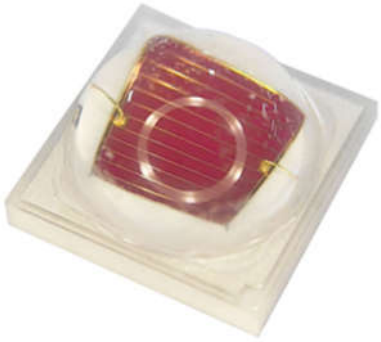
普瑞光电(厦门)股份有限公司
Bridgelux Optoelectronics (Xiamen) Co., Ltd.

BXEX-A59-11H-2B-00-0-0 Datasheet_031425

Features:

Dimension size: 3.45mm*3.45mm*2.15mm
Long operating life
High efficiency
Lambertian radiation pattern
Low voltage DC operated
High heat dissipation eficeency
Cool beam,safeto the touch
Superior ESD protection
RoHS compliant



Application range:

Small size,Flexible design, Decorative/Entertainment, Stage lighting, Scene lighting,Landscape lighting, Bollards/Security/Garden/Architectural

Specifications:

Absolute Maximum Ratings at Ta=25℃

Parameter	Symbol	Rating	Units
Input power	Pi	2.4	W
Peak Forward Current	IFp	800	mA
Reverse Current	IR	3@5V	uA
Junction Temperature	Tj	115	℃
View Angle (FWHM)	2θ1/2	120~140	degrees
Operating Temperature Range	Topr	-35℃ To +100℃	
Storage Temperature Range	Tstg	-40℃ To +100℃	
Reverse voltage	Vr	not designed for reverse bias	

Optical Characteristics at Ta=25℃

Symbol	Item	Min.	Typ.	Max.	Units	Conditions
Φv	Luminous Flux	90	110	130	lm	700mA
Φe	Radiation Power	-	230	-	mW	700mA
VF	Forward Voltage	2.2	-	3.0	V	700mA
λD	Wavelength	590	-	596	nm	700mA
IR	Reverse Current	-	-	3	uA	VR = 5V

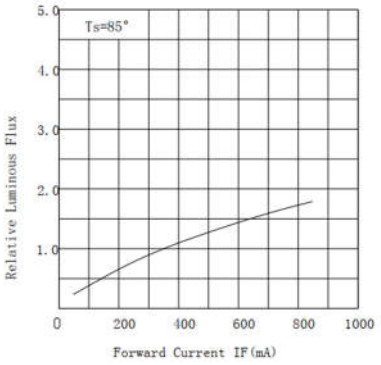
Optical Electrical /Thermal Characteristics at Ta=25℃

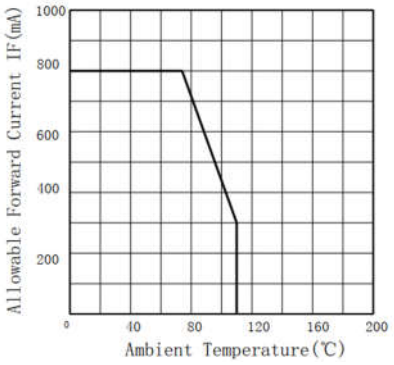
IF (mA)	VF typ (V)	R（ j-s）(℃ /W)	Po（ W）
700	2.6	12.5	1.82

