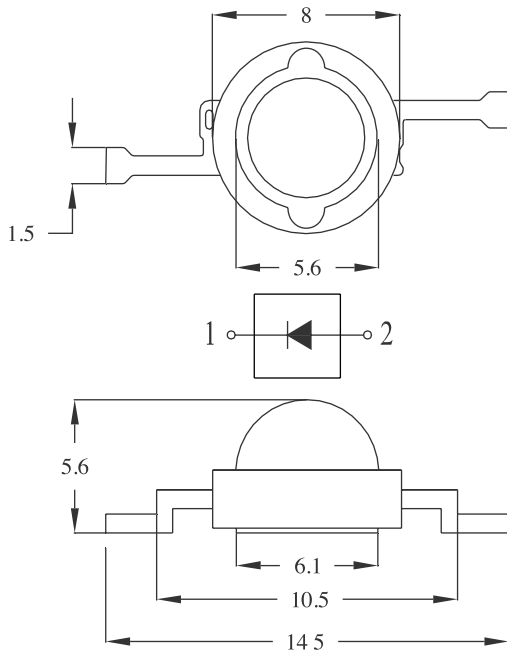


1W High Power LED



Package Dimensions:



All dimensions are in mm
Tolerance: $\pm 0.25\text{mm}$

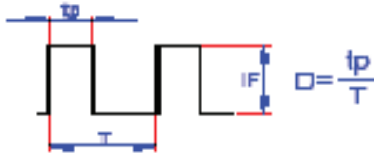
Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

Parameter	Rating	Unit
Power Dissipation	1,067	mW
LED Junction Temperature	120	$^\circ\text{C}$
Reverse Voltage	5	V
D.C. Forward Current	350	mA
Pulsed Forward Current ($t_p \leq 100\mu\text{s}$, Duty Cycle = 0.005×1)	700	mA
Operating Temperature Range	-40 to +75	$^\circ\text{C}$
Storage Temperature Range	-40 to +100	$^\circ\text{C}$
Soldering Temperature	Reflow Soldering: 260°C for 10sec. Hand Soldering: 350°C for 3 sec.	
Electric Static Discharge (HBM)	6,000	V

1W High Power LED



Duty Cycle:



- Proper current derating must be observed to maintain junction temperature below the maximum.
- All products no sensitive to ESD damage (6,000 Volts by HBM condition)
- Be careful with a powered up current limited power supply, because of current spikes during power up and/or connection. Best practice is to connect the LED then turn up the voltage gradually. People building their own power supplies should design for minimum current spikes during power up and connection.
- For best results the customer needs to provide proper control of the thermal path, protect against electrical overstress conditions and ensure they are properly attached to the heat sink.
- It is strongly recommended that the temperature of lead does not exceed 55°C.
- It is strongly recommended to apply an electrically isolated heat conducting film between the slug and contact surfaces

Electrical & Optical Characteristics

Parameter		Symbol	Condition	Values			Unit
				Min.	Typ.	Max.	
Luminous Flux	FULL	Φv	IF=350mA	40	53		lm
	Rank L1			40		44	
	Rank L2			44		49	
	Rank L3			49		55	
	Rank L4			55		63	
	Rank L5			63		72	
	Rank L6			72		83	
Forward Voltage	Rank V1	Vf	IF=350mA	1.8		2.05	V
	Rank V2			2.05		2.3	
	Rank V3			2.3		2.55	
	Rank V4			2.55		2.8	
				2.8		3.05	
Dominant Wavelength(per LED)		λD		584		586	nm
				586		588	
				588		590	
				590		592	
				592		594	
				594		596	
Reverse Current		IR				50	μA
Viewing Angle at 50% IV		2 θ ½			120		deg
Thermal resistance Junction to Case		R θ J-C			15		°C/W

Notes: 1. The data is tested by an IS tester.
2. Customer's special requirements are also welcome.



1W High Power LED



Typical Electrical & Optical Characteristics Curves:

(25°C Ambient temperature unless otherwise noted)

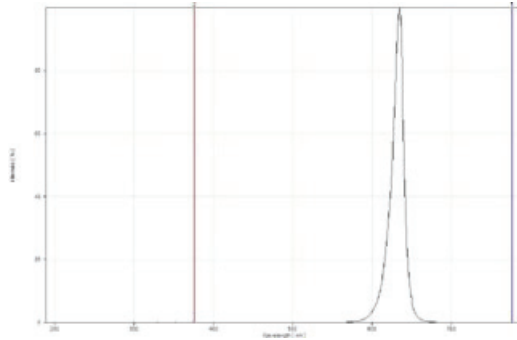
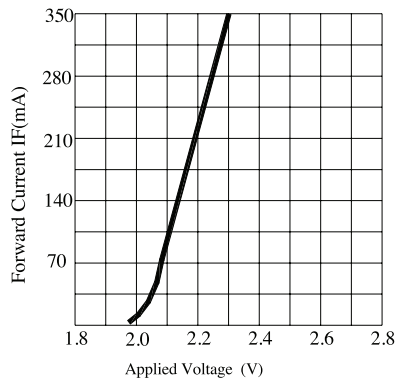
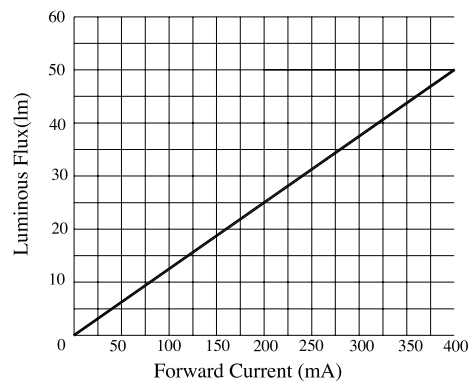


