

PRELIMINARY SPEC

Part Number: KAD1-9090ZG9ZC Green



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

### Features

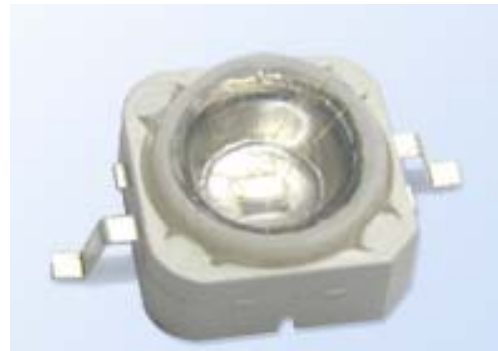
- SUPER HIGH FLUX OUTPUT AND HIGH LUMINANCE.
- DESIGNED FOR HIGH CURRENT OPERATION.
- LOW THERMAL RESISTANCE.
- LOW VOLTAGE DC OPERATED.
- SUPERIOR ESD PROTECTION.
- PACKAGE: 500PCS/REEL.
- NOT REFLOW COMPATIBLE.
- THE COMPONENT IS INTERNALLY PROTECTED WITH SILICONE GEL.
- RoHS COMPLIANT.

### 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.

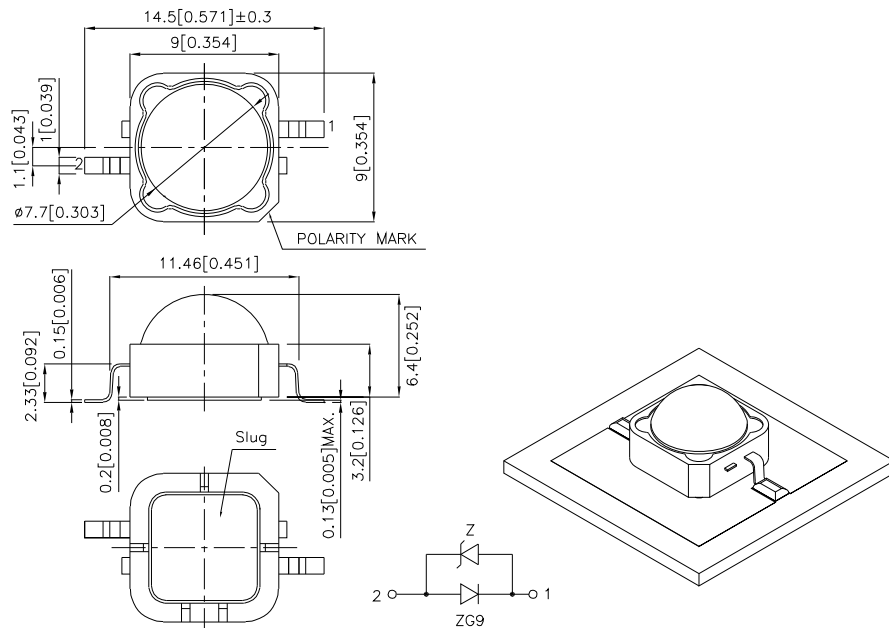
All devices, equipment and machinery must be electrically grounded.



### 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  $\pm 0.25(0.01)$  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		Φv (lm) [2] @ 350 mA		Viewing Angle [1]
			Min.	Typ.	Min.	Typ.	2θ1/2
KAD1-9090ZG9ZC	Green (AlInGaN)	WATER CLEAR	12	18	38	50	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	1.2	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	350	mA
Peak Forward Current [2]	IFM	500	mA
Thermal resistance [1]	Rth j-slug	9	°C/W
Electrostatic Discharge Threshold (HBM)		8000	V
Iron Soldering [3]		350°C For 3 Seconds	

Notes:

