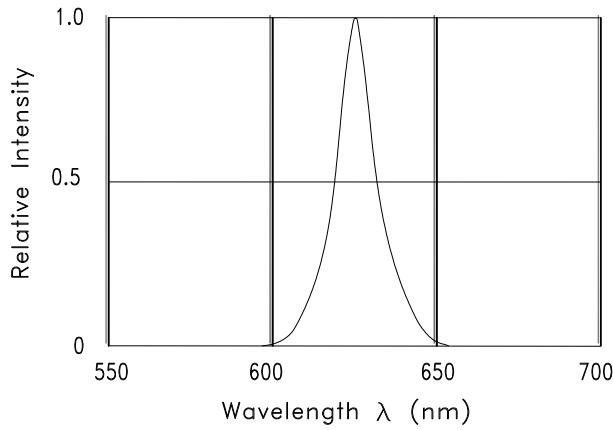


Fig.1 RELATIVE INTENSITY VS. WAVELENGTH

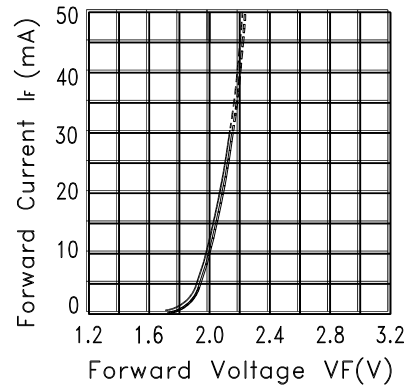


Fig.2 FORWARD CURRENT VS. FORWARD VOLTAGE

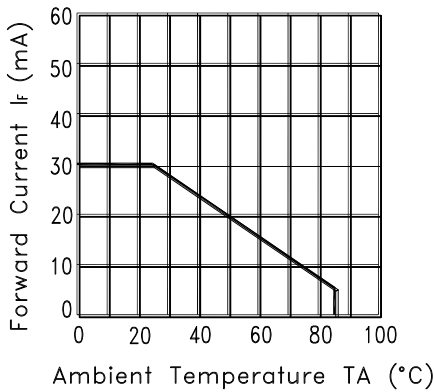


Fig.3 FORWARD CURRENT DERATING CURVE

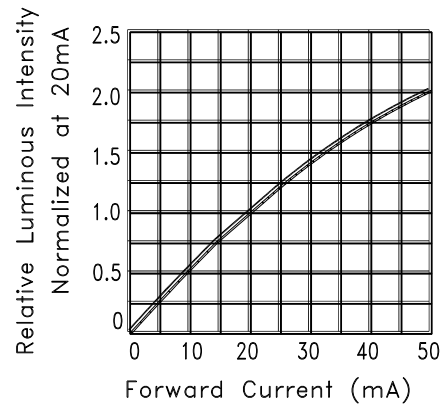


Fig.4 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

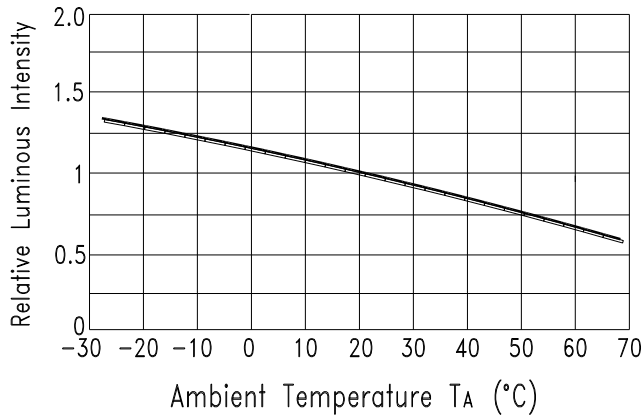


Fig.5 Luminous Intensity vs. Ambient Temperature

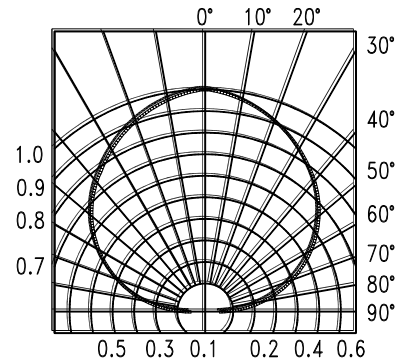


Fig.6 SPATIAL DISTRIBUTION



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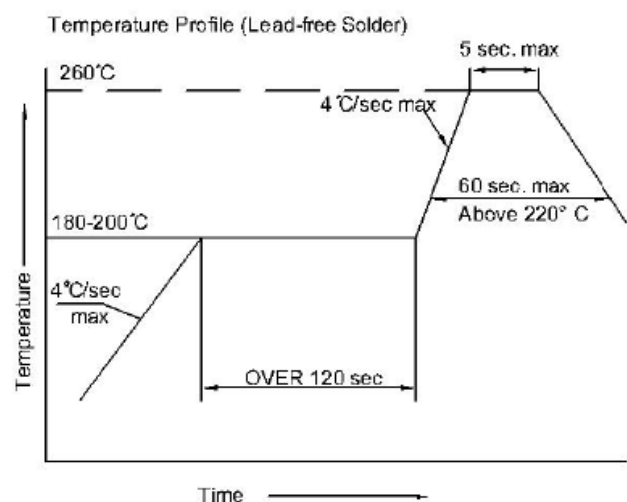
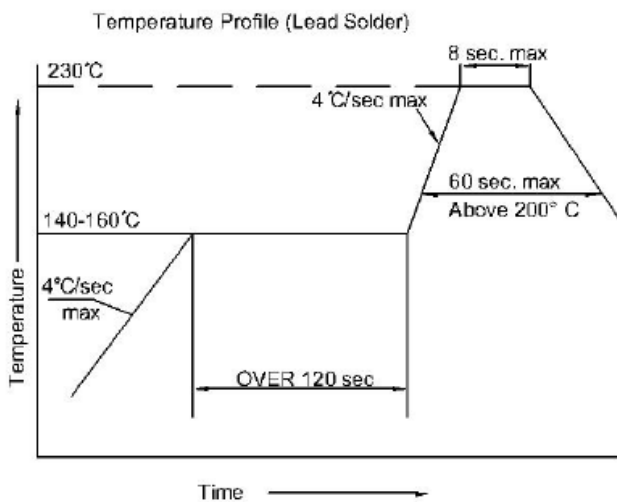
◇ Reliability Test Items And Conditions

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:+100°C 15mins To(5mins) L:-40°C 15mins	300 cycles	22pcs	0/1
