Kingbright

Part Number: KAD1-9090QB11Z1S/3 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.
- Package: 500pcs/reel.
- Not reflow compatible.
- The component is internally protected with silicone gel.
- RoHS compliant.

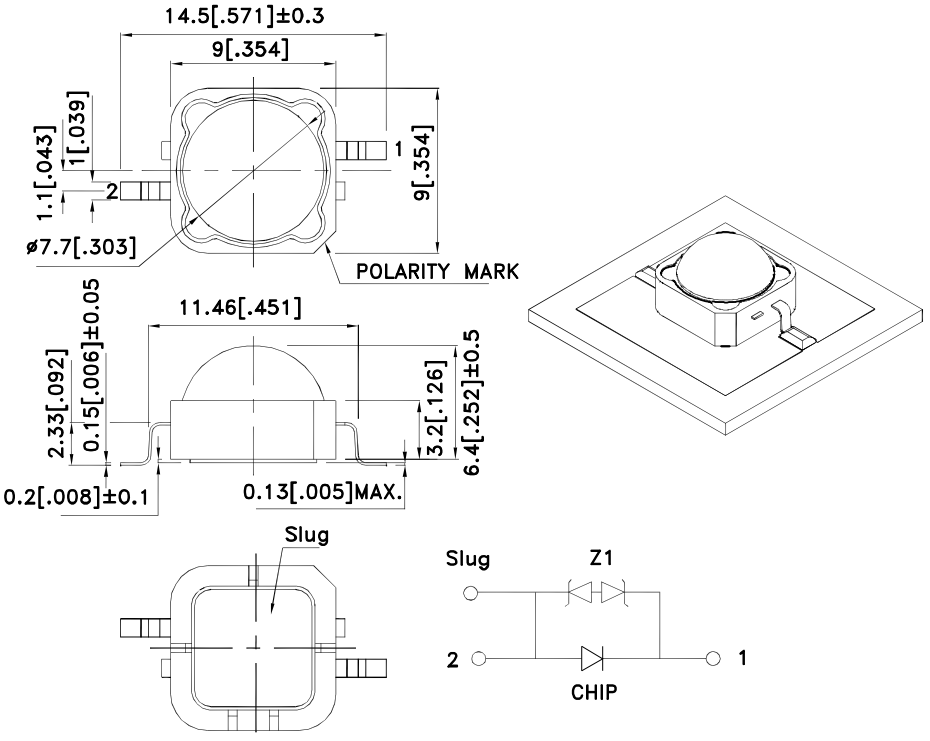
Application Note

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. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.
4. The device has a single mounting surface. The device must be mounted according to the specifications.

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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
KAD1-9090QB11Z1S/3	BLUE (AlGaInN)	WATER CLEAR	6.7	10	20	30	100°

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

Absolute Maximum Ratings at T_A=25°C

Parameter	Symbol	Value	Unit
Power dissipation	P_D	3	W
Junction temperature	T_J	110	°C
Operating Temperature	Top	-40 To +100	°C
Storage Temperature	Tstg	-40 To +100	°C
DC Forward Current [1]	I_F	700	mA
Peak Forward Current [2]	I_{FM}	1000	mA
Reverse Voltage	V_R	5	V
Thermal resistance [1]	$R_{th\ j\text{-}slug}$	11	°C/W
Electrostatic Discharge Threshold (HBM)		8000	V
Iron Soldering [3]	350°C For 3 Seconds		

