

# Kingbright

## XPower

### PRELIMINARY SPEC

Part Number: AAD1-9090QB11ZC/3-S

Blue



**ATTENTION**  
OBSERVE PRECAUTIONS  
FOR HANDLING  
ELECTROSTATIC  
DISCHARGE  
SENSITIVE  
DEVICES

### Features

- SUPER HIGH FLUX OUTPUT AND HIGH LUMINANCE.
- DESIGNED FOR HIGH CURRENT OPERATION.
- LOW THERMAL RESISTANCE.
- LOW VOLTAGE DC OPERATED.
- SUPERIOR ESD PROTECTION.
- NOT REFLOW COMPATIBLE.
- THE COMPONENT IS INTERNALLY PROTECTED WITH SILICONE GEL.
- RoHS COMPLIANT.

### Application Note

Static electricity and surge damage the LEDs.

It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs.

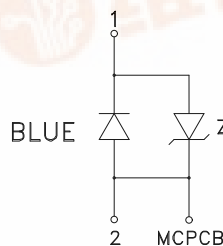
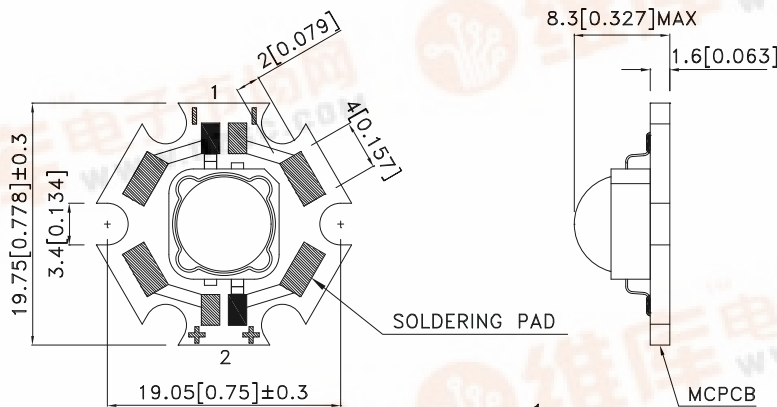
All devices, equipment and machinery must be electrically grounded.



### Applications

- traffic signaling.
- backlighting (illuminated advertising, general lighting).
- interior and exterior automotive lighting.
- substitution of micro incandescent lamps.
- portable light source (e.g. bicycle flashlight).
- signal and symbol luminaire for orientation.
- marker lights (e.g. steps, exit ways, etc).
- decorative and entertainment lighting.
- indoor and outdoor commercial and residential architectural lighting.

### Package Dimensions



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25(0.01") unless otherwise noted.
3. Specifications are subject to change without notice.



## Selection Guide

Part No.	Dice	Lens Type	luminous Intensity [2] Iv (cd)@ 700mA		Φv (lm) [2] @ 700mA		Viewing Angle [1]
			Min.	Typ.	Min.	Typ.	2θ1/2
AAD1-9090QB11ZC/3-S	BLUE (AlInGaN)	WATER CLEAR	6.7	10	20	35.7	100°

Notes:

1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.
2. Luminous intensity / luminous flux: +/-15%.

## Absolute Maximum Ratings at TA=25°C

Parameter	Symbol	Value	Unit
Power dissipation	Pt	3	W
Junction temperature	TJ	110	°C
Operating Temperature	Top	-40 To +100	°C
Storage Temperature	Tstg	-40 To +100	°C
DC Forward Current [1]	IF	700	mA
Peak Forward Current [2]	IFM	1000	mA
Thermal resistance [1]	Rth j-slug	11	°C/W
Electrostatic Discharge Threshold (HBM)		8000	V

Notes:

