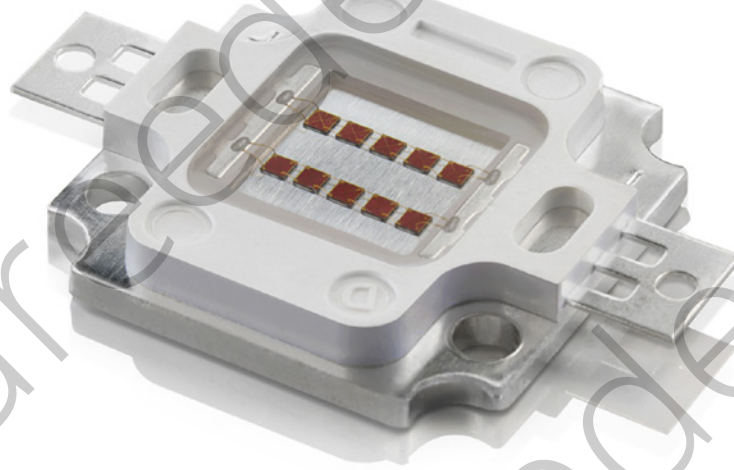


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1. Product Description



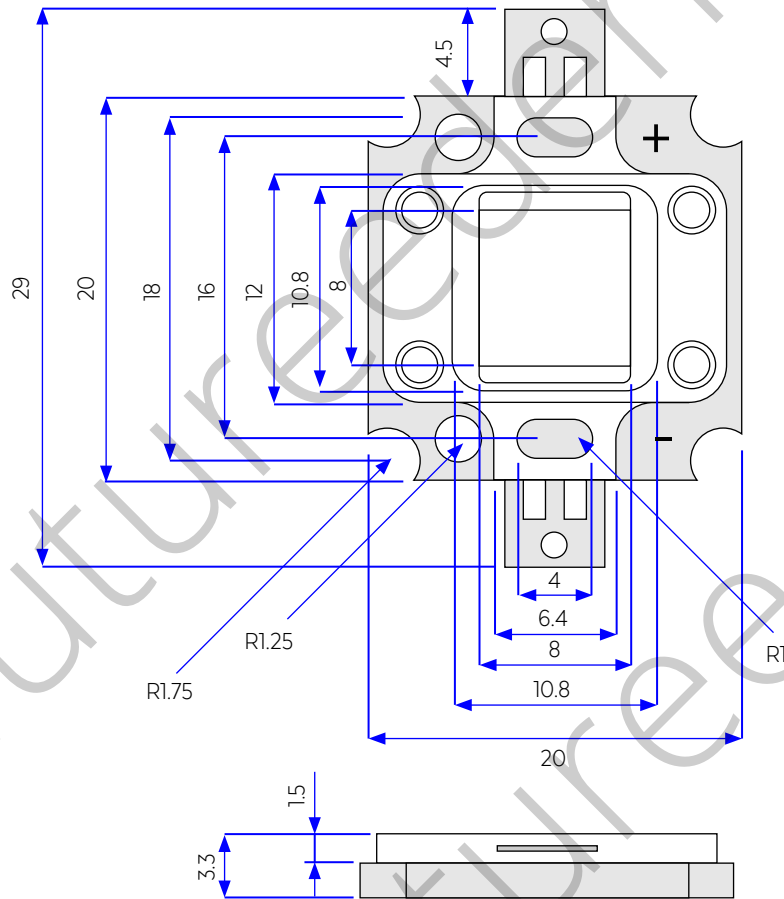
Product features:

- Super High Flux Output and Luminance
- Designed for High Current Operation
- Low Thermal Resistance : 12°C SMT Solder capability
- Lead Free - RoHS and CE Compliant
- 3 Year Warranty
- Manufactured under ISO9001 certified conditions

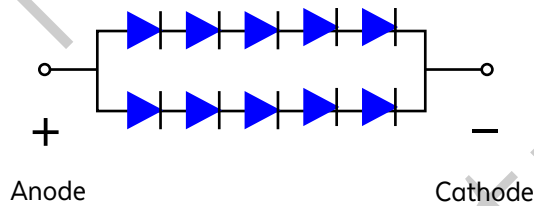
Applications:

- General Illumination
- Outdoor & Indoor Architectural Lighting
- Decorative Lighting
- Agricultural and Horticultural lighting
- Portable Lighting
- Traffic Signalling

2. Outline Dimensions



Internal Circuit



Notes:

- All dimensions in millimetres (tolerance : ± 0.2)
- Appearances may vary slightly for improvement without notice.
- Chip Size 10 x 42mil EPILED - 640-660nm

3. Electrical and Optical Characteristics

Electrical and Optical Characteristics at $I_F=800\text{mA}$ and $T_a=25^\circ\text{C}$

