

## PRELIMINARY SPEC

Part Number: KAD1-9090ZG10ZS

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.

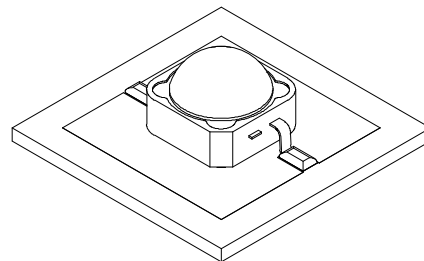
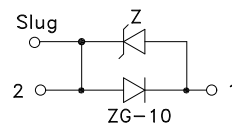
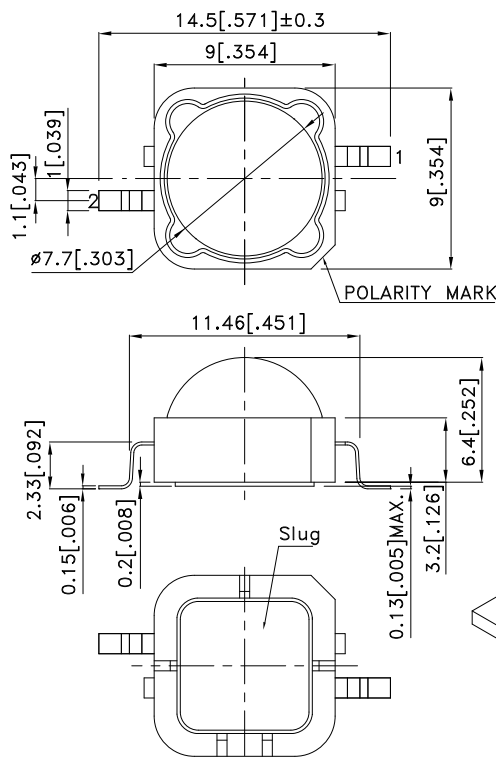
All devices, equipment and machinery must be electrically grounded.



### 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 ±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.	2 θ 1/2
KAD1-9090ZG10ZS	Green (AlInGaN)	WATER CLEAR	12	24	35	75	100 °

Notes:

1. θ 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	1.33	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. Results from mounting on MCPCB.
2. 1/10 Duty Cycle, 0.1ms Pulse Width.
3. 1.29mm distance from solder joint to package.

