

High Power 12W LED



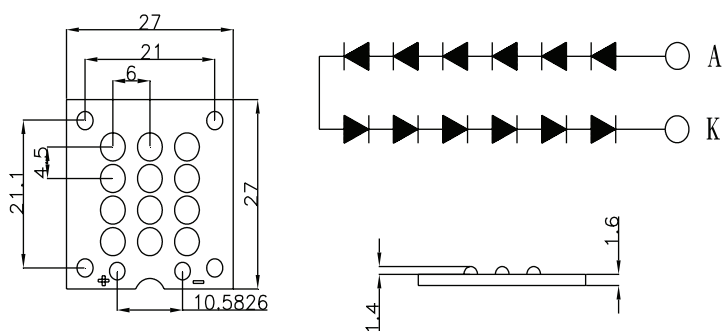
Features:

- Excellent transiting heat from LED chip operating under 350mA
- High luminous output
- No UV

Applications:

- Reading lights
- Portable flashlights
- Uplighters & downlighters
- Garden lighting
- LCD backlights / light guides
- General lighting

Package Dimensions:



All dimensions are in mm
Tolerance: $\pm 0.5\text{mm}$

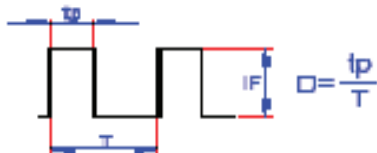
Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

Parameter	Symbol	Unit
Power Dissipation	12,250	mW
LED Junction Temperature	120	$^\circ\text{C}$
Reverse Voltage	5	V
D.C. Forward Current	350	mA
Pulsed Forward Current ($t_p < 100\mu\text{s}$, 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 3sec.	

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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	Min.	Typ.	Max.	Unit
Luminous Flux	Φ_V	IF=350mA	800	950		lm
	η	IF=350mA		80		Lm/W
CIE Chromaticity Coordinates: X Axis	X	IF=350mA		0.4578		
CIE Chromaticity Coordinates: Y Axis	Y	IF=350mA		0.4101		
Forward Voltage	VF	IF=350mA	30		35	V
Correlated Colour Temperature	CCT	IF=350mA		2,750		K
Thermal Resistance Junction to Case	R θ J-C	IF=350mA		9		°C/W
Reverse Current	IR	VF=5V			50	μ A
Viewing Angle at 50% IV	2 θ 1/2	IF=350mA		120		Deg.

Notes: 1. The data is tested by IS tester.

2. Customer's special requirements are also welcome.

Typical Electrical & Optical Characteristics Curves:

(25°C Ambient temperature unless otherwise noted)

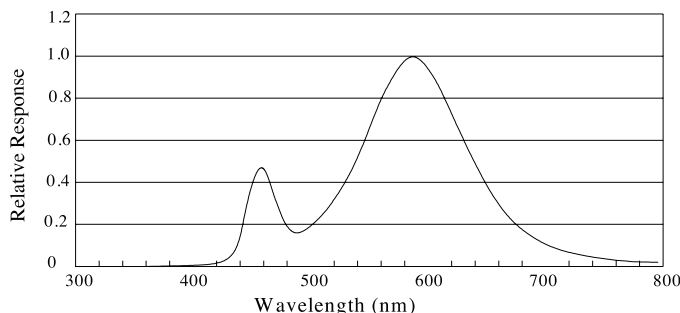
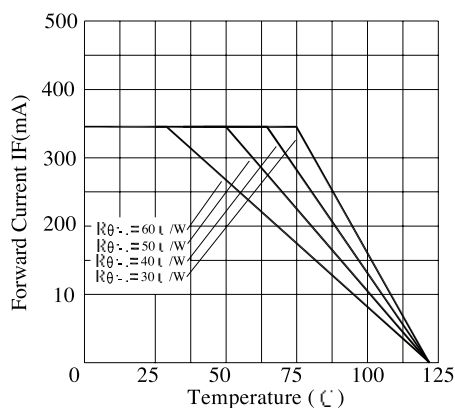
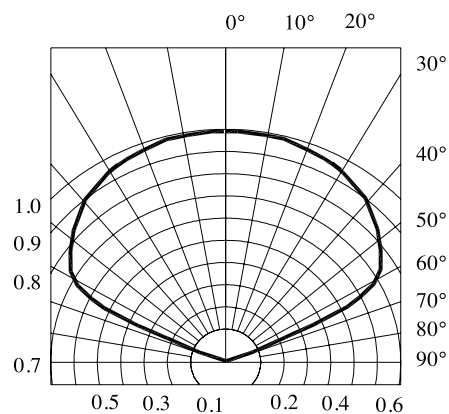


