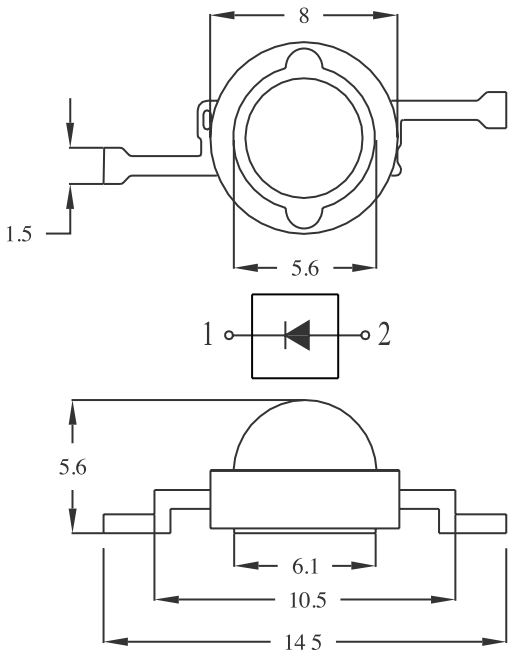
1W High Power LED

multicomp PRO

RoHS Compliant

Package Dimensions:

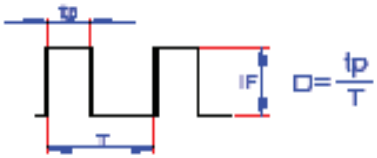


All dimensions are in mm
Tolerance: ±0.25mm

Absolute Maximum Ratings at Ta=25°C

Parameter	Rating	Unit
Power Dissipation	1,400	mW
LED Junction Temperature	120	°C
Reverse Voltage	5	V
D.C. Forward Current	350	mA
Pulsed Forward Current (tp ≤ 100μs, Duty Cycle = 0.005 × 1)	700	mA
Operating Temperature Range	-40 to +75	°C
Storage Temperature Range	-40 to +100	°C
Soldering Temperature	Reflow Soldering: 260°C for 10sec. Hand Soldering: 350°C for 3 sec.	
Electric Static Discharge (HBM)	6,000	V

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	10	20		lm
	Rank L1			10		15	
	Rank L2			15		20	
	Rank L3			20		25	
	Rank L4			25		30	
	Rank L5			30		35	
	Rank L6			35		40	
Forward Voltage	Rank V1	Vf	IF=350mA	3		3.25	V
	Rank V2			3.25		3.5	
	Rank V3			3.5		3.75	
	Rank V4			3.75		4	
Dominant Wavelength(per LED)		λD		460		465	nm
				465		470	
				470		475	
				475		480	
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.

Typical Electrical & Optical Characteristics Curves:

(25°C Ambient temperature unless otherwise noted)

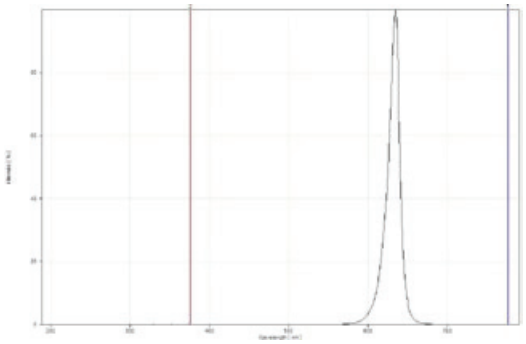
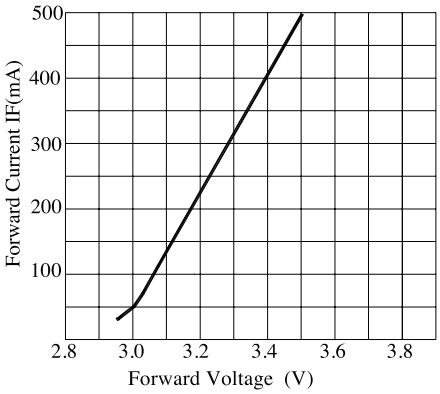
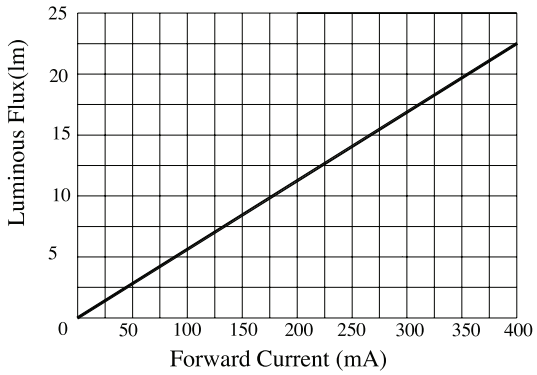


