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Wah Wang Data Sheet For 0603 Blue SMD

Part No: WW-BIS190TS-G

Address : Unit 01, 19th Floor, Nanyang Plaza,
No.57 Hung To Road, Kwun Tong,
Kowloon, Hong Kong
Tel : 852-2512 9939 (10 line)
Fax : 852-2344 2398
Web Site : www.wahwang.com

S.D.N. or D.N. No. : _____

Customer Name : _____

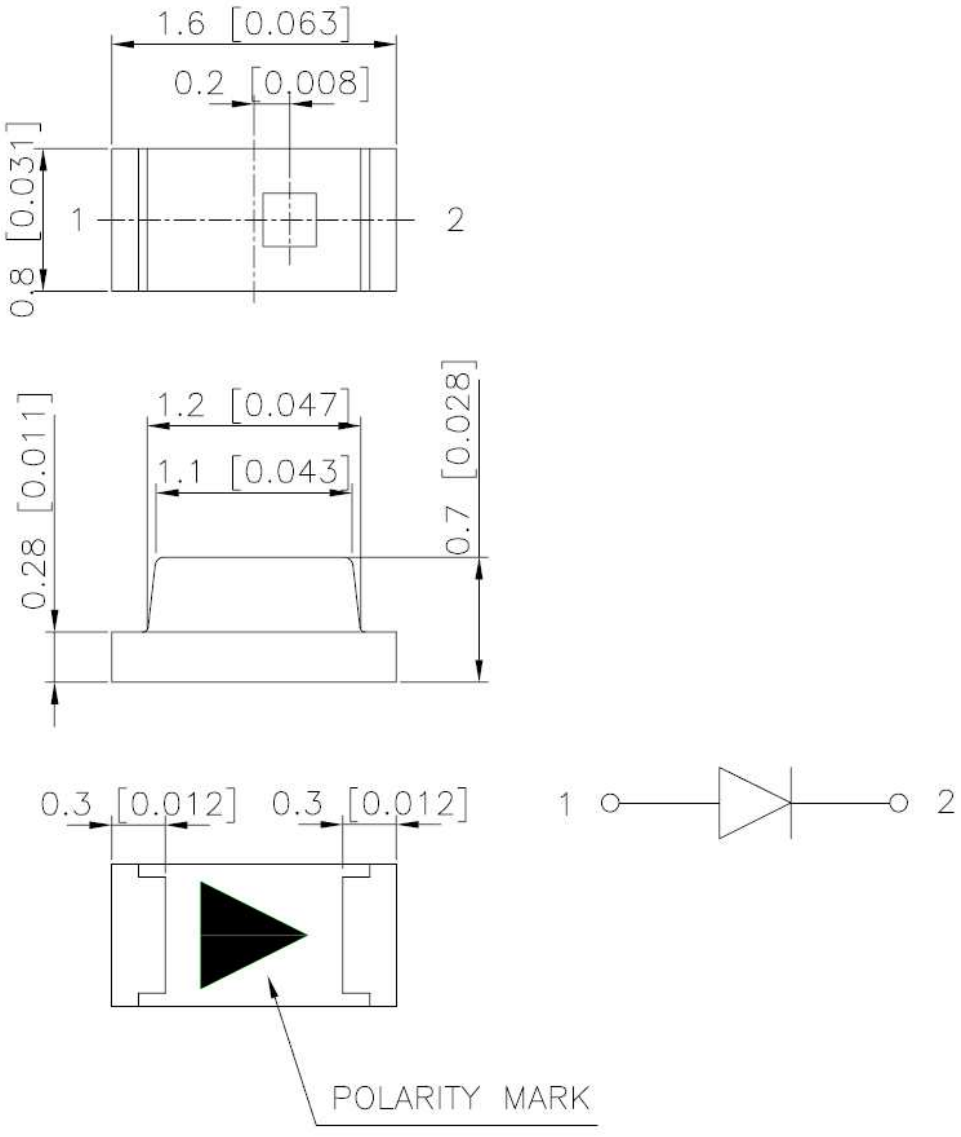
Sample Approval Signature : _____

Date : _____

Features
1. Chip LED. 2. SMD LED dimensions: 1.6(L) x 0.8(W) x 0.7(H) mm 3. High intensity 4. Extremely wide view angle 5. Anti-electrostatic tape package 6. Reliable and stable

