Ultra Brightness White LED Lamp

4mm x 2mm Flat Lens Through-Hole Package

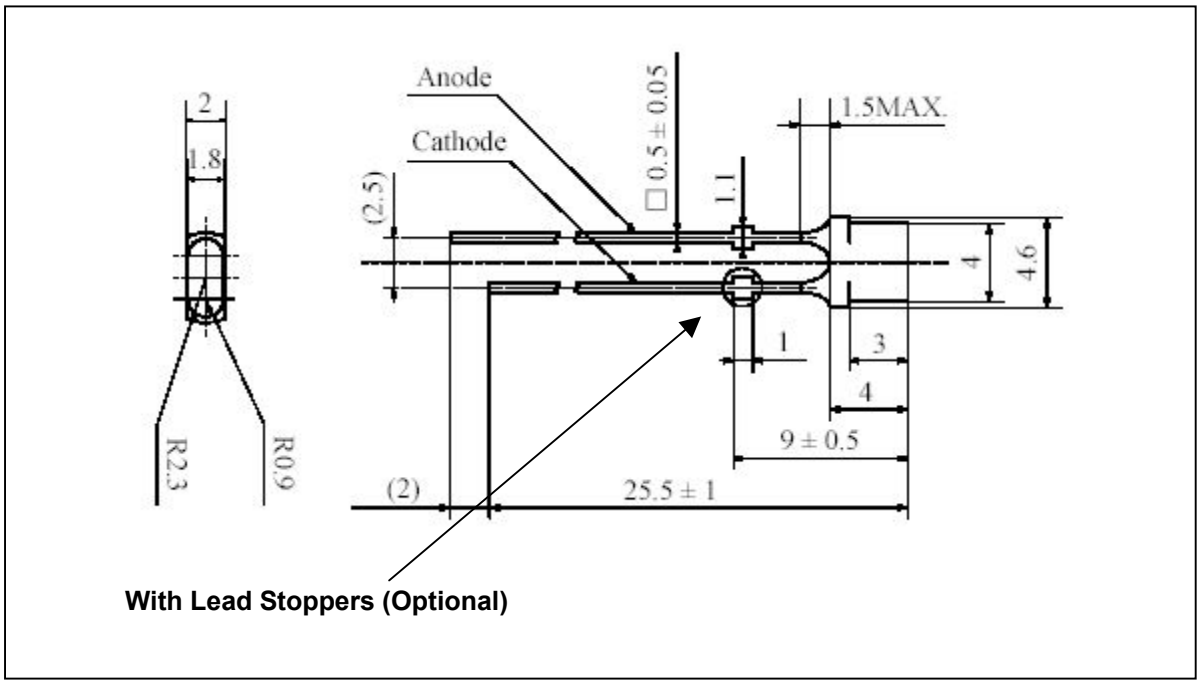
BL–LBUW5FC4 series

FEATURES	APPLICATIONS
• Extremely uniform white LED. • Super luminosity white LED (GaN die). • Wide viewing angle (flat lens°). • Water clear package. • 4mm x 2mm all resin mold. • Class 1 ESD rating	• Architectural Lighting • Border Lighting. • Strip Lights. • Small or tight areas. • Garden or Solar Lights. • Back-lighting.

VIEWING ANGLE OPTIONS:

Product Code	Viewing Angle (2θ½) (Degrees)
BL-LBUW5FC4	140°±5°

PACKAGE OUTLINE DIMENSIONS:



NOTES:

1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25 (0.01") mm unless otherwise noted.
3. Lead spacing is measured where the leads emerge from the package.
4. Specifications are subject to change without notice.