1. Metal Core PCB is mounted on the heat Fins.
2. 1/10 Duty Cycle, 0.1ms Pulse Width.

## Electrical / Optical Characteristics at TA=25°C

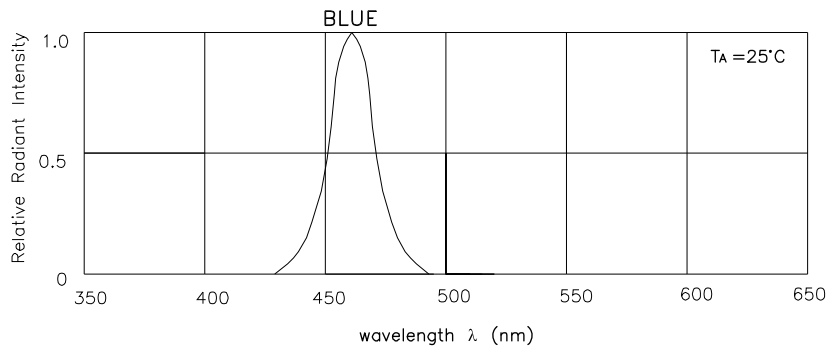
Parameter	Symbol	Value	Unit
Wavelength at peak emission IF=700mA [Typ.]	λpeak	461	nm
Dominant Wavelength IF=700mA [Typ.]	λdom [1]	460	nm
Spectral bandwidth at 50%ΦREL MAX IF=700mA [Typ.]	Δλ	20	nm
Forward Voltage IF=700mA [Min.]	VF [2]	3.5	V
Forward Voltage IF=700mA [Typ.]		3.9	
Forward Voltage IF=700mA [Max.]		4.3	
Temperature coefficient of λpeak IF=700mA, -10°C ≤ T ≤ 100°C [Typ.]	TCλpeak	0.04	nm/°C
Temperature coefficient of λdom IF=700mA, -10°C ≤ T ≤ 100°C [Typ.]	TCλdom	0.03	nm/°C
Temperature coefficient of VF IF=700mA, -10°C ≤ T ≤ 100°C [Typ.]	TCv	-4.3	mV/°C

Notes:

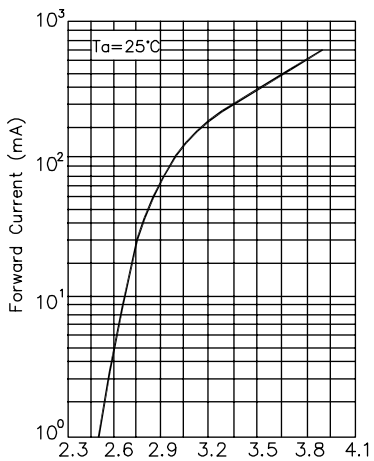
1. Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.

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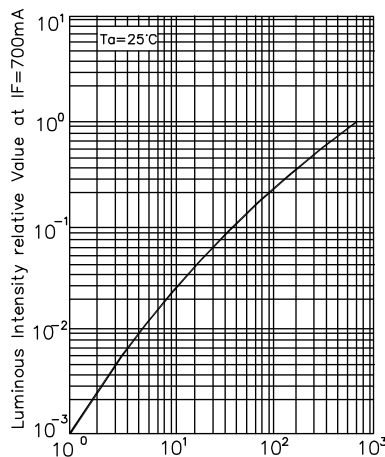
AAD1-9090QB11ZC/3-S