Part No.	WW-BIS190TS-G
Lens Color	Water Clear
Emitting Color	Blue
Resin (mold)	Epoxy

Package Dimension



Absolute Maximum Ratings at Ta=25℃

Parameter	MAX.	Unit
Power Dissipation	100	mW
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width)	100	mA
Continuous Forward Current	25	mA
Reverse Voltage	5	V
Operating Temperature Range	-40℃ to +85℃	
Storage Temperature Range	-40℃ to +85℃	

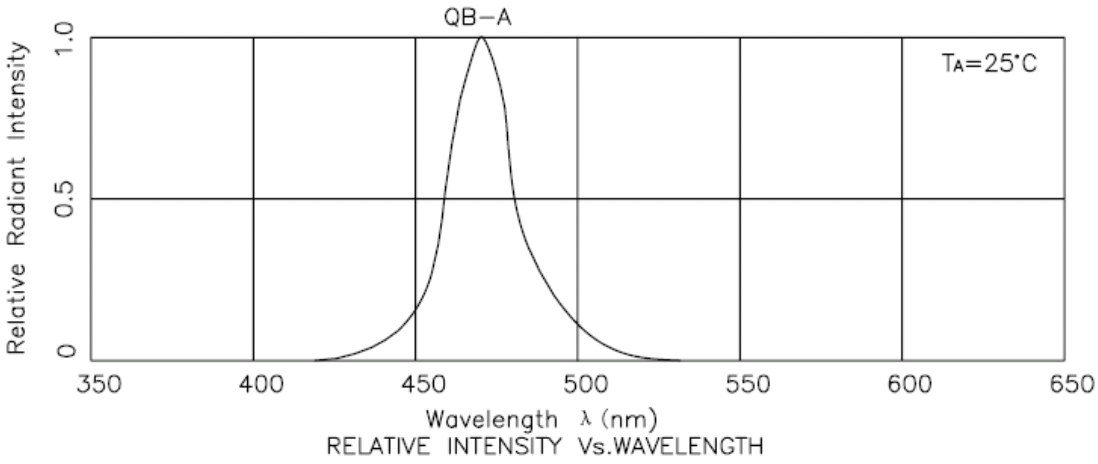
Electrical Optical Characteristics at Ta=25℃

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Luminous Intensity	Iv	80	---	170	mcd	I_F = 20mA (Note 7)
Viewing angle	2θ½	---	120	---	Deg	(Note 8)
Wavelength	ΛD	465	---	475	nm	I_F = 20mA(Note 9)
Forward Voltage	V_F	2.8	---	3.6	V	I_F = 20mA
Reverse Current	I_R	---	---	10	μA	V_R = 5V

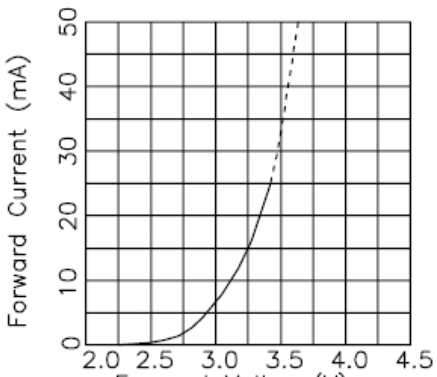
Notes:

1. All dimensions are in millimeter.
2. Tolerance is ±0.25mm(.01”) unless others otherwise noted.
3. Protruded resin under flanges is 1.0mm(0.4”) max.
4. Lead spacing is measured where the leads emerge from the package.
5. Specifications are subject to change without notice.
6. Caution in ESD: Static Electricity and surge damages the LED. It is recommended to use a wrist band or anti-electrostatic glove when handling the LED.All devices, equipment and machinery must be properly grounded.
7. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
8. $\theta_{1/2}$ is the off-axis angle at which the luminous intensity is half the axial luminous intensity.
9. It use many parameters that correspond to the CIE 1931 2°
   X,Y, and Z are CIE1931 2°values of Red, Green and Blue content of the measurement.