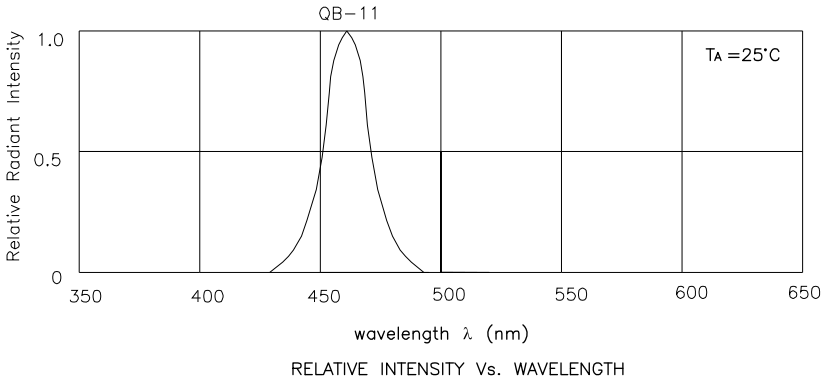
Notes:
1. Results from mounting on MCPCB.
2.1/10 Duty Cycle, 0.1ms Pulse Width.
3.1.29mm distance from solder joint to package.

Electrical / Optical Characteristics at T_A=25°C

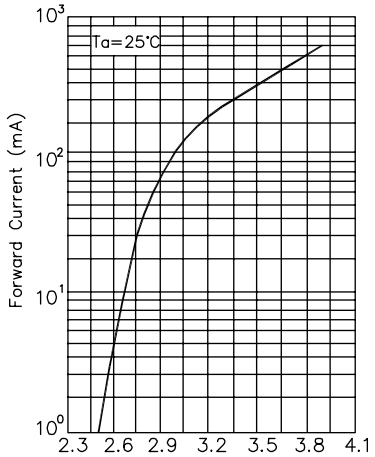
Parameter	Symbol	Value	Unit
Wavelength at peak emission I_F=700mA [Typ.]	λpeak	461	nm
Dominant Wavelength I_F=700mA [Typ.]	λdom [1]	460	nm
Spectral bandwidth at 50%$\Phi_{REL\ MAX}$ I_F=700mA [Typ.]	Δλ	20	nm
Reverse Current (V_R = 5V) [Max.]	I_R	10	uA
Forward Voltage I_F=700mA [Min.]	V_F [2]	3.5	V
Forward Voltage I_F=700mA [Typ.]		3.9	
Forward Voltage I_F=700mA [Max.]		4.3	
Temperature coefficient of λpeak I_F=700mA, -10°C≤ T≤100°C [Typ.]	TCλpeak	0.04	nm/°C
Temperature coefficient of λdom I_F=700mA, -10°C≤ T≤100°C [Typ.]	TCλdom	0.03	nm/°C
Temperature coefficient of V_F I_F=700mA, -10°C≤ T≤100°C [Typ.]	TCv	-4.3	mV/°C

