



TOYO LED ELECTRONICS LIMITED

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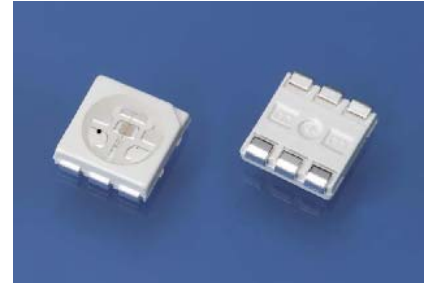


P/N: TY-5050RGB1

5.0 * 5.0mm TOP SMD Series

◆ Features:

- 5.0mm×5.0mm SMT LED, 1.60mm thickness
- PLCC-6 package
- White package
- Suitable for all SMT assembly and solder process
- Available on tape and reel



◆ Description

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

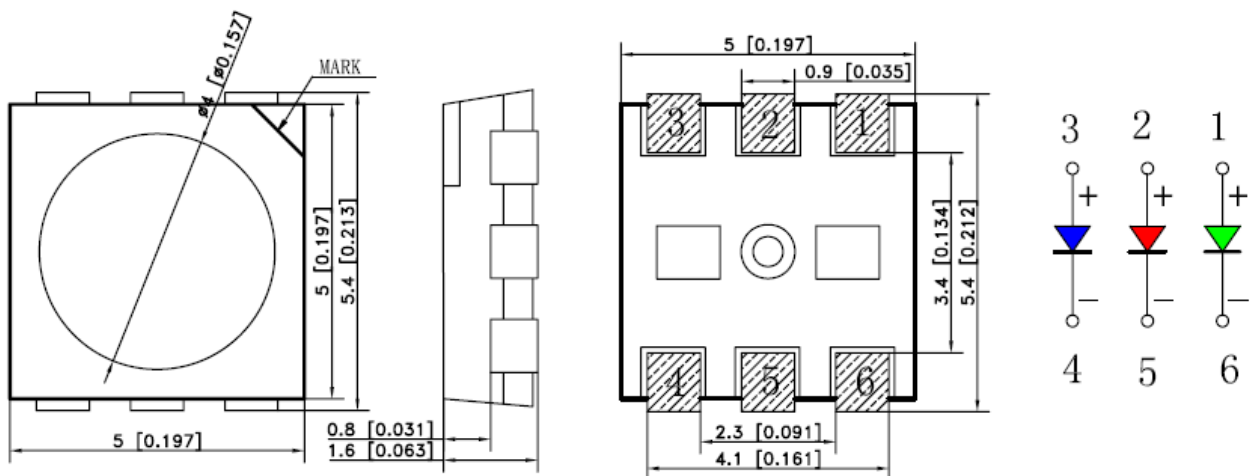
The Green source color devices are made with InGaN on Green Light Emitting Diode.

The Blue 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 ±0.2mm(0.008 ") especially other specified;
3. Specifications are subject to change without notice.



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Part No.	Emitted Color			Len's Color	Chip Material		
TY-5050RGB1	Red	Green	Blue	Water clear	AlGaInP	InGaN	InGaN

✧ Absolute Maximum Ratings(Ta=25°C)

Item	Symbol	Maximum	Unit
Power Dissipation	PD	R	60
		G	95
		B	110
Continuous Forward Current	I _{Fmax}	R/B	30
		G	25
Peak Forward Current(1/10 Duty Cycle 0.1ms Pulse Width)	I _{FP}	R/G	150
		B	160
Peverse Voltage	V _R	5	V
Operating Temperature Range	T _{opr}	-40 to+85	25°C
Storage Temperature Range	T _{stg}	-40 to+85	25°C

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

Item	Symbol	Condition	Min.	Typ.	Max	Unit
Forward Voltage	V _F	R	1.9	2.2	2.4	V
		G/B	3.0	3.2	3.5	
Luminous Intensity	I _v	R	300	450	700	mcd
		G	700	900	1100	
		B	190	250	350	
Luminous Flux	Φ	R	1.0	1.5	2	lm
		G	2.8	3.1	3.6	
		B	0.6	1	1.4	
Wavelength	λ	R	620	625	630	nm
		G	515	520	525	
		B	465	470	475	
Viewing Angle	2θ _{1/2}	I _F =20mA	--	120	--	Deg
Capacitance	C	R	--	110	--	pF
		G		45		
		B		110		
Reverse Current	I _R	V _R =5V	--	5	10	uA