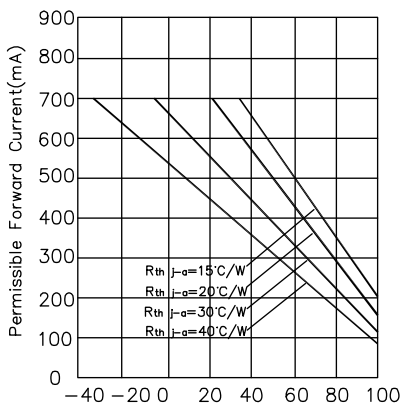
RELATIVE INTENSITY Vs. WAVELENGTH



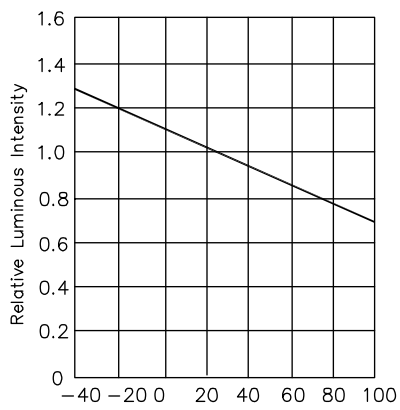
FORWARD CURRENT Vs. FORWARD VOLTAGE



LUMINOUS INTENSITY Vs. FORWARD CURRENT



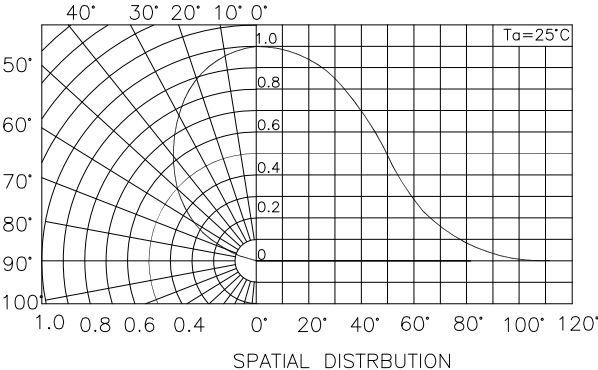
FORWARD CURRENT DERATING CURVE



LUMINOUS INTENSITY VS. AMBIENT TEMPERATURE

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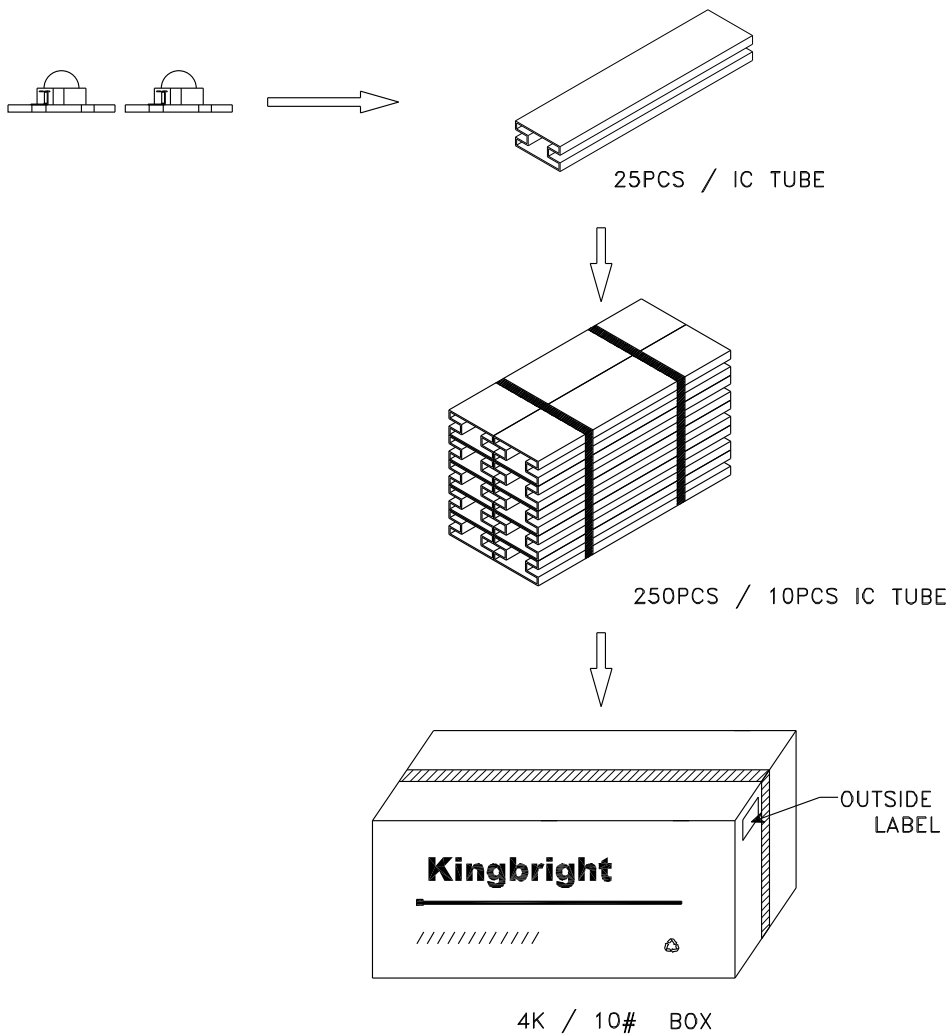
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## PACKING & LABEL SPECIFICATIONS

AAD1-9090QB11ZC/3-S



<b>Kingbright</b>	
Q.C.	QC
TYPE NO :AAD1-9090XXX-STAR	
QUANTITY : 250 pcs	
S/N : XXX	CODE: XXX
LOT NO : 	
XX-XXXX	RoHS Compliant