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

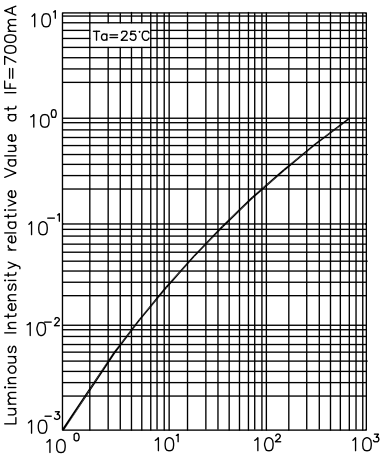
KAD1-9090QB11Z1S/3



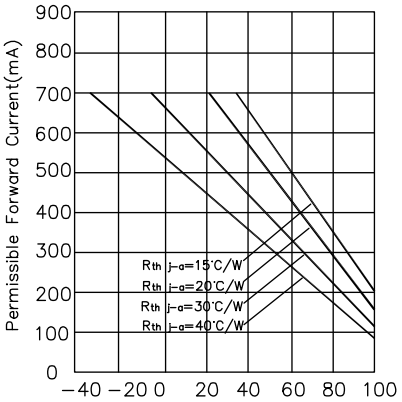
RELATIVE INTENSITY Vs. WAVELENGTH



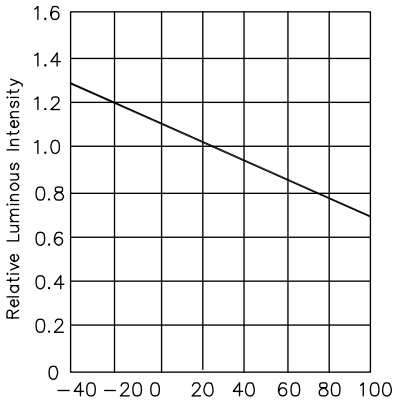
FORWARD CURRENT Vs.
FORWARD VOLTAGE



LUMINOUS INTENSITY Vs.
FORWARD CURRENT



FORWARD CURRENT
DERATING CURVE



LUMINOUS INTENSITY VS.
AMBIENT TEMPERATURE

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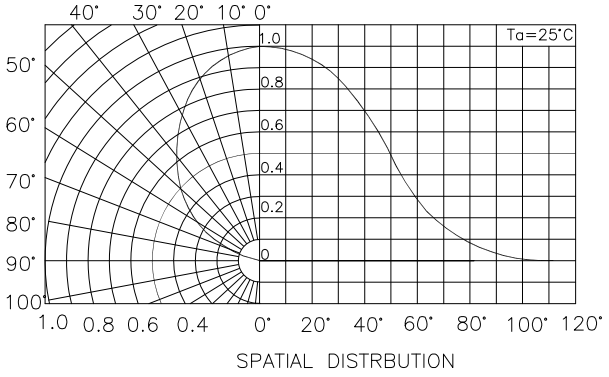
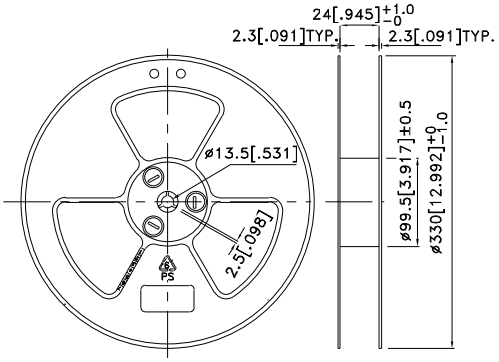
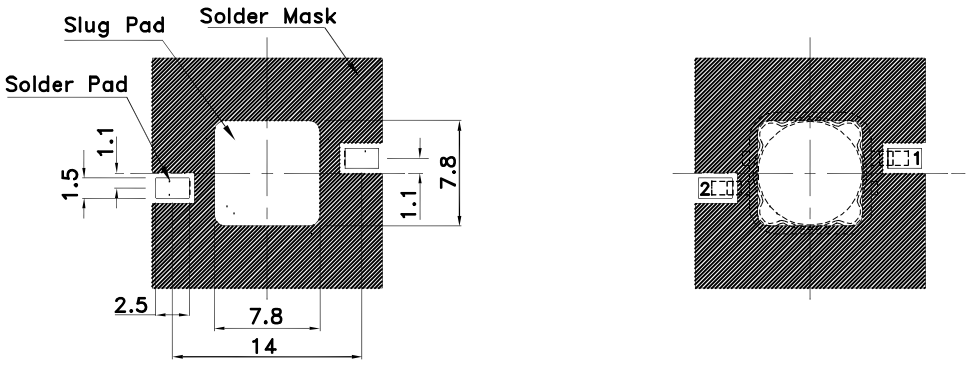