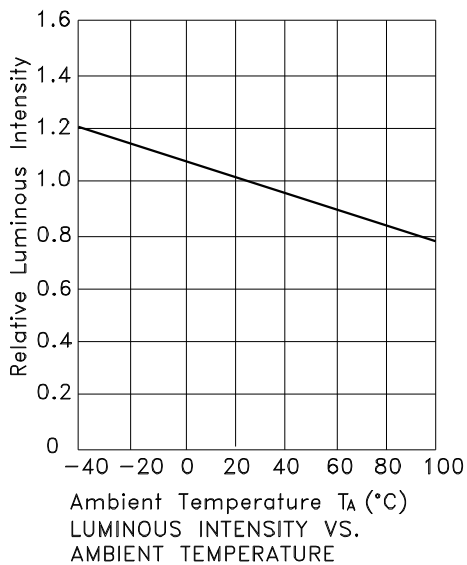
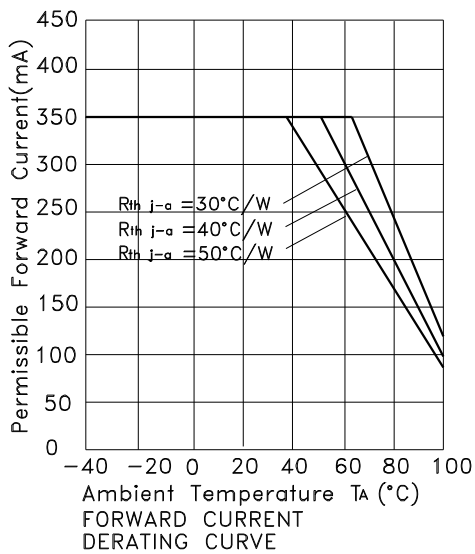
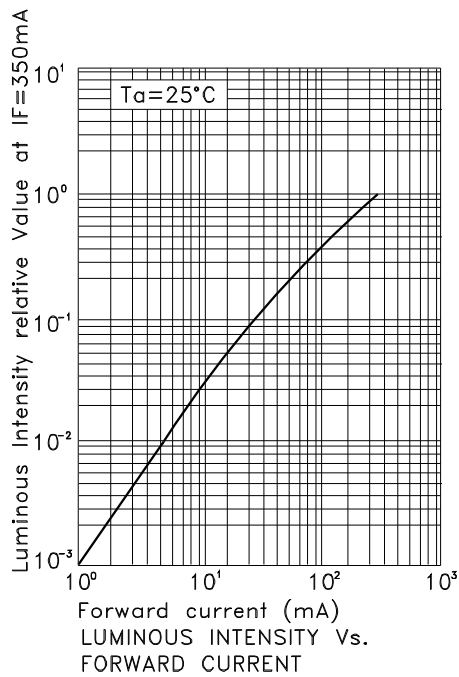
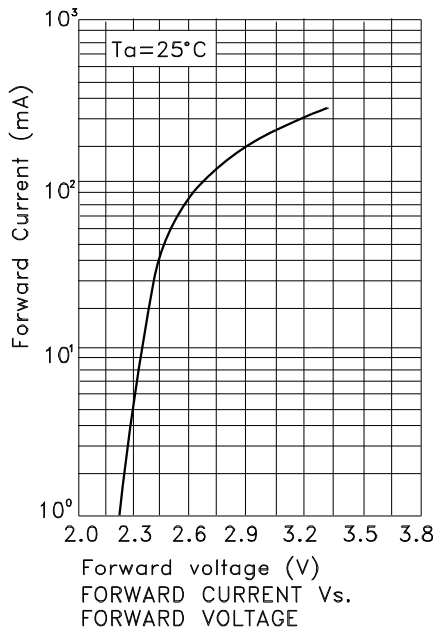
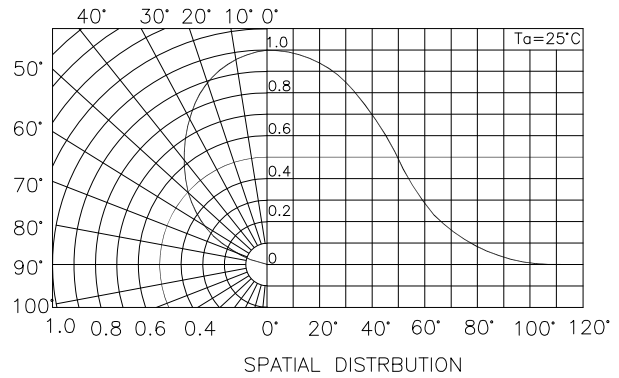
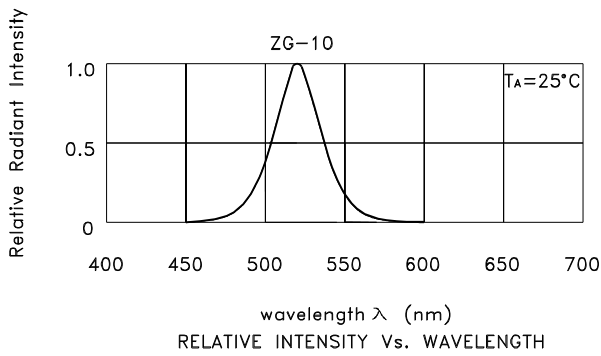
## Electrical / Optical Characteristics at TA=25°C

Parameter	Symbol	Value	Unit
Wavelength at peak emission IF=350mA [Typ.]	λ peak	520	nm
Dominant Wavelength IF=350mA [Typ.]	λ dom [1]	530	nm
Spectral bandwidth at 50%Φ REL MAX IF=350mA [Typ.]	Δλ	35	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 λ peak IF=350mA, -10 ° C ≤ T ≤ 100 ° C [Typ.]	TC λ peak	0.16	nm/° C
Temperature coefficient of λ dom IF=350mA, -10 ° C ≤ T ≤ 100 ° C [Typ.]	TC λ dom	0.14	nm/° C
Temperature coefficient of VF IF=350mA, -10 ° C ≤ T ≤ 100 ° C [Typ.]	TCV	-2.26	mV/° C

