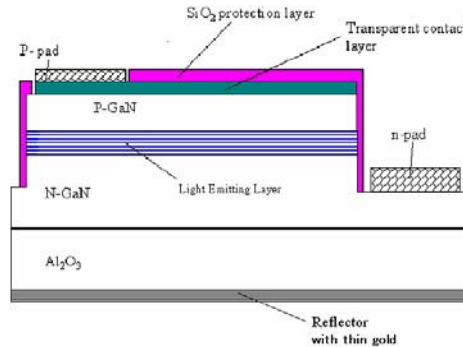
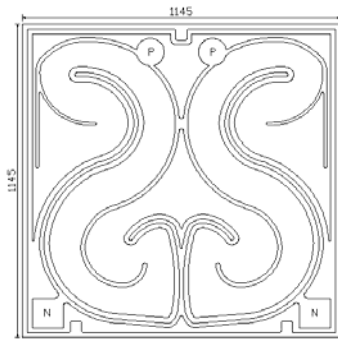




MKO 45 x 45 mil Power Chip MKO4545CXXX-M

LED Chip Diagram:



Mechanical Dimensions :

Chip size	1143 (-10/+30) μm \times 1143 (-10/+30) μm
Chip thickness	150 \pm 10 μm
Au Pad thickness	2.4 \pm 0.2 μm
Au Pad diameter	P: 100 μm / N: 110 μm

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 \pm 10mm \times 20 cm \pm 10mm)
- Product applications include camera flash, torch, general illumination, LCD panel backlight, and automotive lighting

Definitions of Part Numbers, Bins, and Kits:

BridgeLux LED chips are sorted into the brightness and dominant wavelength bins shown below at $I_f=350\text{mA}$. Each blue tape will contain die from only one brightness bin and one wavelength bin. Customer orders for kit numbers MKO4545CBLL, MKO4545CBLM and MKO4545CBLH, may consist of a combination of dies from some or all bins within that kit. Additionally, all chips are sorted with forward voltage bins range from 3.0-3.5V, 3.5-3.7V and 3.7-3.9V on each tape.



**MKO 45 x 45 mil
Power Chip MKO4545CXXX-M**

MKO4545CBLL

450 to 452.5nm	MKO4545C450-A	MKO4545C450-B	MKO4545C450-C
452.5 to 455nm	MKO4545C452-A	MKO4545C452-B	MKO4545C452-C
455 to 457.5nm	MKO4545C455-A	MKO4545C455-B	MKO4545C455-C
457.5 to 460nm	MKO4545C457-A	MKO4545C457-B	MKO4545C457-C
	175 - 200 mW	200 – 230 mW	230 – 260 mW

MKO4545CBLM

460 to 462.5nm	MKO4545C460-9	MKO4545C460-A	MKO4545C460-B
462.5 to 465nm	MKO4545C462-9	MKO4545C462-A	MKO4545C462-B
465 to 467.5nm	MKO4545C465-9	MKO4545C465-A	MKO4545C465-B
467.5 to 470nm	MKO4545C467-9	MKO4545C467-A	MKO4545C467-B
	150 - 175 mW	175 - 200 mW	200 – 230 mW

MKO4545CBLH

470 to 472.5nm	MKO4545C470-8	MKO4545C470-9	MKO4545C470-A
472.5 to 475nm	MKO4545C472-8	MKO4545C472-9	MKO4545C472-A
475 to 477.5nm	MKO4545C475-8	MKO4545C475-9	MKO4545C475-A
477.5 to 480nm	MKO4545C477-8	MKO4545C477-9	MKO4545C477-A
	130 - 150 mW	150 - 175 mW	175 - 200 mW

Binning @ forward current of 350 mA.