1. Metal Core PCB is mounted on the heat Fins.
2. 1/10 Duty Cycle, 0.1ms Pulse Width.
3. 1.29mm below package base.

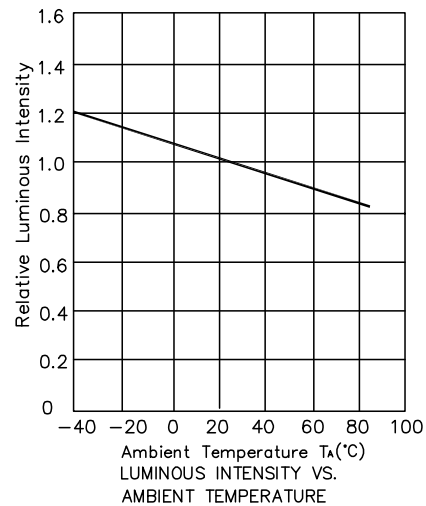
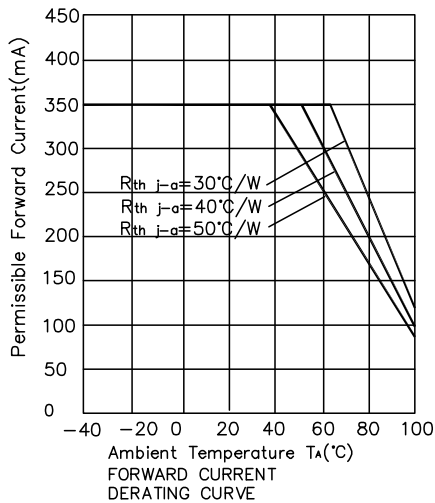
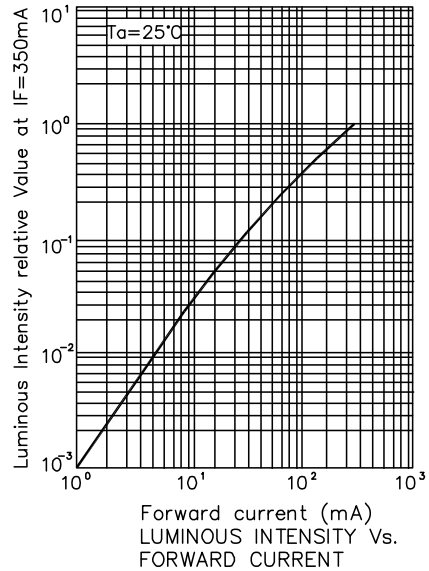
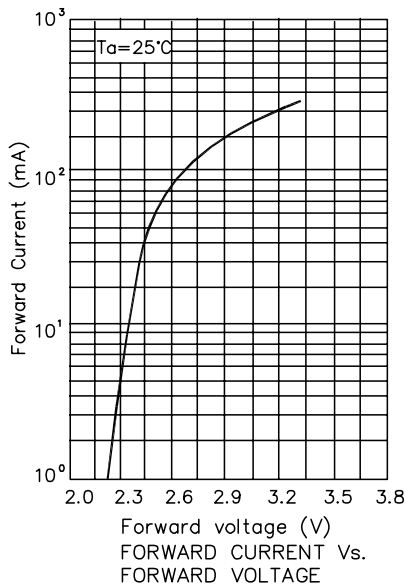
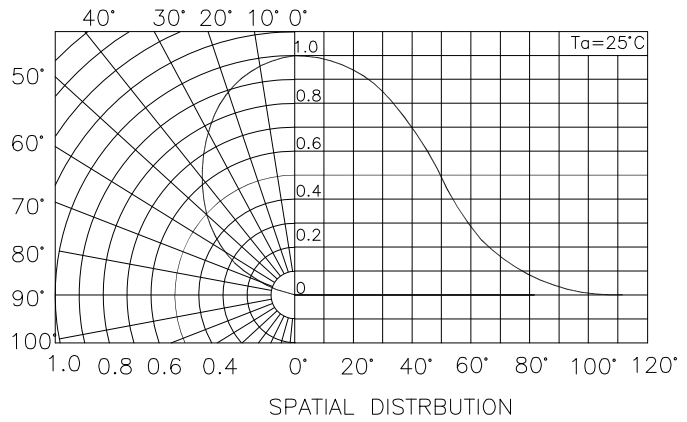
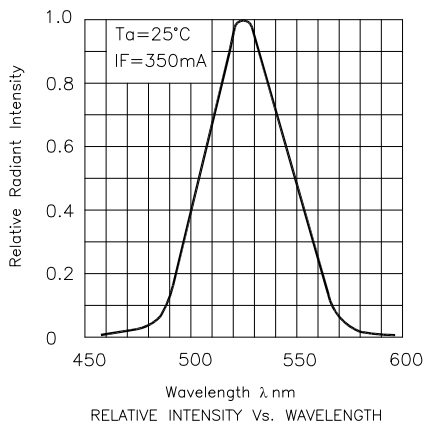
## Electrical / Optical Characteristics at TA=25°C

