NLX-5 BLUE POWER DIE

45 x 45 mil
BXCA4545XXX-YY-Z

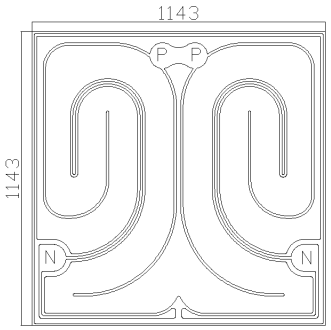
Features

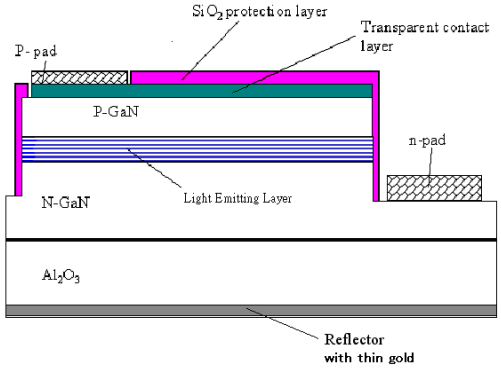
- Thin Gold coating on back of chip compatible with Solder Paste, Solder Perform or Silver Epoxy
- Epitaxy is MOCVD grown on sapphire (0001)
- Chips are 100% tested and sorted by dominant wavelength, optical power output, and forward voltage
- Chips are delivered on medium tack blue tape (20cm±10mm ×20 cm±10mm)

Applications

- General Illumination
- White LEDs
- Street Lights
- Down Lights
- Architectural Lighting
- Directional Lighting
- Area Lighting
- Mobile Phone
- Digital Camera Flash

LED Chip Diagram





Mechanical Dimensions

Chip size	1143 (-10/+30)μm ×1143 (-10/+30)μm
Chip thickness	150± 10 μm
Au Pad thickness	2.4±0.2 μm
Au Pad diameter	P: 100 μm / N: 105μm

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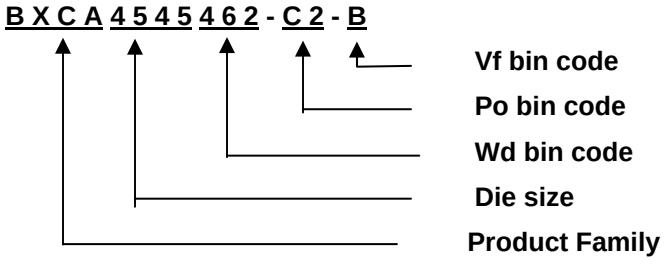
Definitions of Part Numbers and Bins

BridgeLux LED chips are sorted into the brightness and dominant wavelength bins shown below at I_f=350mA. Each blue tape will contain die from only one brightness bin and one wavelength bin. Each blue tape will contain chips with 0.2V forward voltage bins: 3.0-3.2V, 3.2-3.4V and 3.4-3.6V. V_f (max) =3.6V

Wavelength	Power Bin C	Power Bin D	Power Bin E
445 to 447.5nm	BXCA4545445-Cy-z	BXCA4545445-Dy-z	BXCA4545445-Ey-z
447.5 to 450nm	BXCA4545447-Cy-z	BXCA4545447-Dy-z	BXCA4545447-Ey-z
450 to 452.5nm	BXCA4545450-Cy-z	BXCA4545450-Dy-z	BXCA4545450-Ey-z
452.5 to 455nm	**BXCA4545452**-Cy-z	BXCA4545452-Dy-z	BXCA4545452-Ey-z
	240 – 255 mW	**255 – 295 mW**	**295 – 340 mW**
455 to 457.5nm	BXCA4545455-Cy-z	BXCA4545455-Dy-z	BXCA4545455-Ey-z
457.5 to 460nm	BXCA4545457-Cy-z	BXCA4545457-Dy-z	BXCA4545457-Ey-z
460 to 462.5nm	BXCA4545460-Cy-z	BXCA4545460-Dy-z	BXCA4545460-Ey-z
462.5 to 465nm	BXCA4545462-Cy-z	BXCA4545462-Dy-z	BXCA4545462-Ey-z
	240 – 255 mW	**255 – 295 mW**	**295 – 340 mW**
465 to 467.5nm	BXCA4545465-Cy-z	BXCA4545465-Dy-z	BXCA4545465-Ey-z
467.5 to 470nm	BXCA4545467-Cy-z	BXCA4545467-Dy-z	BXCA4545467-Ey-z
470 to 472.5nm	BXCA4545470-Cy-z	BXCA4545470-Dy-z	BXCA4545470-Ey-z
472.5 to 475nm	BXCA4545472-Cy-z	BXCA4545472-Dy-z	BXCA4545472-Ey-z
	240 - 255 mW	**255 – 295 mW**	**295 – 340 mW**