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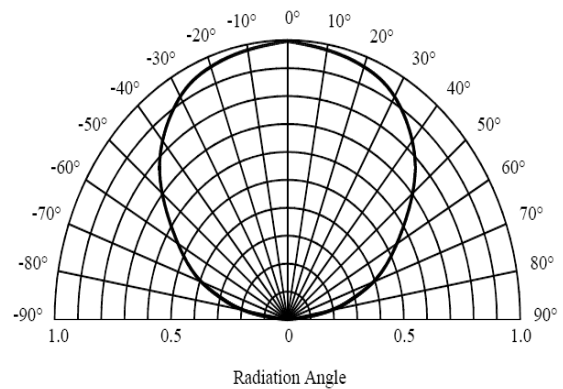
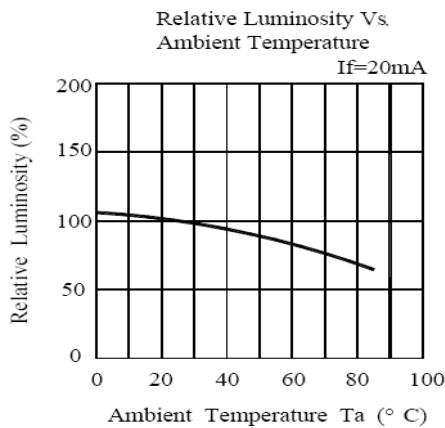
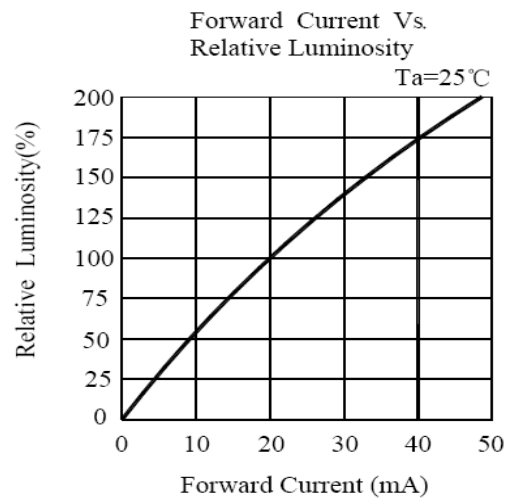
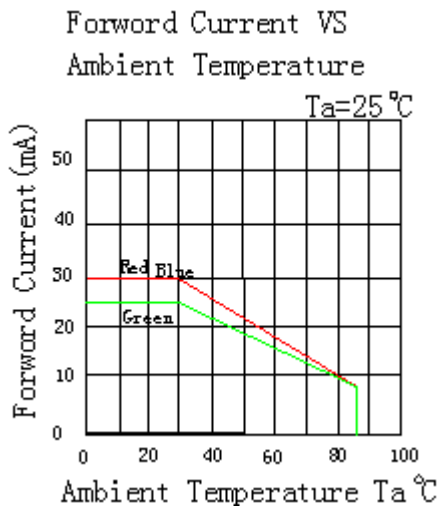
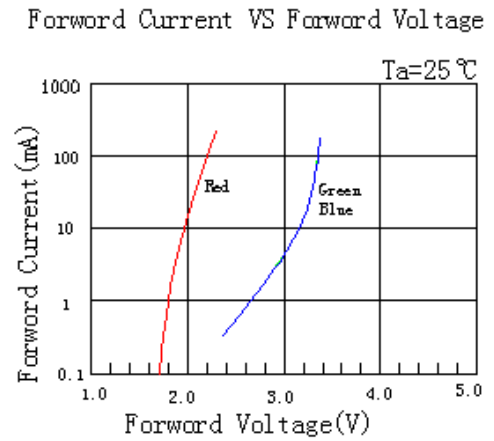
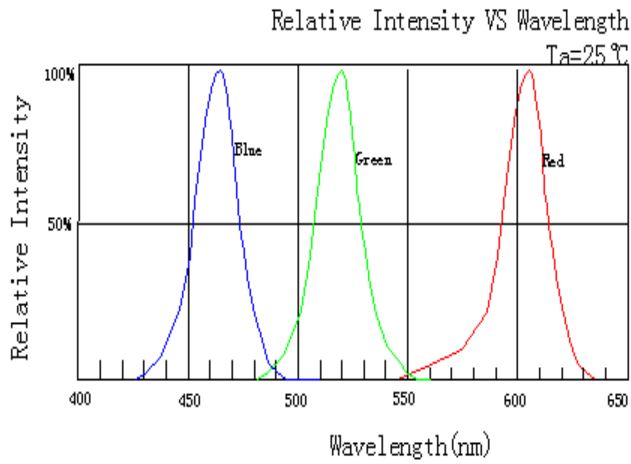
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◇ Typical Electro-Optical Characteristics Curves