Parameter	Symbol	Min	Typical	Max	Unit
Luminous Flux	ϕ_v	200	~	400	lm
Wavelength	λ_D	640	~	660	nm
Forward Voltage	V_F	10	~	13	V
Power Dissipation	PD	8.00	~	10.4	W
View Angle	$2\theta_{1/2}$	~	120	~	deg
Thermal Resistance	$R_{\theta J-B}$	~	1.2	~	$^\circ\text{C}/\text{W}$
Lifespan	~	50,000	~	~	Hours

Absolute Maximum Ratings

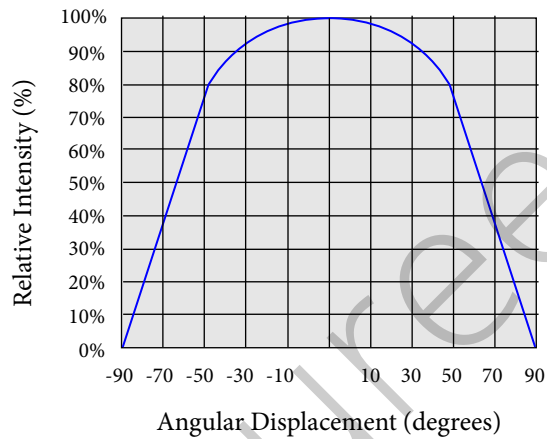
Parameter	Symbol	Value	Unit
Forward Current	I_F	800	mA
Junction Temperature	T_j	115	$^\circ\text{C}$
Operating Temperature	T_{opr}	-40~+60	$^\circ\text{C}$
Storage Temperature	T_{stg}	0~+60	$^\circ\text{C}$
ESD Sensitivity	~	+/- 2,000 V HBM	~
Temperature Coefficient of voltage	~	-5	mV/ $^\circ\text{C}$
DC Pulse Current(@ 1 KHz,10% duty cycle)	I_{FP}	1000	mA
Reverse Voltage	V_R	No reverse operation	

Notes:

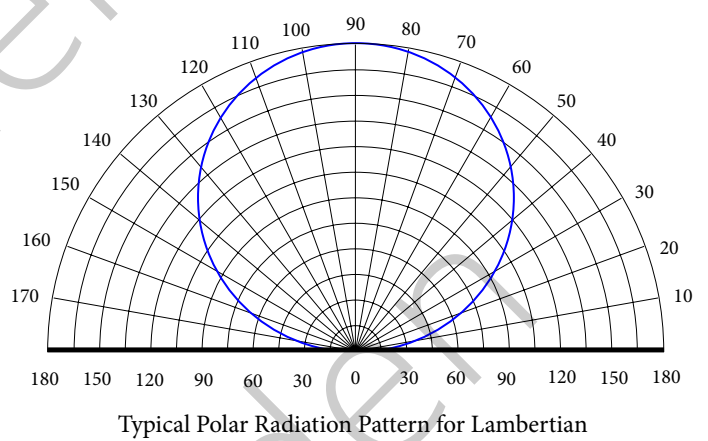
- Tolerance of Luminous Flux is +/- 3%
- Tolerance of Forward Voltage is +/- 0.1V

