0602 SMD Chip LED
Right Angle

RoHS Compliant

Specifications

Dice material : InGaN/Sapphire
Emmiting Colour : Green
Lens colour : Water clear
Viewing angle : 120°
Dominant Wavelength : 575nm
Luminous Intensity : 80mcd

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Rating	Unit
Power Dissipation	PD	120	mW
D.C Forward current	If	50	mA
Reverse Voltage	Vr	5	V
Peak Pulsing Current	Ifp	80	mA
Operating Temperature	Top	-40 to +85	°C
Storage Temperature	Tstg.	-40 to +100	°C
Peak Current (1/10Duty Cycle,0.1ms Pulse Width.)	If (peak)	100	mA
Lead Soldering Temperature. (1.6mm from seating plane)	Tsol.	Reflow Soldering : 260oC for 3 sec.	
Electrostatic Discharge	ESD	1000 (HBM)	V

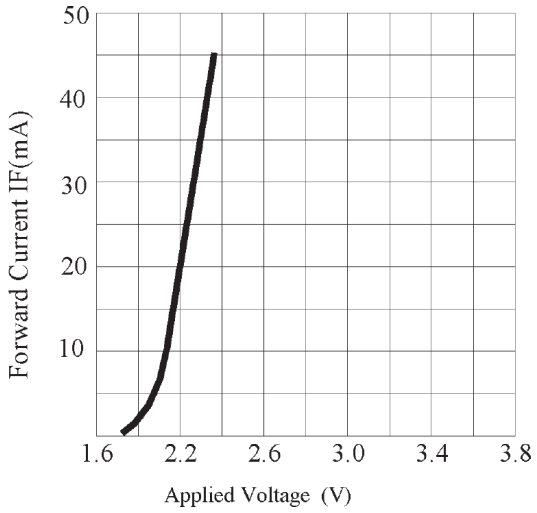
Notes:
IFP conditions: Pulse width ≤ 10msec and duty cycle ≤1/10

Electrical and Optical Characteristics

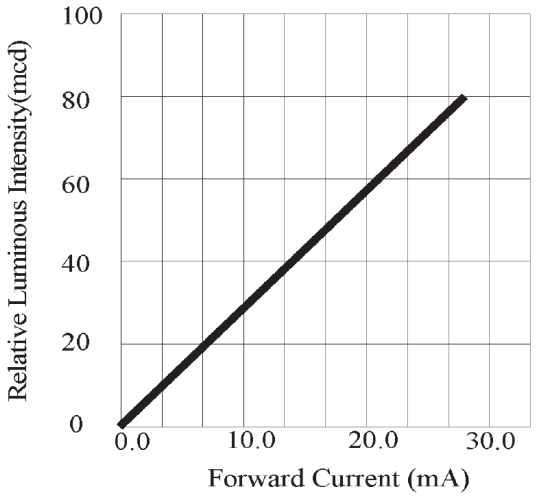
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Intensity	Iv	If=20mA	30		80	mcd
Forward Voltage	Vf	If=20mA	1.75		2.35	V
Dominant Wavelength	λd	If=20mA	566		575	nm
Reverse Current	Ir	Vr=5V			10	μA
Viewing Angle	2θ1/2	If=20mA		120		deg

Notes:
1. Tolerance of Luminous Intensity is ±15%
2. Tolerance of Forward Voltage is ±0.1V
3. Tolerance of Dominant Wavelength is ±1nm

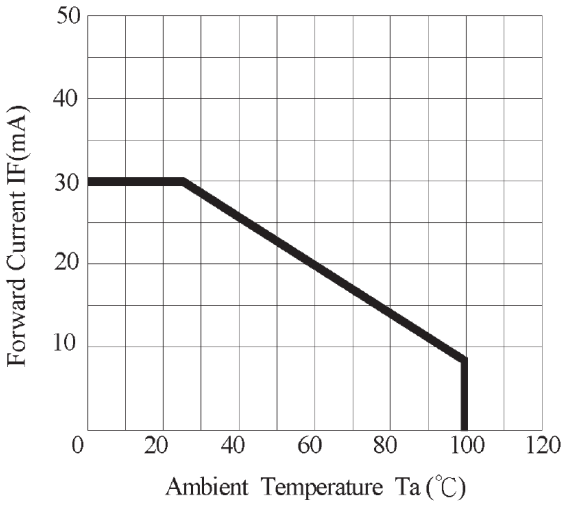
Typical Electrical/Optical Characteristic Curves
(25°C Ambient Temperature Unless Otherwise Noted)