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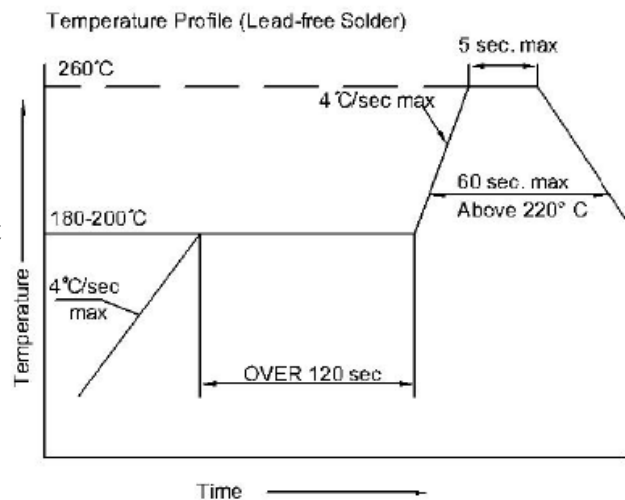
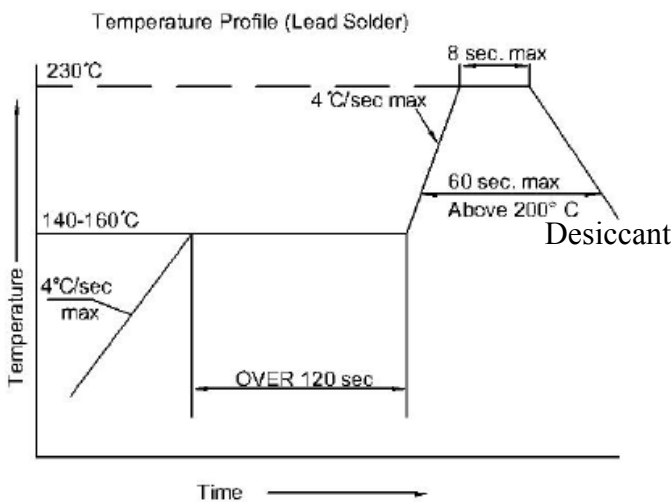
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◇ Reliability Test Items And Conditions

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:+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	High Temperature Storage	TEMP:+260°C	1000hrs	22pcs	0/1
5	Low Temperature Storage	TEMP:-40°C	1000hrs	22pcs	0/1
6	DC Operating Life	IF=20MA	1000hrs	22pcs	0/1
7	High Temperature	85°C	1000hrs	22pcs	0/1
8	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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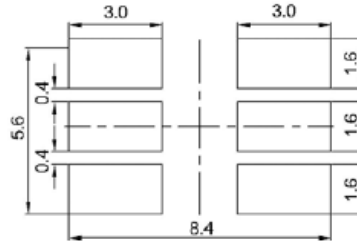
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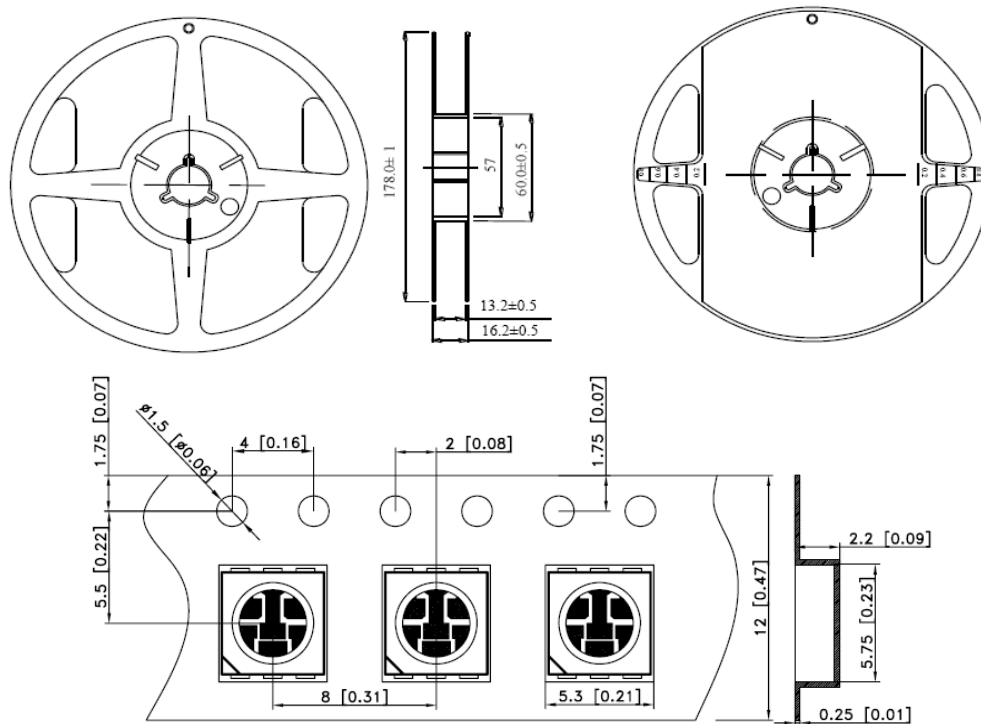
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◇ Recommended Soldering Pad Dimensions



◇ Tape Specification: 1,000PCS 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