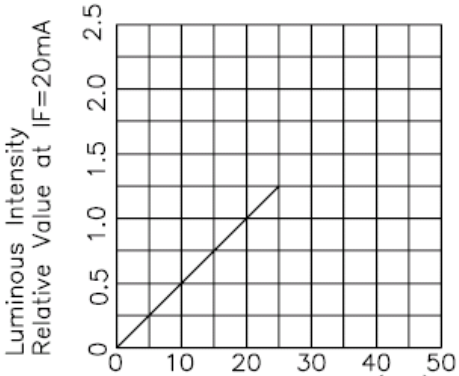
◆ Typical Electrical/Optical Characteristics Curves



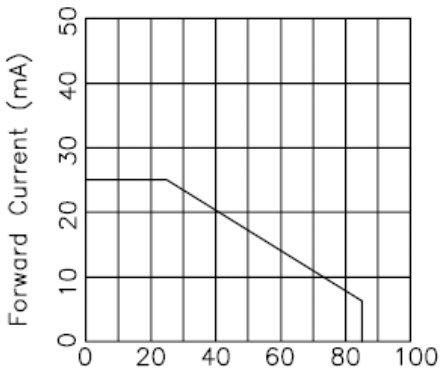
RELATIVE INTENSITY Vs.WAVELENGTH



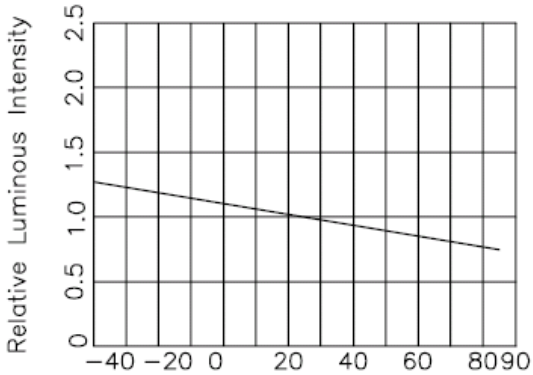
FORWARD CURRENT Vs.
FORWARD VOLTAGE



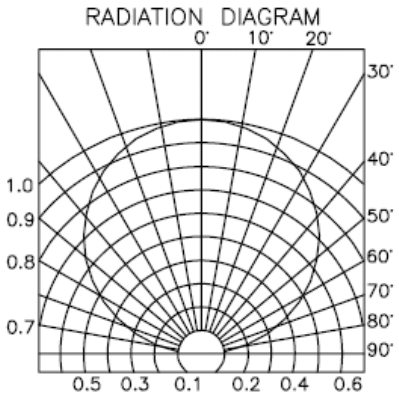
LUMINOUS INTENSITY Vs.
FORWARD CURRENT



FORWARD CURRENT Vs.
DERATING CURVE

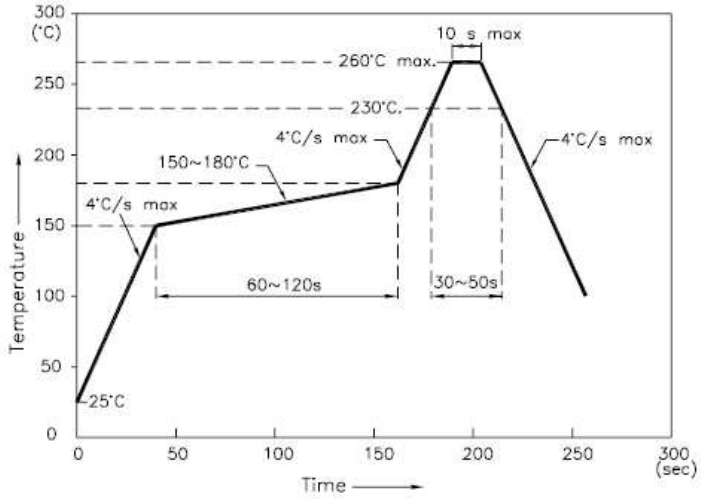


LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE



Soldering Profile

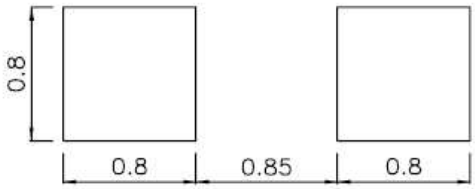
Reflow Soldering Profile For Lead-free SMT Process.