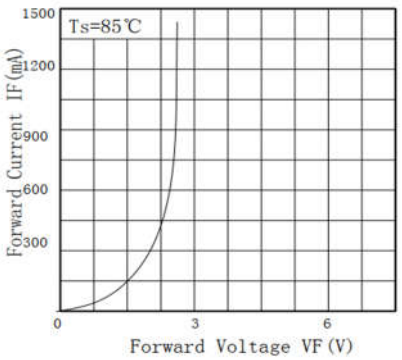
Product bins: @IF=700mA Ta=25℃

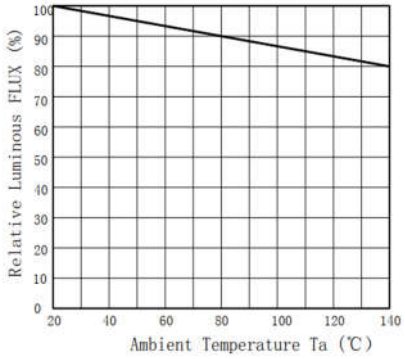
Forward Voltage bins	Bin Code	Min (V)	Max (V)
	A	2.2	2.4
	B	2.4	2.6
	C	2.6	2.8
	D	2.8	3.0
Brightness bins	Bin Code	Min Φv(lm)	Max Φv(lm)
	B7	90	110
	B8	110	130
Wavelength bins	Bin Code	Min Wd(nm)	Max Wd(nm)
	A3	590	593
	A4	593	596

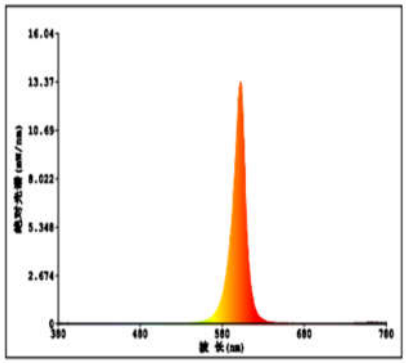
Typical Optical/Electrical Characteristics Curves(Ts=25℃ Unless Otherwise Noted)