4. Typical Characteristic Curves

4.1 Typical Light Distribution

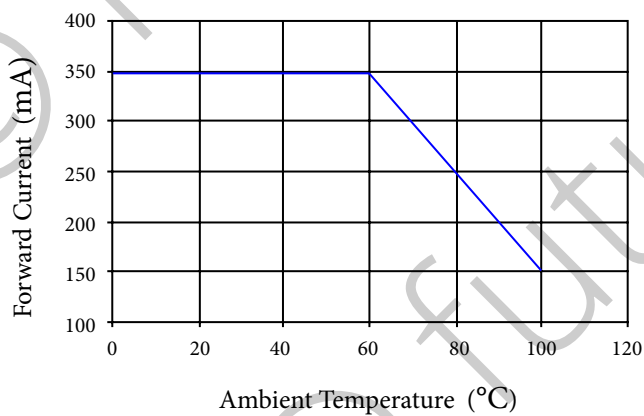


4.2 Typical Light-Emitting Angle Radiation Pattern

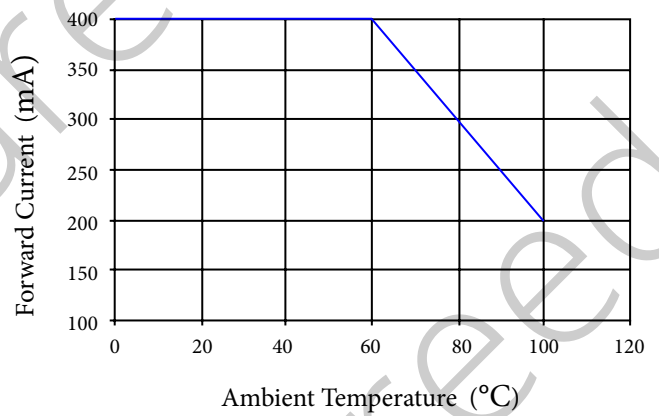


4.4 Forward Current Derating Curve (Derating based on $t_{max} = 125^{\circ}C$)

White, Royal Blue, Blue, Green, Violet

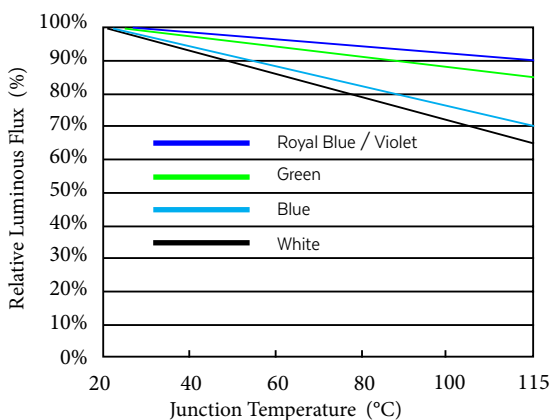


Amber, Red, Deep Red, Far Red



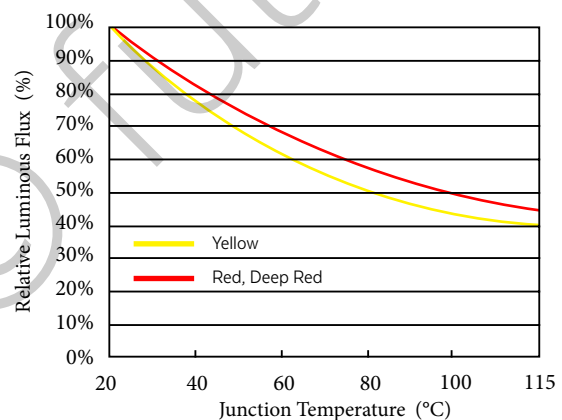
4.6 Relative Flux vs Junction Temperature (if 350mA)

White, Royal Blue, Blue, Green, Violet

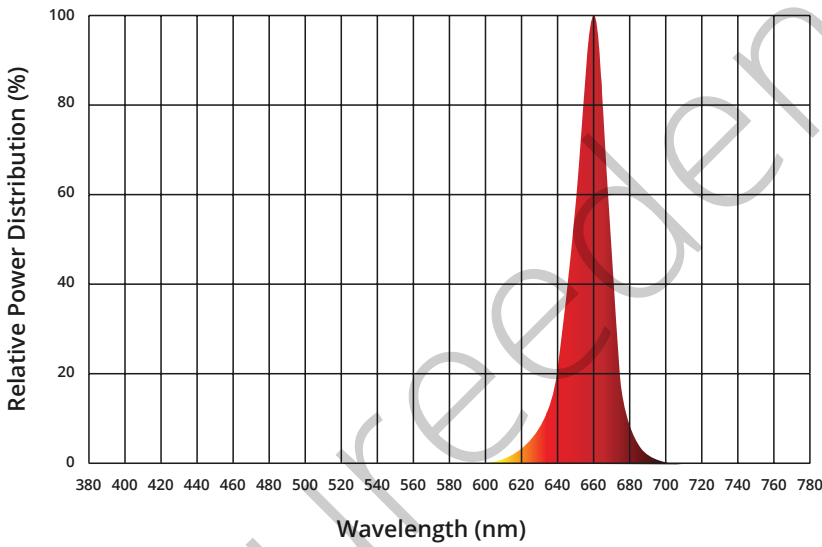


4.7 Relative Flux vs Junction Temperature (if 400mA)

Amber, Red, Deep Red



4.8 Relative Spectral Power Distribution



5. Reliability Items and Test Conditions

Test Items	Test Condition	Test Hours Cycle	Sample Size	Ac/Re
DC Aging	Ta = 25 °C if 800mA	1000H	22	0/1
Hot and Cold Shock	-40°C/30min +100 °C/30min	100 Cycles	22	0/1
High Temperature Storage	Ta=100 °C	1000H	22	0/1
High Temperature High Humidity	85 °C/85%RH	1000H	22	0/1
Low Temperature Storage	Ta=-40 °C	1000H	22	0/1
ESD (HBM)	2000V HBM	1Time	10	0/1

Criteria for Judging Damage

Items	Symbol	Test Condition	Criteria for Judging Damage
Forward Voltage	V _F	I _F =800mA	Initial Data±10%
Reverse Current	I _R	V _R =25V	I _R ≤20μA
Luminous Flux	φ _v	I _F =800mA	Average φ _v degradation ≤30% Single LED φ _v degradation ≤50%