NOTES:
1. We recommend the reflow temperature 245°C(+/-5°C).The maximum soldering temperature should be limited to 260°C.
2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

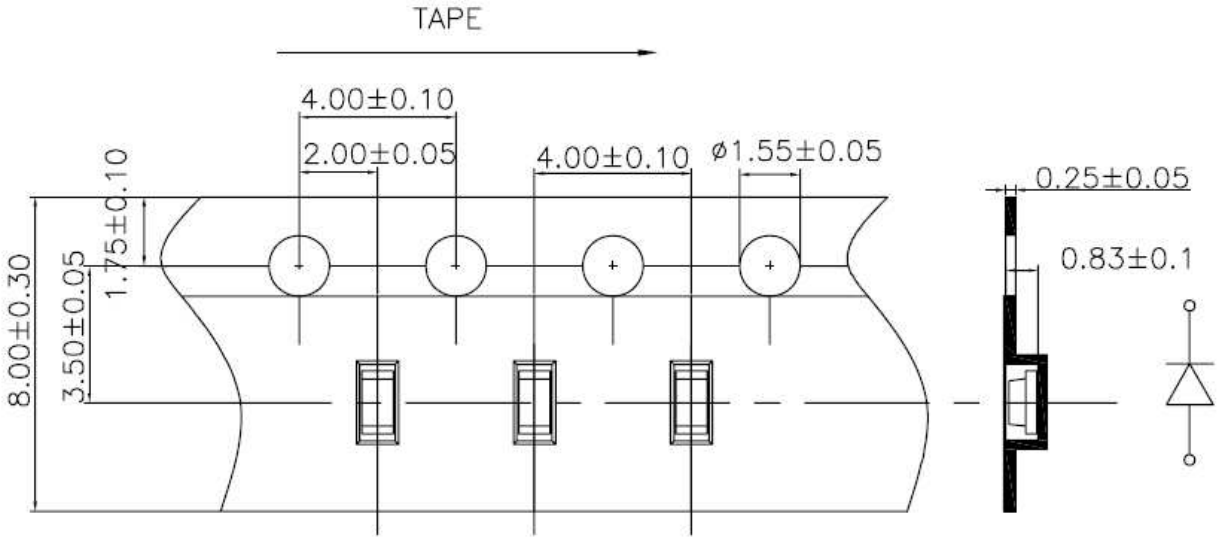
Recommended soldering pattern

(Units:mm)



Tape specifications

(Units:mm)



CAUTIONS- SMD LED

Precaution to be taken in designing apparatus using SMD LED:

(1) The current limiting resistor must be provided in the driving circuit of SMD LED and the circuit should be designed so as to drive SMD LED within the rated value:
Care must be taken to design of the apparatus so that the momentary reverse voltage (or excessive current) is not be charged to SMD LED when the circuit is turned ON or OFF.

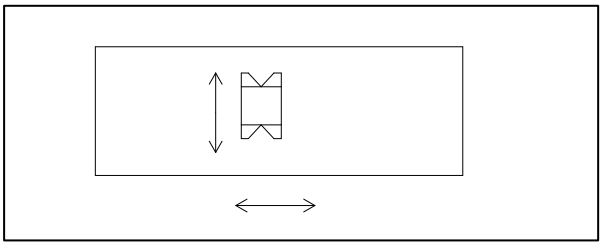
(2) Care must be taken to design the circuit so that the average current is within the rated value of SMD LED if the pulse driving is adapted. And also the circuit should be designed so that the reverse voltage is not charged to SMD LED when the SMD LED is turned off.

(3) For reflow soldering, the accuracy of SMD LED is within +/- 0.3mm approximately in “X” and “Y” directions. (In case of dip soldering, it is dependent on mounting accuracy.)

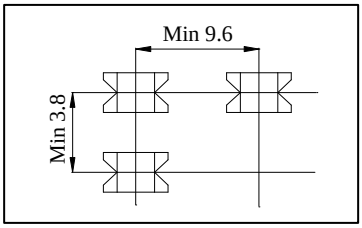
(4) SMD LED is raised by 0 to 0.3mm approximately after soldering.

(5) In order to avoid the stress in soldered area that may be caused by bending of the circuit board, mounting of SMD LED at a right against longer sided of the circuit board is recommended as illustrated below.

(6) The pitch between SMD LED should be 3.8 X 9.6mm minimum as illustrated below. .



(7) When assembling the circuit board into the finished products, care must be taken to avoid the component parts from touching other parts.



Others

(1) Care must be taken not to cause stress to the epoxy resin portion of SMD LED while it is exposed to high temperature.

(2) Care must be taken not to the rub the epoxy resin portion of SMD LED with a hard or sharp edged article such as the sand blast and the metal hook as the epoxy resin is rather soft and liable to be damaged.