Parameter	Symbol	Value	Unit
Wavelength at peak emission IF=350mA [Typ.]	λpeak	525	nm
Dominant Wavelength IF=350mA [Typ.]	λdom [1]	530	nm
Spectral bandwidth at 50%ΦREL MAX IF=350mA [Typ.]	Δλ	45	nm
Forward Voltage IF=350mA [Min.]	VF [2]	2.7	V
Forward Voltage IF=350mA [Typ.]		3.3	
Forward Voltage IF=350mA [Max.]		3.8	
Temperature coefficient of λpeak IF=350mA, -10°C ≤ T ≤ 100°C [Typ.]	TCλpeak	0.16	nm/°C
Temperature coefficient of λdom IF=350mA, -10°C ≤ T ≤ 100°C [Typ.]	TCλdom	0.14	nm/°C
Temperature coefficient of VF IF=350mA, -10°C ≤ T ≤ 100°C [Typ.]	TCV	-2.26	mV/°C

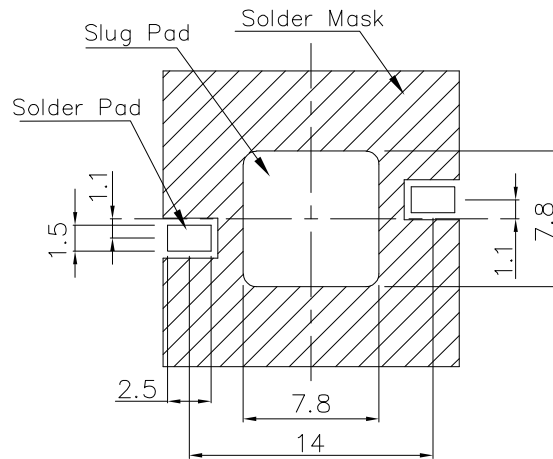
Notes:

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

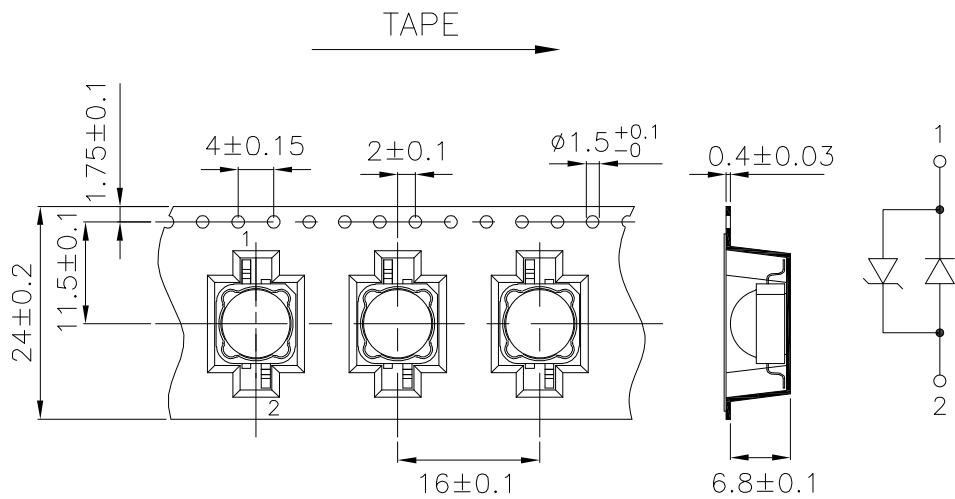
## KAD1-9090ZG9ZC



**KAD1-9090ZG9ZC**  
**Recommended Soldering Pattern**  
 (Units : mm; Tolerance:  $\pm 0.1$ )



**Tape Specifications**  
 (Units : mm)



## KAD1-9090ZG9ZC

### Recommended Solder Steps