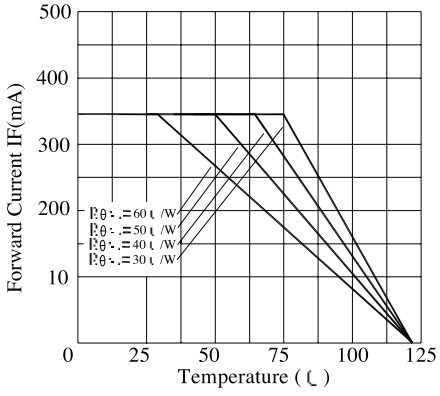
Fig.1 WHITE LED Spectrum VS. WAVELENGTH



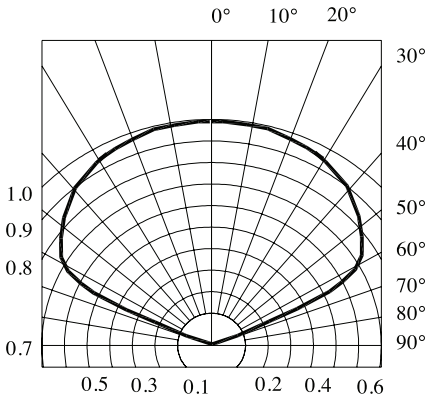
Forward Current VS. Applied Voltage



Forward Current VS. Luminous Flux



Ambient Temperature VS. Forward Current



Radiation Diagram

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

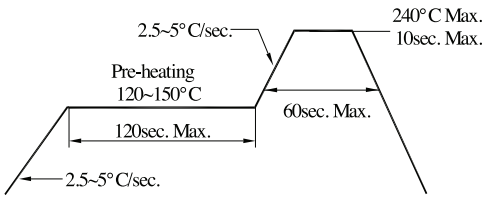
Reflow Soldering				
	Lead Solder	**Lead-free Solder**		
Pre-heat	120 ~ 150°C	180 ~ 200°C	Temperature	350°C max.
Pre-heat Time	120sec. max.	120sec. max.	Soldering time	3sec max. (one time only)
Peak Temperature	240°C max.	260°C max.		
Soldering Time	10sec. max.	10sec. max.		
Condition	Refer to temperature-profile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

*After reflow soldering rapid cooling should be avoided.

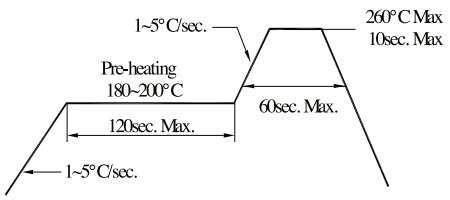
Temperature-profile (surface of circuit board):

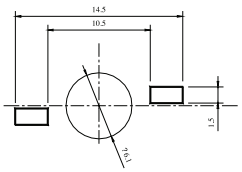
Use the conditions shown under figure.

<1 : Lead Solder>



<2 : Lead-free Solder>





Part Number Table

LED Chip		Lens Colour	Part Number
Material	**Emitter Colour**		
GaAlInP / Si	True Green	Water clear	703-0147