Fig.1 WHITE LED Spectrum VS. WAVELENGTH

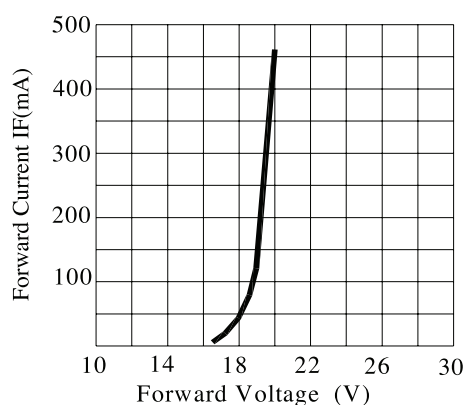
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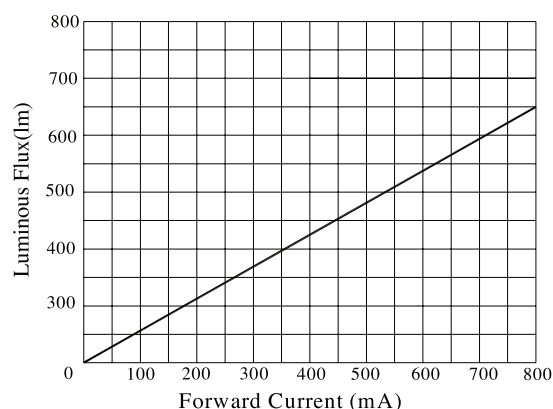
Ambient Temperature VS. Forward Current



Radiation Diagram



Forward Current VS. Applied Voltage

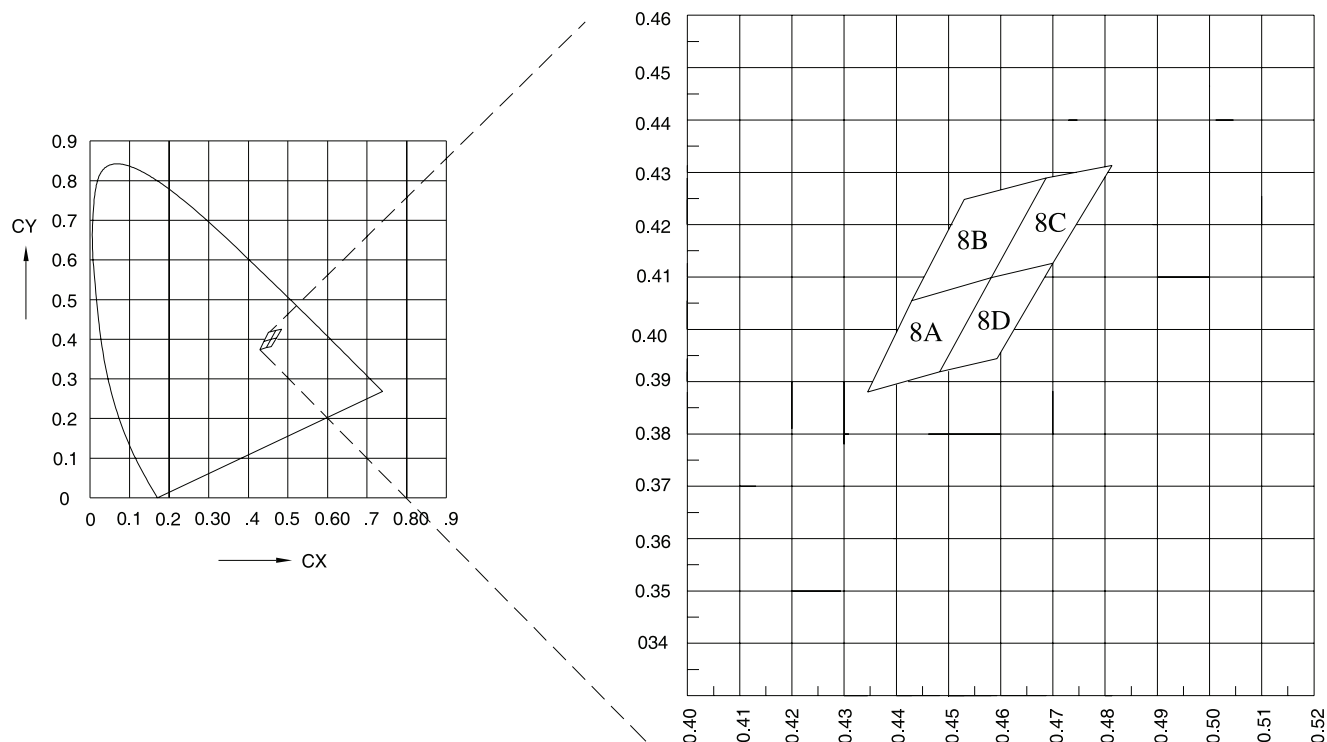


Forward Current VS. Luminous Flux

Chromaticity Coordinates Specifications for Bin Grading:

Bin	Rank				
8A	X	0.4345	0.443	0.4582	0.4483
	Y	0.388	0.4055	0.4099	0.3919
8B	X	0.443	0.453	0.4687	0.4582
	Y	0.4055	0.4248	0.4289	0.4099
8C	X	0.4582	0.4687	0.4813	0.47
	Y	0.4099	0.4289	0.4319	0.4126
8D	X	0.4483	0.4582	0.47	0.4593
	Y	0.3919	0.4099	0.4126	0.3944

Chromaticity Coordinates & Bin Grading Diagram:



Part Number Table

LED Chip		Lens Colour	Part Number
Material	Colour Coordinates		
InGaN/Metal	Warm white	Water clear	703-1025

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