

PRELIMINARY SPEC

Part Number : AAD1-1010QB9ZC

Blue



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

### Features

- PLCC-4 PACKAGE.
- SINGLE COLOR.
- HIGH LUMINANCE.
- HIGH POWER, OPERATING CURRENT @350mA.
- SUITABLE FOR ALL SMT ASSEMBLY METHODS.
- PACKAGE : 300PCS / REEL.
- MOISTURE SENSITIVITY LEVEL : LEVEL 4.
- 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.

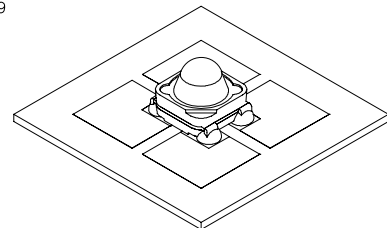
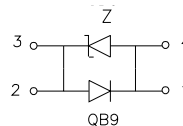
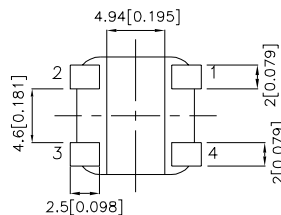
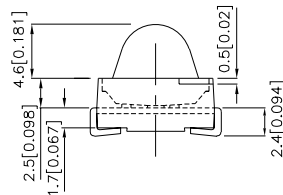
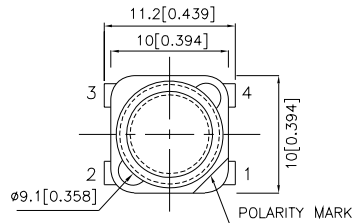
All devices, equipment and machinery must be electrically grounded.



### 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  $\pm 0.25$  (0.01") unless otherwise noted.
3. Specifications are subject to change without notice.
4. The device has a single mounting surface. The device must be mounted according to the specifications.

## Selection Guide

Part No.	Dice	Lens Type	luminous Intensity [2] Iv(cd)@ 350 mA		$\Phi_v$ (lm) [2] @ 350 mA		Viewing Angle [1]
			Min.	Typ.	Min.	Typ.	2 $\theta$ 1/2
AAD1-1010QB9ZC	BLUE (AlInGaN)	WATER CLEAR	10.5	18	7	12	20°

Notes:

1. $\theta$ 1/2 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	1.22	W
Reverse Voltage	VR	not designed for reverse operation	V
Junction temperature	TJ	110	°C
Operating Temperature	Top	-40 To +85	°C
Storage Temperature	Tstg	-40 To +85	°C
DC Forward Current [1]	IF	350	mA
Peak Forward Current [2]	IFM	500	mA
Thermal resistance [1]	Rth	55	°C/W

Notes:

- 1.Results from mounting on PC board FR4(pad size $\geq$ 100mm<sup>2</sup> per pad), mounted on pc board-metal core PCB is recommend for lowest thermal Resistance.
- 2.1/10 Duty Cycle, 0.1ms Pulse Width.

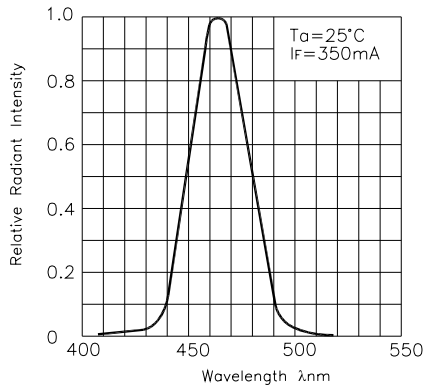
## Electrical / Optical Characteristics at TA=25°C