**MKO 45 x 45 mil
Power Chip MKO4545CXXX-M**

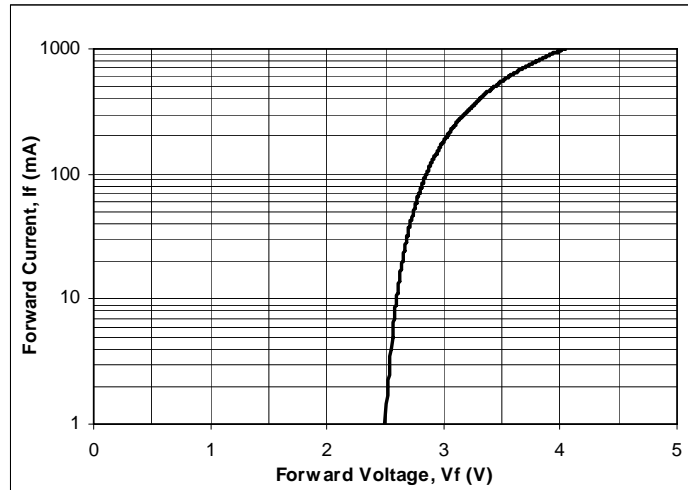


Fig. 1 Forward Current vs. Forward Voltage

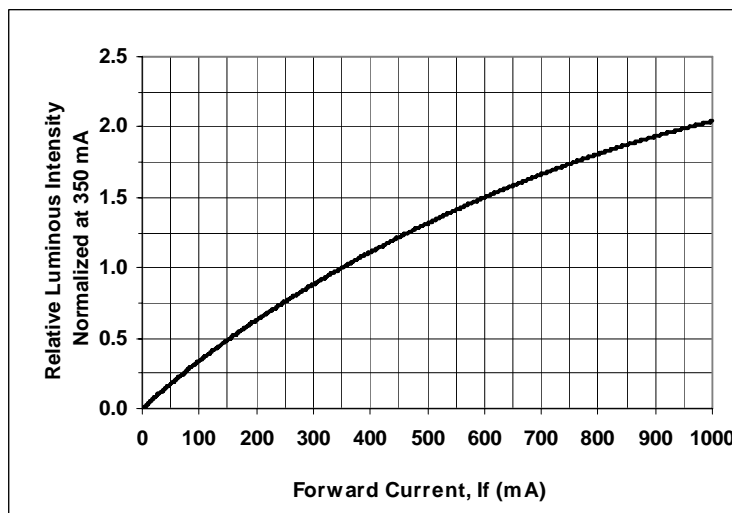


Fig. 2 Relative Luminous Intensity vs. Forward Current
(Device is tested under a probe station)



**MKO 45 x 45 mil
Power Chip MKO4545CXXX-M**

Absolute maximum ratings:

Parameter	Symbol	Condition	Rating
Forward DC Current	I_f	$T_j=125^{\circ}\text{C}$	750mA ⁽¹⁾
Reverse voltage	V_r	$T_a=25^{\circ}\text{C}$	-5V
Junction Temperature	T_j		150 °C
Reverse Current	I_r	$V_r = -5 \text{ V}$	<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.

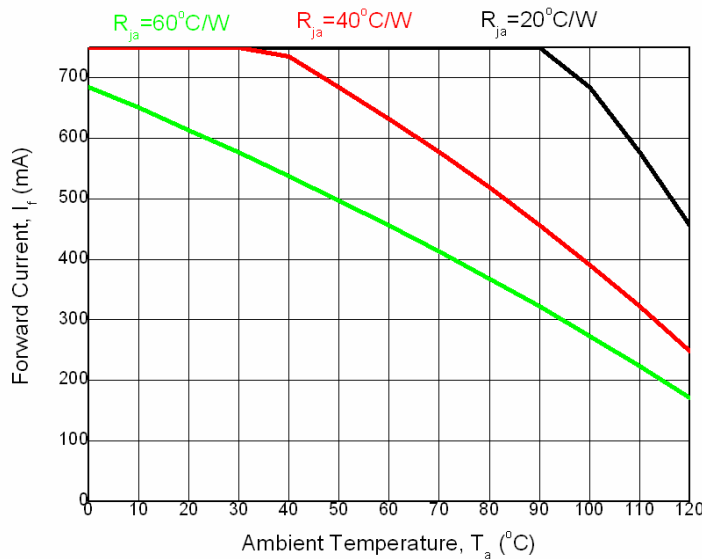


Fig. 3 Maximum derating forward DC current vs. Ambient Temperature.
Derating based on $T_j(\text{max})=150^{\circ}\text{C}$

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) is sorted into three bins from 3.0-3.5V, 3.5-3.7V and 3.7-3.9V