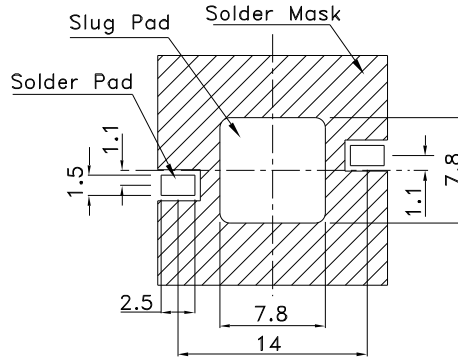
Notes:

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

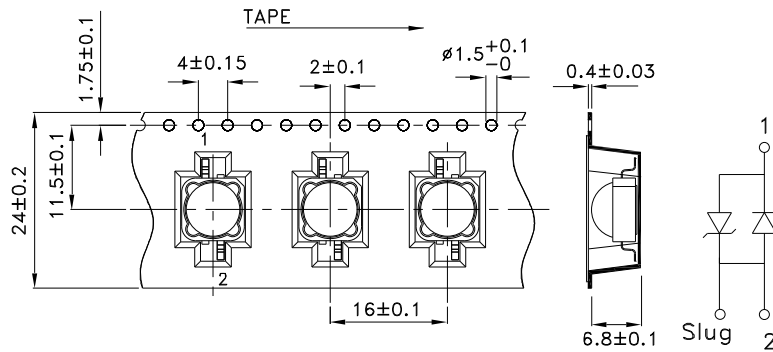
## KAD1-9090ZG10ZS



**KAD1-9090ZG10ZS**  
**Recommended Soldering Pattern**  
 (Units : mm; Tolerance:  $\pm 0.1$ )

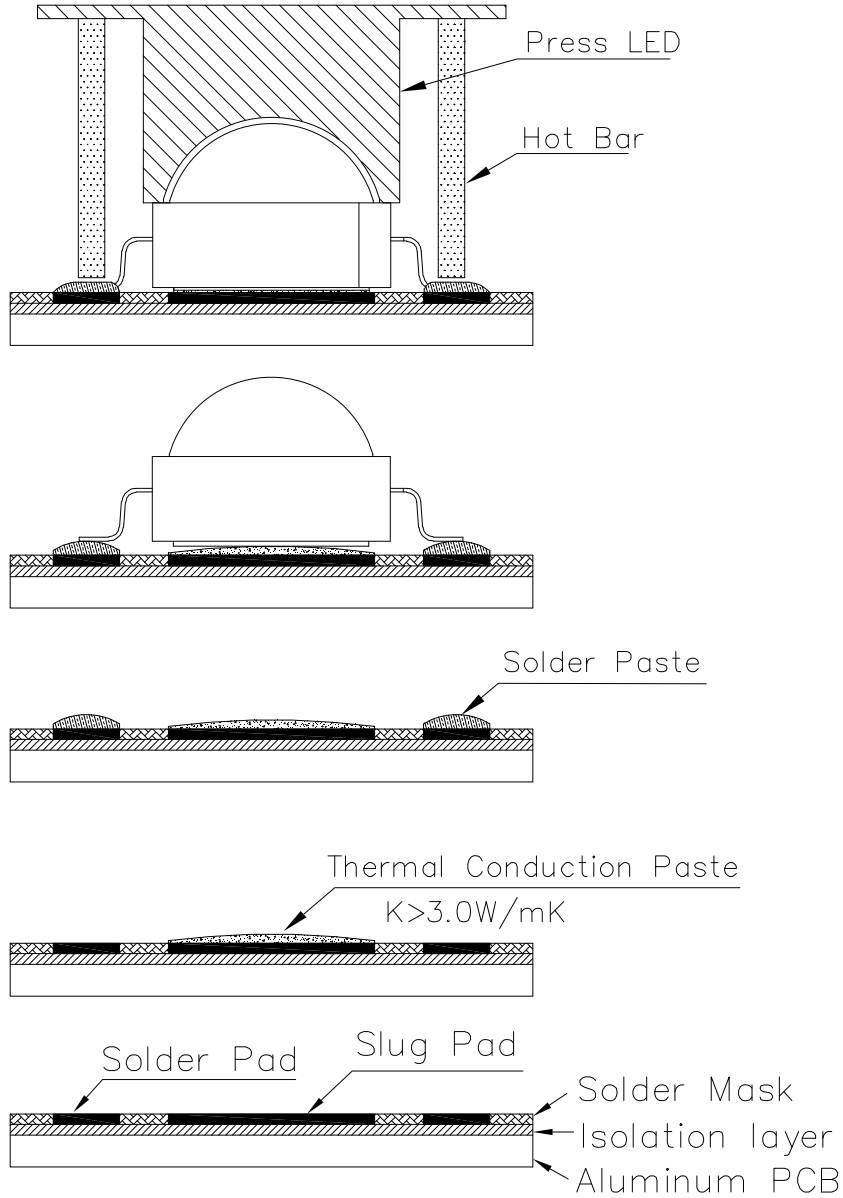


**Tape Specifications**  
 (Units : mm)



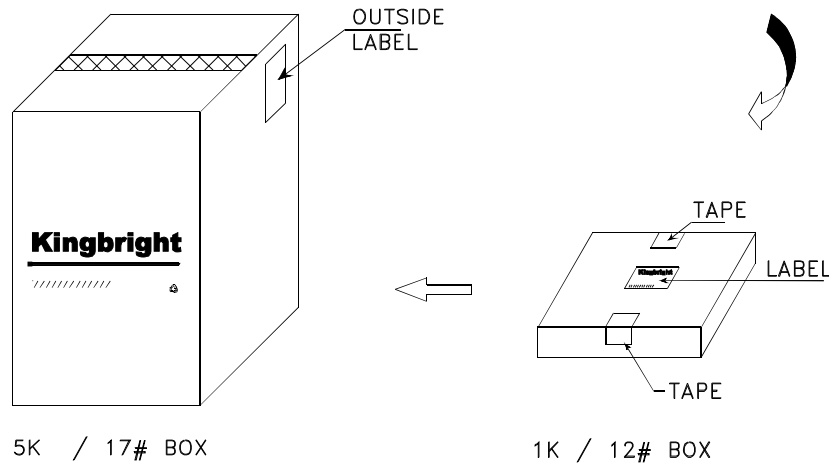
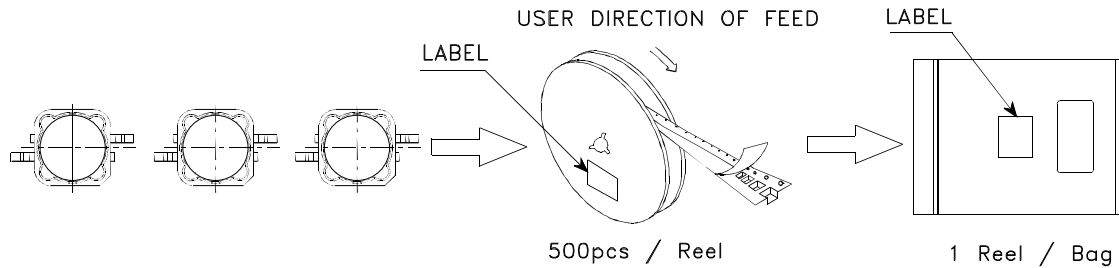
## KAD1-9090ZG10ZS


### Recommended Solder Steps



**PACKING & LABEL SPECIFICATIONS**

**KAD1-9090ZG10ZS**



<h1>Kingbright</h1>	
P/NO: KAD1-9090xxx	
QTY: 500 pcs	Q.C. <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">Q C</span>
S/N: XXXX	<span style="border: 1px solid black; border-radius: 50%; padding: 2px;">XX XX XXXX PASSED</span>
CODE: XXX	
LOT NO:	
 XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
RoHS Compliant	