Parameter	Symbol	Value	Unit
Wavelength at peak emission IF=350mA [Typ.]	$\lambda_{peak}$	464	nm
Dominant Wavelength IF=350mA [Typ.]	$\lambda_{dom}$ [1]	466	nm
Spectral bandwidth at 50% $\Phi_{REL MAX}$ IF=350mA [Typ.]	$\Delta\lambda$	30	nm
Viewing angle at 50% $\Phi_v$ [Typ.]	$\theta$	20	°
Forward Voltage IF=350mA [Min.]	VF [2]	2.7	V
Forward Voltage IF=350mA [Typ.]		3.5	
Forward Voltage IF=350mA [Max.]		3.8	
Reverse Current (VR=5V) [Max.]	IR	not designed for reverse operation	$\mu$ A
Temperature coefficient of $\lambda_{peak}$ IF=350mA, -10°C $\leq$ T $\leq$ 100°C [Typ.]	TC $\lambda_{peak}$	0.15	nm/°C
Temperature coefficient of $\lambda_{dom}$ IF=350mA, -10°C $\leq$ T $\leq$ 100°C [Typ.]	TC $\lambda_{dom}$	0.13	nm/°C
Temperature coefficient of VF IF=350mA, -10°C $\leq$ T $\leq$ 100°C [Typ.]	TCv	-2.0	mV/°C

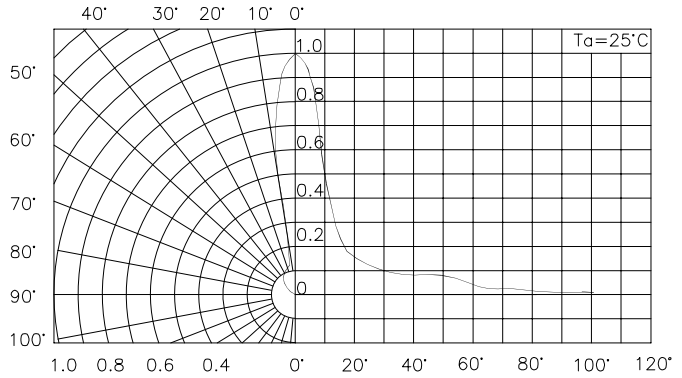
Notes:

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

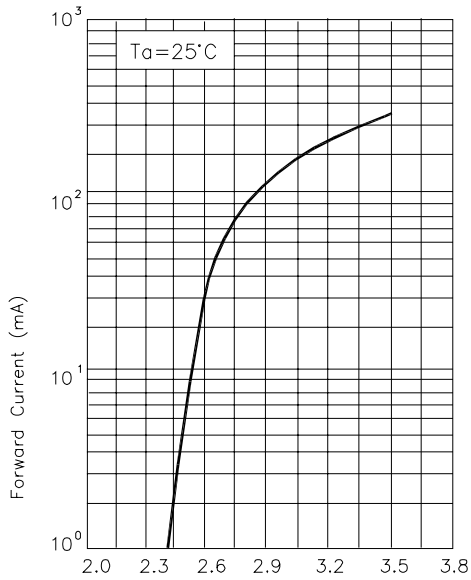
## AAD1-1010QB9ZC



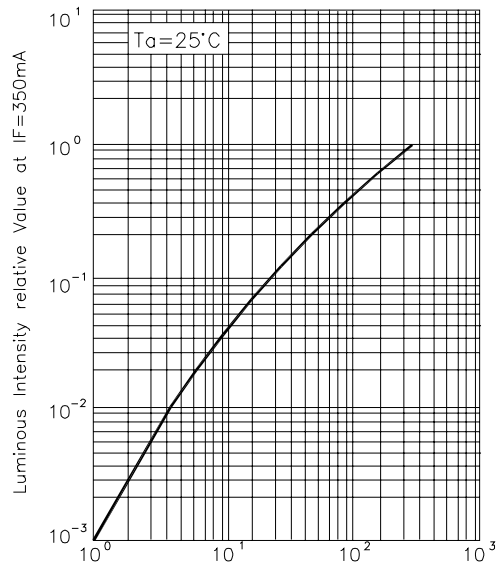
RELATIVE INTENSITY Vs. WAVELENGTH



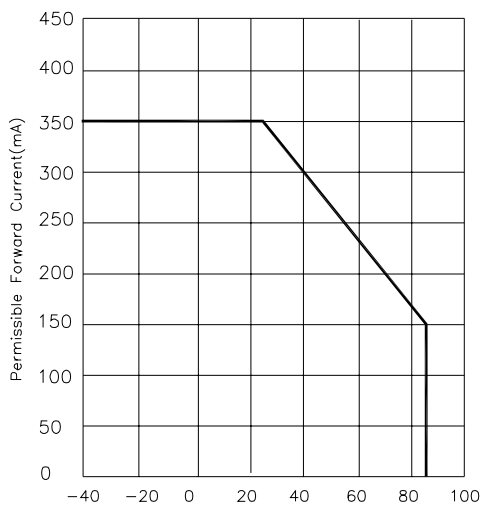
SPATIAL DISTRIBUTION



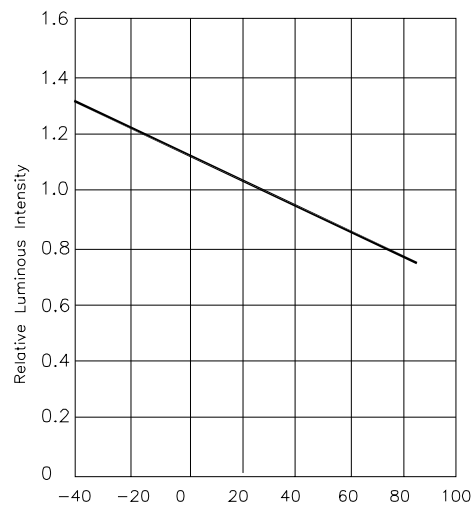
FORWARD CURRENT Vs. FORWARD VOLTAGE



LUMINOUS INTENSITY Vs. FORWARD CURRENT



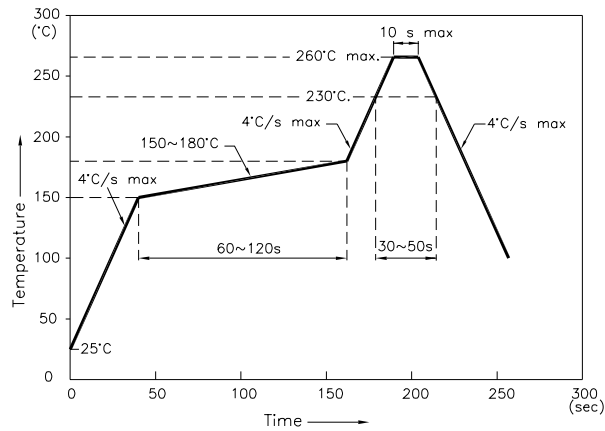
FORWARD CURRENT DERATING CURVE



LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE

## AAD1-1010QB9ZC

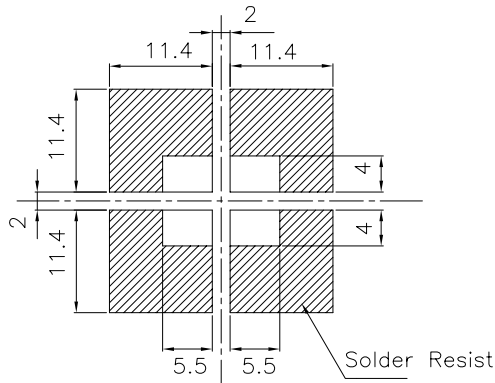
Reflow Soldering Profile For Lead-free SMT Process.



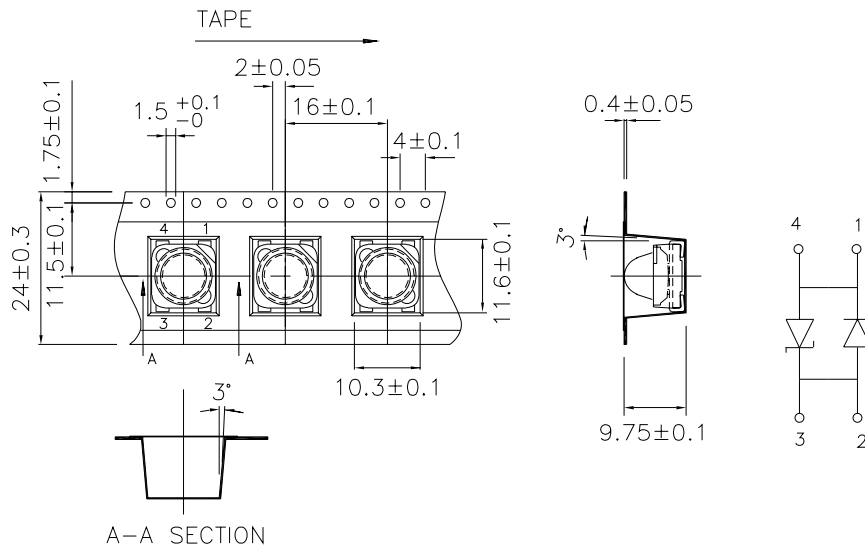
**NOTES:**

1. We recommend the reflow temperature 245°C(+/-5°C). The maximum soldering temperature should be limited to 260°C.
2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