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ABSOLUTE MAXIMUN RATING (at T_A = 25°C)

Parameter	Symbol	Value	Unit
Continuous Forward Current	I_F	30	mA
Peak Forward Current (1/16 Duty Cycle, 0.1msec Pulse width)	I_{Fp}	150	mA
Power Dissipation	P_d	120	mW
Forward Voltage	V_f	3.2 ± 0.4	V
Derating Factor	D_F	0.4	mA / °C
Reverse Voltage	V_R	5.0	V
Operating Temperature	T_{opr}	-25 to +85	°C
Storage Temperature	T_{stg}	-35 to +100	°C
Lead Soldering Temperature (1.6mm (0.063") from body)	260°C for 5 seconds		

LUMINOUS INTENSITY (at 20 mA DC / T_A = 25°C)

Product Code	Luminous Intensity (mcd)				
	Rank R			Rank S	
	Min.	Typ.	Max/Min	Typ.	Max.
BL-LBUW5FC4	240	300	340	410	480

LUMINOUS FLUX (at 20 mA DC / T_A = 25°C)

Product Code	Luminous Flux (lm)				
	Rank R			Rank S	
	Min.	Typ.	Max/Min	Typ.	Max.
BL-LBUW5FC4	1.8	2.0	2.2	2.4	2.6

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COLOR RANK LIMITS (at 20 mA DC / T_A = 25°C)

BIN	Color Rendering Index	Approximate Color Temperature (K)
A	50 - 65	6,500 -10,000
B	70 - 90	5,500 - 6,500
C	75 - 95	4,500 - 5,500
D	70 - 85	2,800 - 3,200

COLOR RANKS CIE CHROMATICITY COORDINATES

A-Rank (Approximate Color Temperature: 6,500-10,000K)

	Rank A			
X	0.280	0.264	0.283	0.296
Y	0.248	0.267	0.305	0.276

B-Rank (Approximate Color Temperature: 5,500-6,500K)

	Rank B1			
X	0.287	0.283	0.330	0.330
Y	0.295	0.305	0.360	0.339

	Rank B2			
X	0.296	0.287	0.330	0.330
Y	0.276	0.295	0.339	0.318

C-Rank (Approximate Color Temperature: 4,500-5,500K)

	Rank C			
X	0.330	0.330	0.361	0.356
Y	0.318	0.360	0.385	0.351

D-Rank (Approximate Color Temperature: 2,800-3,200K)

	Rank D			
X	0.440	0.440	0.500	0.500
Y	0.400	0.500	0.500	0.400

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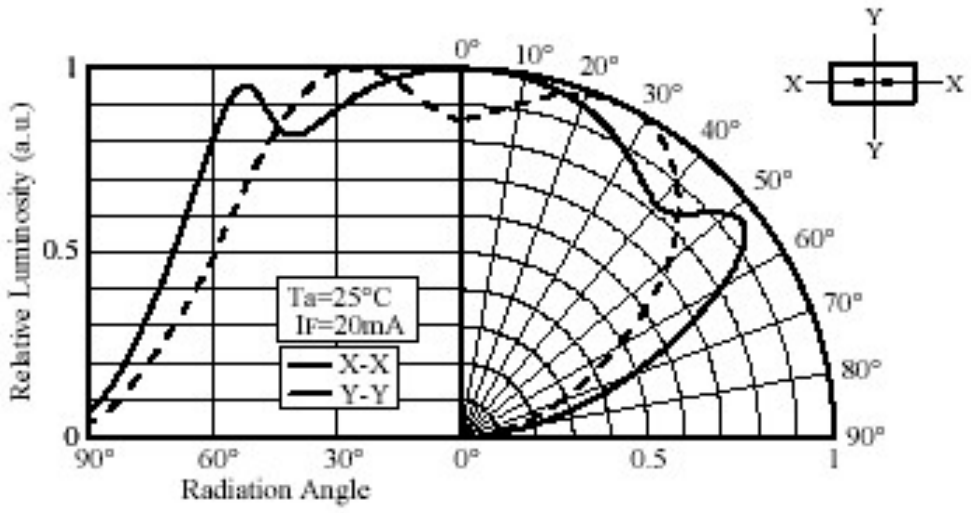
BEAM RADIATION PATTERNS