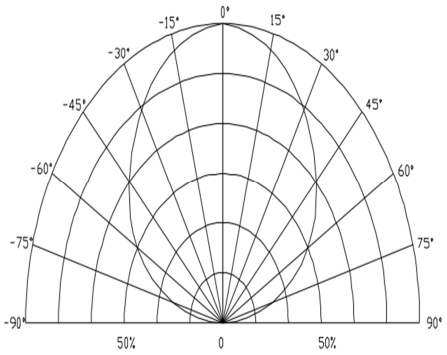


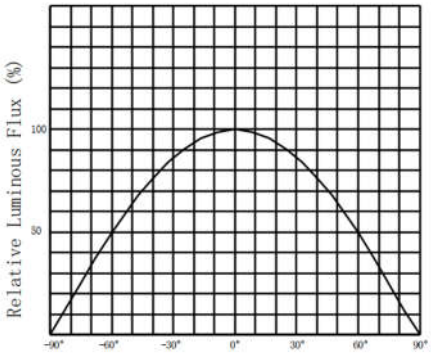




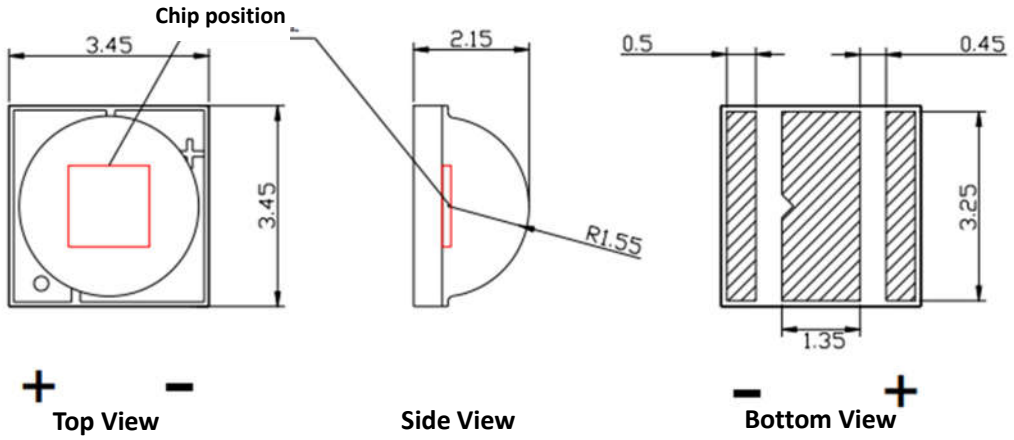




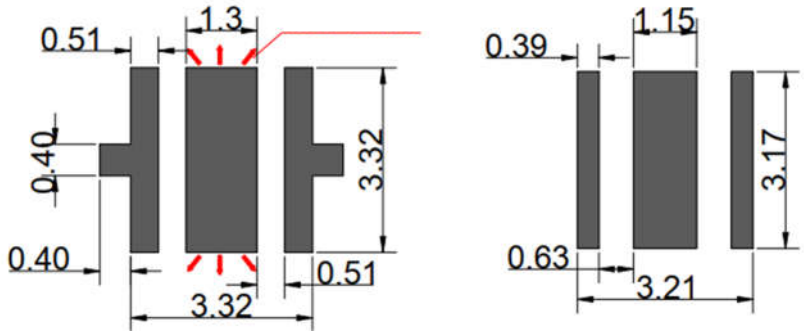




Package Dimensions:



Welded plate and steel mesh Dimensions:



Recommended PCB Soldering Pad Pattern **Steel mesh Dimensions**

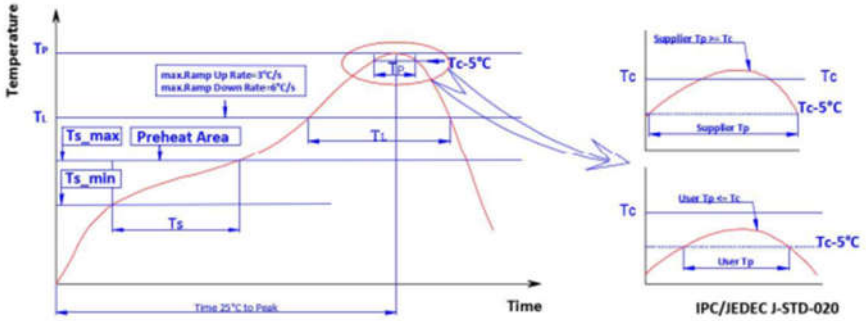
Reliability Test Items and Conditions

No.	Items	Reference Standard	Test Conditions	Drive Current	Test Duration	Units Failed/Tested
1	Moisture/reflow Sensitivity	J-STD-020E	T_{sld} = 260°C, 10sec, Precondition: 85°C, 60%RH, 168hr		3 reflows	0/20
2	Low Temperature Storage	JESD22-A119	T_a=-40°C		1000 hours	0/20
3	High Temperature Storage	JESD22-A103D	T_a=105°C		1000 hours	0/20
4	Low Temperature Operating Life	JESD22-A108D	T_a=-40°C	700mA	1000 hours	0/20
5	Temperature Humidity Operating Life	JESD22-A101C	T_{sp}=85°C, RH=85%	700mA	1000 hours	0/20
6	High Temperature Operating Life	JESD22-A108D	T_{sp}=105°C	700mA	1000 hours	0/20
7	Thermal Shock	JESD22-A106B	T_a=-40°C ~100°C; Dwell : 15min; Transfer: 10sec		200 Cycle	0/20
8	Temperature Cycle	JESD22-A104E	T_a=-40°C ~100°C; Dwell at extreme temperature: 15min; Ramp rate < 105°C/min		200 Cycle	0/20
9	Electrostatic Discharge	JS-001-2012	HBM, 8KV, 1.5kΩ, 100pF, Alternately positive or negative		pass	0/20

Passing Criteria:

Item	Symbol	Test Condition	Passing Criteria
Forward Voltage	Vf	700mA	ΔVf<10%
Luminous Flux	Fv	700mA	ΔFv<30%
Chromaticity Coordinates	(x, y)	700mA	$\Delta u'v'$<0.007

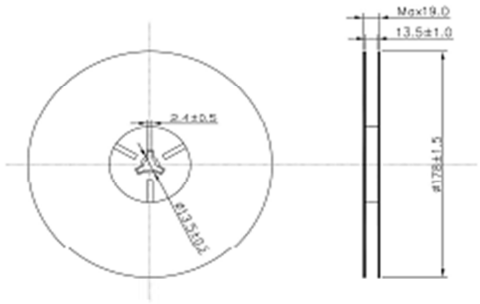
Reflow Profile:



Profile Feature	Lead Free Assembly
Temperature Min. (Ts_min)	160°C
Temperature Max. (Ts_max)	205°C
Time (ts) from Ts_min to Ts_max	60-150 seconds
Ramp-Up Rate (TL to Tp)	3 °C/second
Liquidus Temperature (TL)	220 °C
Time (TL) Maintained Above TL	60-150 seconds
Peak Temp(Tp)	260 °C max.
Time (Tp) Within 5 °C of the Specified Classification Temperature (Tc)	25 seconds max.
Ramp-Down Rate (Tp to TL)	5 °C/second max.
Time 25 °C to Peak Temperature	10 minutes max.