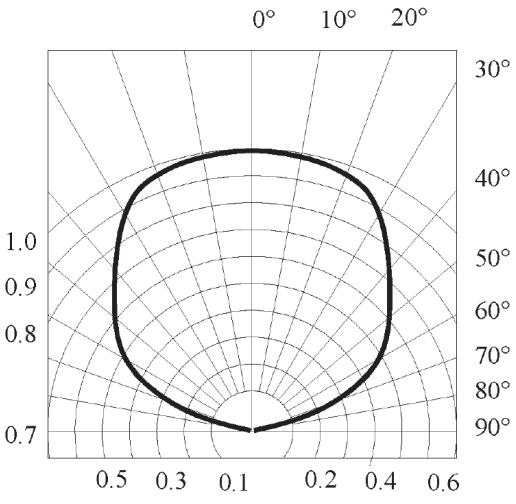
Forward Current VS. Applied Voltage



Forward Current VS. Luminous Intensity



Ambient Temperature VS. Forward Current



Radiation Diagram

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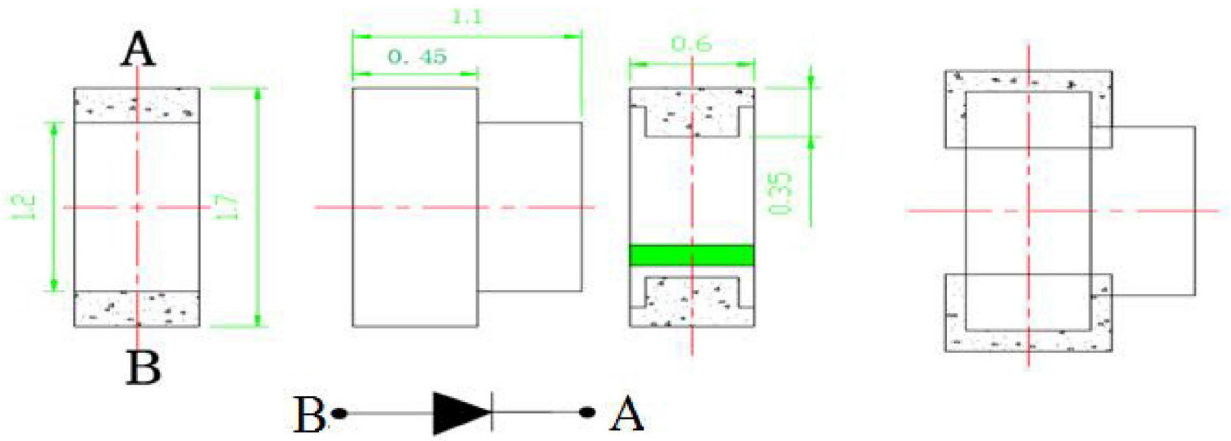
Dimensions



Tolerance is ±0.1mm unless otherwise noted.

Dimensions : Millimetres

Specifications for Bin Grading:

IV(mcd)		
Bin	Min	Max
1	30	40
2	40	50
3	50	60
4	60	80

Specifications for Vf Group:

VF (V)		
Bin	Min	Max
1	1.75	1.95
2	1.95	2.15
3	2.15	2.35

Specifications for Wavelength Group:

WD (nm)		
Bin	Min	Max
1	566	569
2	569	572
3	572	575

Precautions in use:

Storage

It is recommended to store the products in the following conditions:

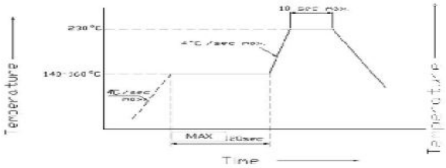
1. Do not open the moisture proof bag before ready to use the LEDs
2. The LEDs should be kept at 30°C or less and 60%RH or less before opening the package. The max. storage period before opening the package is 1 year.
3. After opening the package, the LEDs should be kept at 30°C/40%RH or less, and it should be used within 7 days
4. If the LEDs be kept over the condition of 3, baking is required before mounting. Baking condition as below: 60±5oC for 24 hours

Reflow Temp/Time

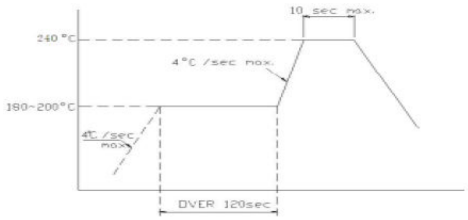
Reflow Soldering			Hand Soldering	
	Lead Solder	Lead-Free Solder		
Pre-heat	140°C to 160°C	180° to 2000°C	Temperature	350°C Max.
Pre-heat time	120sec. Max.	120sec. Max.	Soldering time	3sec. Max. (one time only)
Peak temperature	2300°C Max.	2400°C Max.		
Soldering time	10sec. Max.	10sec. Max.		
Condition	refer to temperature - profile 1	refer to temperature - profile 2		

*After reflow soldering rapid cooling should be avoided.
[Temperature-profile (Surface of circuit board)]
Use the conditions shown to the under figure.

<1 : Lead Solder>



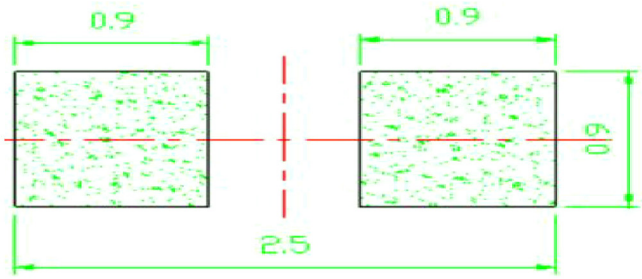
<2 : Lead-free Solder>



Notes:

1. Reflow soldering should not be done more than two times.
2. Do not put stress on the LEDs when soldering.
3. Do not warp the circuit board before it have been returned to normal ambient conditions after soldering.

Reflow Soldering Pad Dimensions



Part Number Table

Description	Part Number
Chip LED, Green, 575nm, 120°, 80mcd, Surface Mount	MP008257