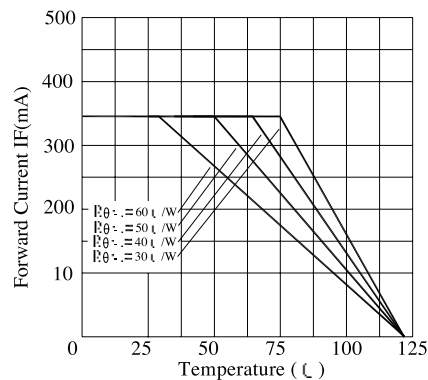
Fig.1 WHITE LED Spectrum VS. WAVELENGTH



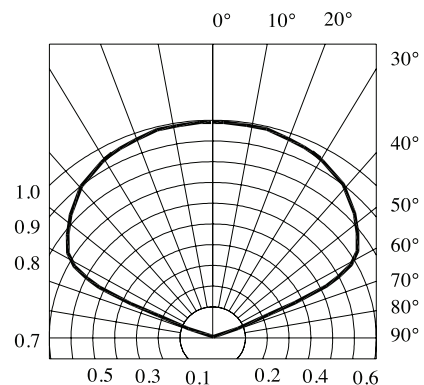
Forward Current VS. Applied Voltage



Forward Current VS. Luminous Flux



Ambient Temperature VS. Forward Current



Radiation Diagram



1W High Power LED



Recommended Storage Environment:

- Temperature: 5°C ~ 30°C (41°F ~ 86°F)
- Humidity: 60% RH Max.
- Use within 7 days after opening of sealed vapour/ESD barrier bags.
- If moisture absorbent material (silica gel) has faded away or LEDs have exceeded the storage time, baking treatment should be performed using the following conditions:
- Baking Treatment: 60 ± 5°C for 24 hours
- Fold the opened bag firmly and keep in dry environment.

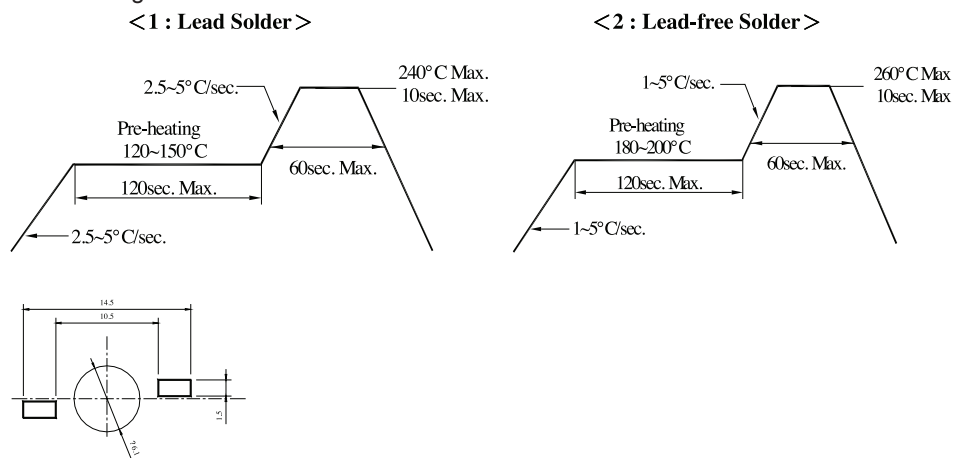
Soldering

Reflow Soldering			
	Lead Solder	Lead-free Solder	
Pre-heat	120 ~ 150°C	180 ~ 200°C	Temperature
Pre-heat Time	120sec. max.	120sec. max.	Soldering time
Peak Temperature	240°C max.	260°C max.	
Soldering Time	10sec. max.	10sec. max.	
Condition	Refer to temperature-profile 1	Refer to temperature-profile 2	350°C max. 3sec max. (one time only)

*After reflow soldering rapid cooling should be avoided.

Temperature-profile (surface of circuit board):

Use the conditions shown under figure.



Part Number Table

LED Chip		Lens Colour	Part Number
Material	Emitter Colour		
GaAlInP / Si	Blue	Water clear	703-0145

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