**Recommended Soldering Pattern  
(Units : mm; Tolerance: ± 0.1)**

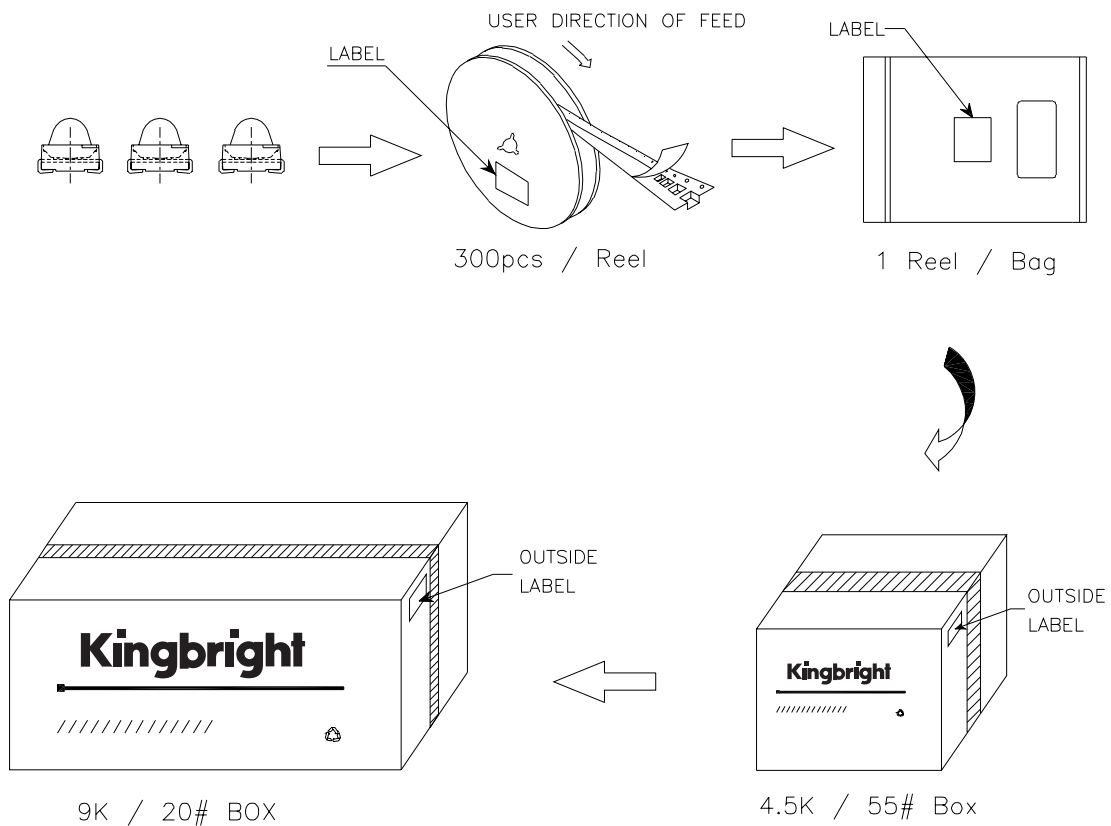



**Tape Specifications  
(Units : mm)**



## PACKING & LABEL SPECIFICATIONS

**AAD1-1010QB9ZC**



<b>Kingbright</b>	
P/NO: AAD1-1010XXX	
QTY: 300 pcs	Q.C. <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">Q C xx xx xxxx PASSED</span>
S/N: XXXX	
CODE: XXX	
LOT NO:	
 xxxxxxxxxxxxxxxxxxxxxxxxxxxx	
MADE IN CHINA	RoHS Compliant