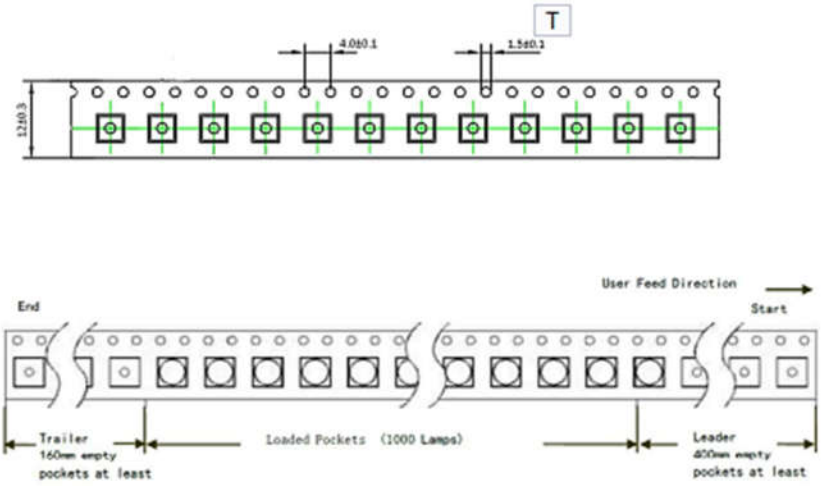
Packaging:

Emitter Reel Drawings:



Note for Figure 13:
1. Drawings are not to scale. Drawing dimensions are in millimeters.

Figure 14: Emitter Tape Drawings



Note for Figure 14:
1. Drawings are not to scale. Drawing dimensions are in millimeters.

Emitter Reel Packaging Drawings:



Design Resources:

Optical Source Models

Please contact your Bridgelux sales representative for assistance.

Precautions:

CAUTION: CHEMICAL EXPOSURE HAZARD

Exposure to some chemicals commonly used in luminaire manufacturing and assembly can cause damage to the LED emitter. Please consult Bridgelux Application Note AN51 for additional information.

CAUTION: EYE SAFETY

Eye safety classifi cation for the use of Bridgelux SMD LED emitter is in accordance with IEC specifi cation EN62471: Photobiological Safety of Lamps and Lamp Systems. SMD LED emitters are classifi ed as Risk Group 2 when operated at or below the maximum drive current. Please use appropriate precautions. It is important that employees working with LEDs are trained to use them safely

CAUTION: RISK OF BURN

Do not touch the SMD LED emitter during operation. Allow the emitter to cool for a suffi cient period of time before handling. The SMD LED emitter may reach elevated temperatures such that could burn skin when touched.

Disclaimers

MINOR PRODUCT CHANGE POLICY

The rigorous qualifi cation testing on products off ered by Bridgelux provides performance assurance. Slight cosmetic changes that do not aff ect form, fi t, or function may occur as Bridgelux continues product optimization.

STANDARD TEST CONDITIONS

Unless otherwise stated, LED emitter testing is performed at the nominal drive current.

About Bridgelux: Bridging Light and Life™

At Bridgelux, we help companies, industries and people experience the power and possibility of light. Since 2002, we've designed LED solutions that are high performing, energy effi cient, cost eff ective and easy to integrate. Our focus is on light's impact on human behavior, delivering products that create better environments, experiences and returns—both experiential and fi nancial. And our patented technology drives new platforms for commercial and industrial luminaires.

For more information about the company, please visit

bridgelux.com twitter.com/Bridgelux facebook.com/Bridgelux WeChat ID: BridgeluxInChina.