3	Thermal Shock	H:+100°C 15mins To(5mins) L:-40°C 15mins	300 cycles	22pcs	0/1
4	Low Temperature Storage	TEMP:-40°C	1000hrs	22pcs	0/1
5	DC Operating Life	IF=20MA	1000hrs	22pcs	0/1
6	High Temperature	85°C	1000hrs	22pcs	0/1
7	High Humidity	85%R.H.	1000hrs	22pcs	0/1

◇ SMT Reflow Soldering Instructions

Number of reflow process shall be than 2 times and cooling

Process to normal temperature is required between first and second soldering process





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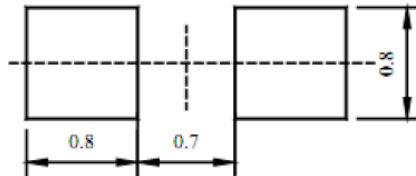
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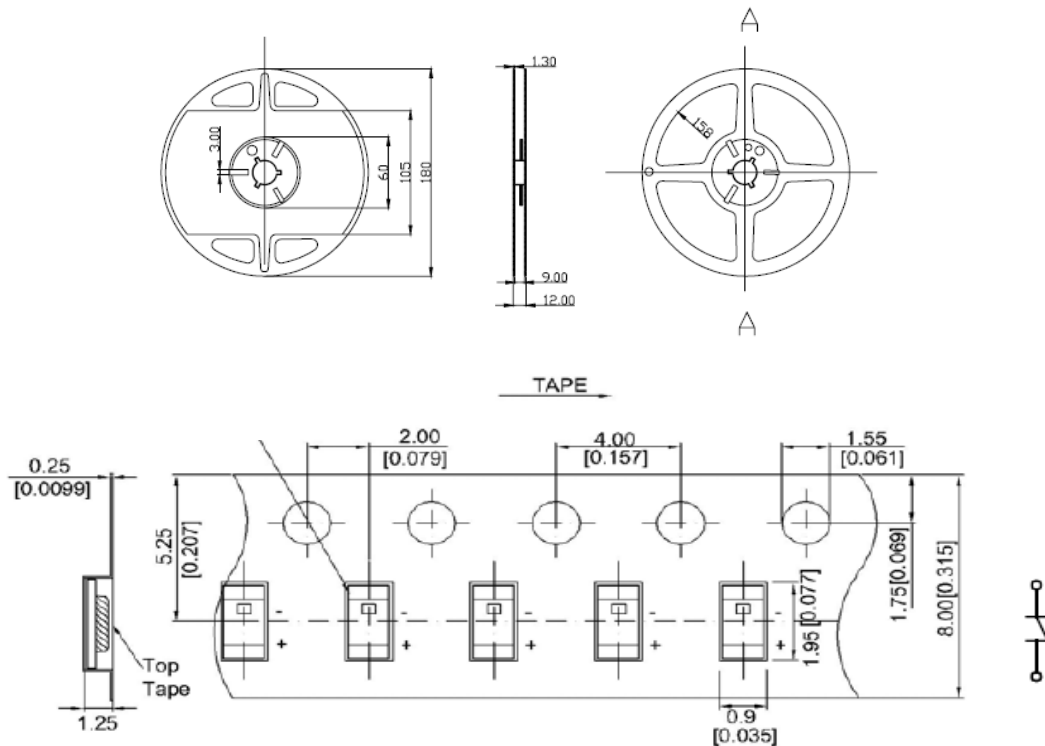
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❖ Recommended Soldering Pad Dimensions



❖ Tape Specification: 4,000PCS per reel



❖ Package Label

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