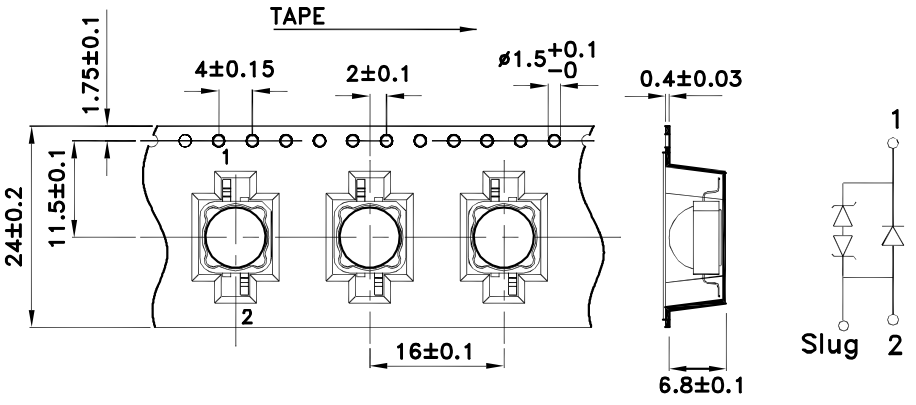
Reel Dimension



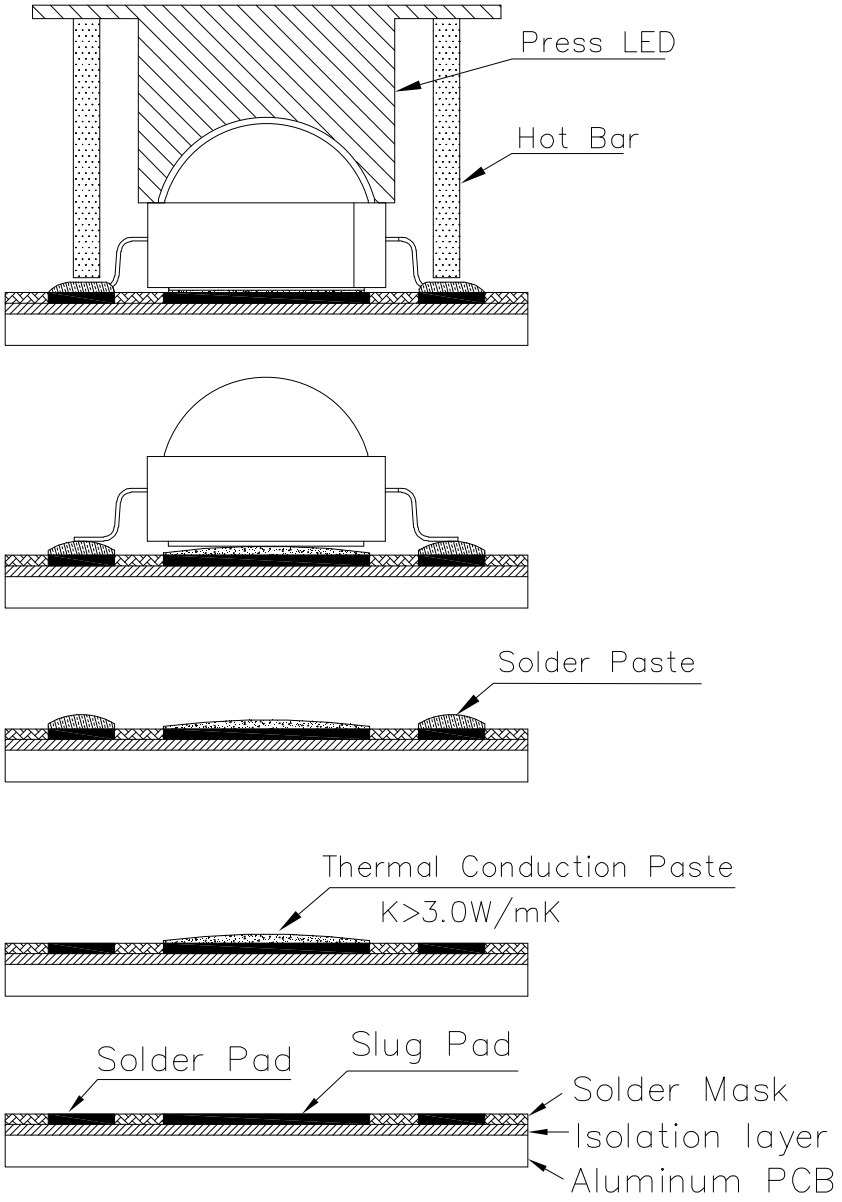
Recommended Soldering Pattern
(Units : mm; Tolerance: ±0.1)



Tape Specifications
(Units : mm)



KAD1-9090QB11ZC/3
Recommended Solder Steps



PACKING & LABEL SPECIFICATIONS **KAD1-9090QB11Z1S/3**