Part Number Naming Rule



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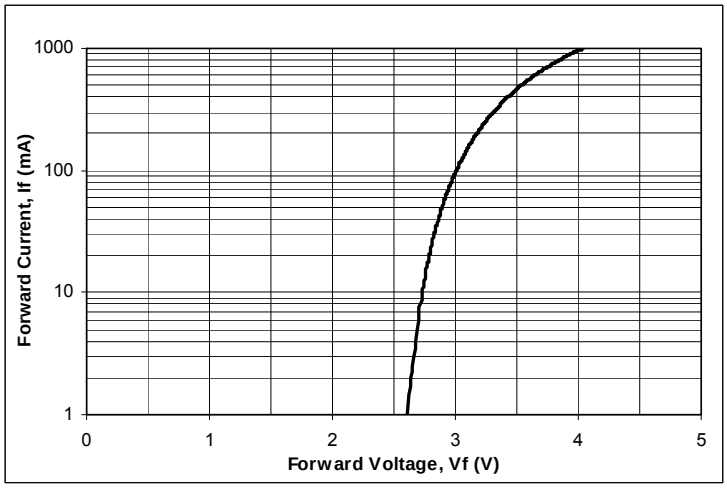

Fig. 1: Forward Current vs. Forward Voltage

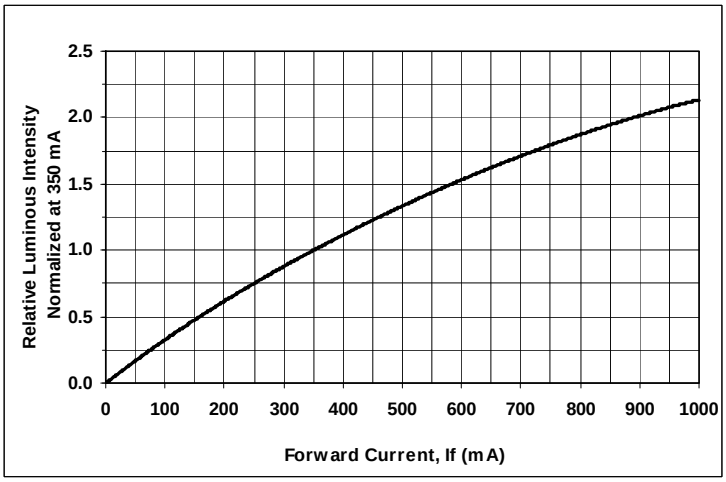

Fig. 2: Relative Luminous Intensity vs. Forward Current
(Device is tested under a probe station)

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Absolute Maximum Ratings

Parameter	Symbol	Condition	Rating
Forward DC Current	I_f	T_j=125°C	700mA[1]
Reverse voltage	V_r	T_a=25°C	-5V
Junction Temperature	T_j		150 °C
Reverse Current	I_r	Vr = -5 V	<10 μA
Assembly Process Temp.			325°C(<5 sec)

[1]maximum driving current depends on junction temperature, die attach methods/materials, and lifetime requirements of the customer's application.

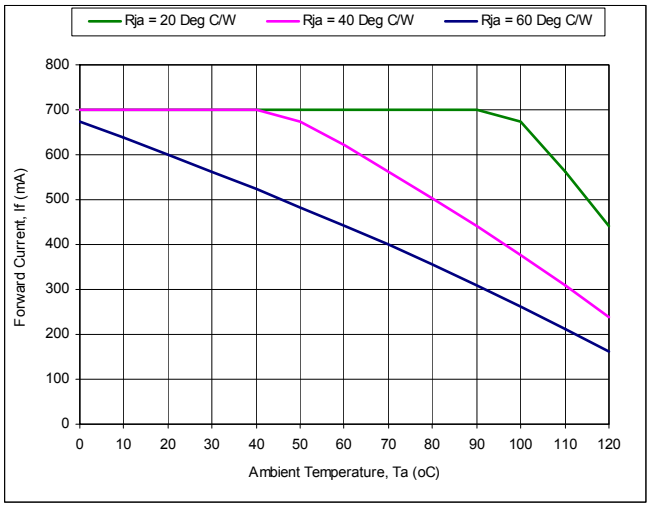

Fig. 3: Maximum derating forward DC current vs. Ambient Temperature.

Derating based on T_j(max)=150°C

Remarks:

1. BridgeLux GaN LEDs are Class 1 ESD sensitive.
2. Please consult the BridgeLux technical service team for information on how to optimize the light output of your package.
3. Brightness values are measured in an integrating sphere using Au plated TO39 headers without an encapsulate.
4. Forward voltage (V_f), each tape contains die with 0.2V bins, 3.0-3.2V, 3.2-3.4V and 3.4-3.6V. V_f (max)=3.6V.

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