5FC4C Series



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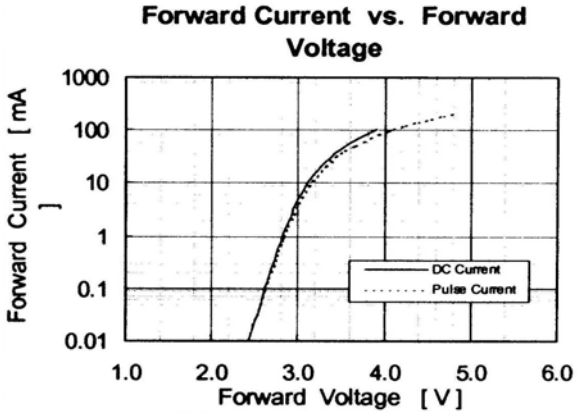
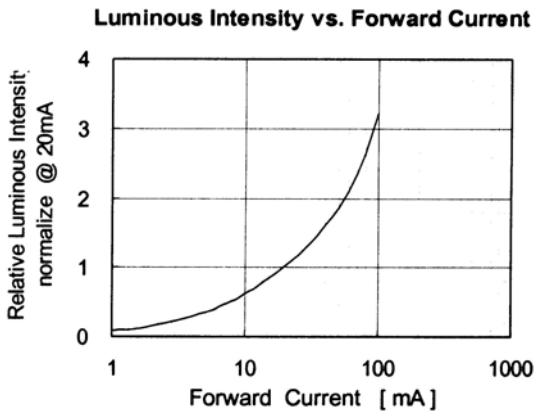
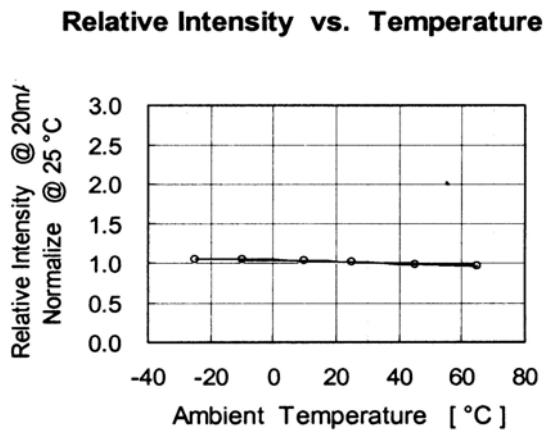
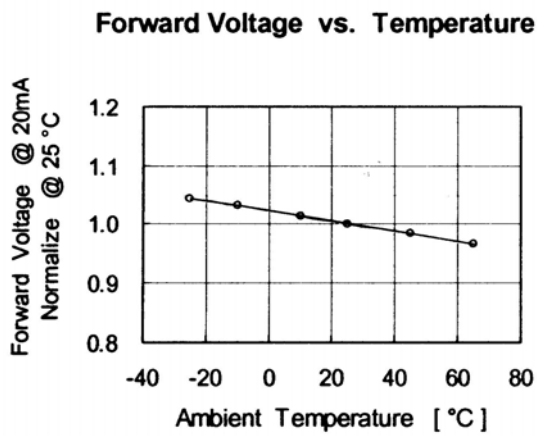
TYPICAL ELECTRICAL CHARACTERISTICS CURVES

(at 20 mA DC / T_A = 25°C)









GENERAL NOTES:

1. Luminous Intensity (Iv) is measured with a light sensor and filter combination (goniospectroradiometer) and is the Luminous Flux per unit solid angle (steradian) emitted by the LED lamp in the direction of the mechanical axis of the lamp and then weighed by the eye response curve (1931 CIE 2° Observer Chromaticity Diagram).
2. Luminous Intensity measurement uncertainty is +/- 15% due to test procedures and equipment variations.
3. $\theta_{1/2}$ is the off-axis angle at which the luminous intensity is half the axial luminous intensity. Tolerance +/- 3°.
4. The Chromaticity Coordinates (x,y), are derived from the 1931 CIE 2° Observer Chromaticity Diagram.
5. Chromaticity Coordinate measurement uncertainty is +/- 0.05 due to variations.
6. Color Temperature derived from black body curve on 1964 u-v CIE chromaticity diagram..
7. **Caution** for ESD: Static Electricity and surges can damage the LED. It is recommended using a wristband or anti-electrostatic glove when handling the LED. All devices, equipment and machinery must be properly grounded.
8. Do not apply excess mechanical stress to the leads, especially when heated or while soldering.

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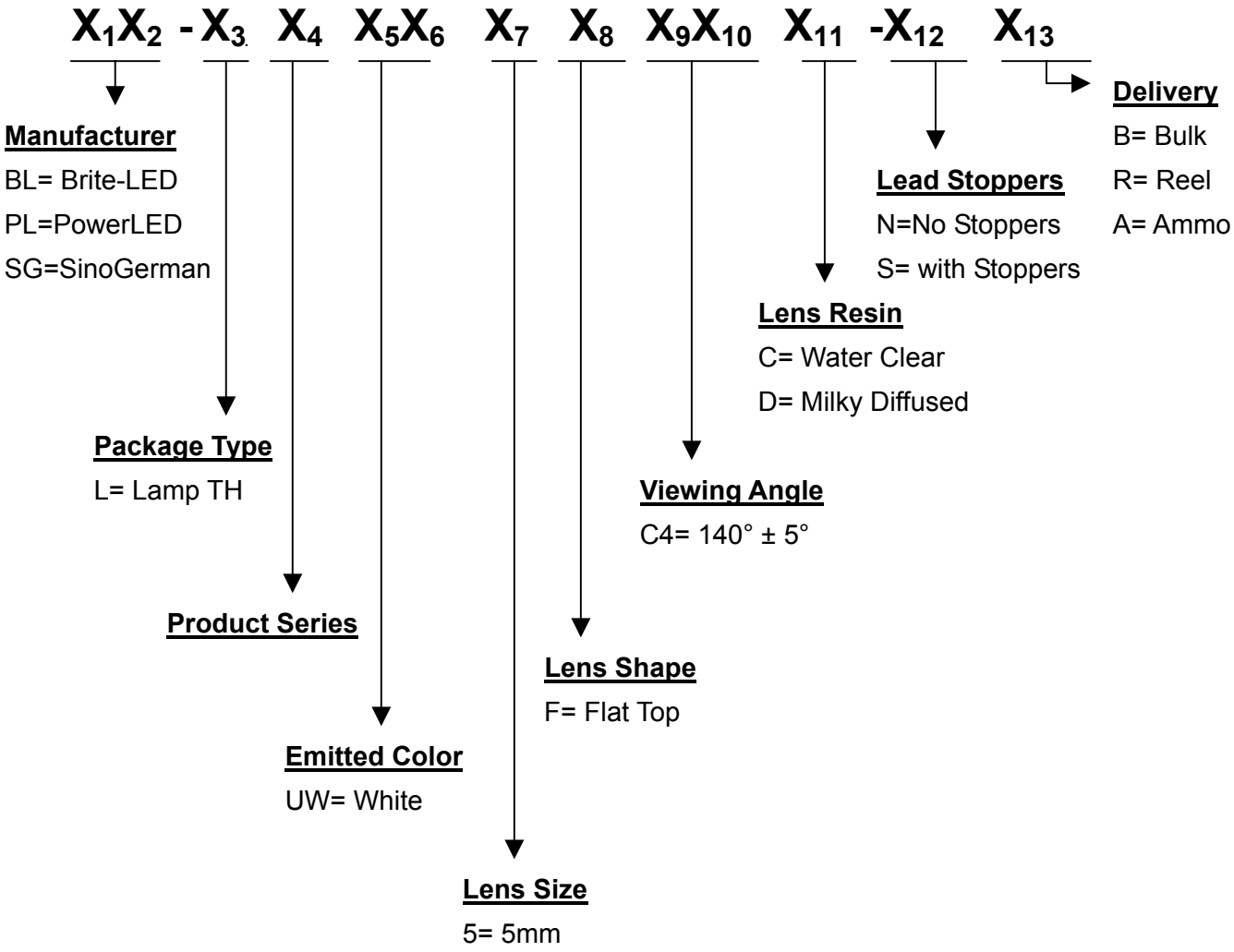
PRODUCT CODE BREAKDOWN



WARNING: White LEDs are made using a blue (GaN) die. GaN die is highly susceptible to Electro Static Discharge (ESD) damage, therefore proper storage, handling and manufacturing procedures need to be followed at all times. ESD damage can vary in its degree; from very subtle to catastrophic, and invariably will affect the LED's performance and life. ESD damaged parts are not covered by warranty.