Kingbright

Part Number: KAD1-9090SE28Z1S

Reddish-Orange

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.

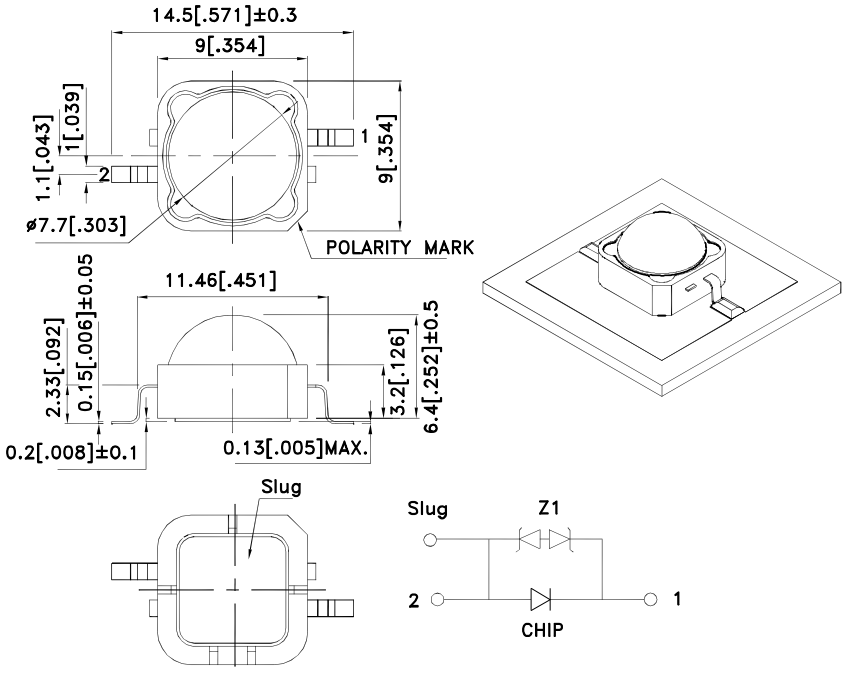
Application Note

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.

Selection Guide

Part No.	Dice	Lens Type	luminous Intensity [2] Iv (cd)@ 350mA		Φv (lm) @ 350mA [2]		Viewing Angle [1]
			Min.	Typ.	Min.	Typ.	2θ1/2
KAD1-9090SE28Z1S	Reddish-Orange (AlGaInP)	WATER CLEAR	8	12	24	35	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	1.05	W
Junction temperature	T_J	110	°C
Reverse Voltage	V_R	5	V
Operating Temperature	Top	-40 To +100	°C
Storage Temperature	Tstg	-40 To +100	°C
DC Forward Current [1]	I_F	350	mA
Peak Forward Current [2]	I_{FM}	500	mA
Thermal resistance [1]	$R_{th\ j\text{-}slug}$	12	°C/W
Electrostatic Discharge Threshold (HBM)		8000	V
Iron Soldering [3]	350°C For 3 Seconds		

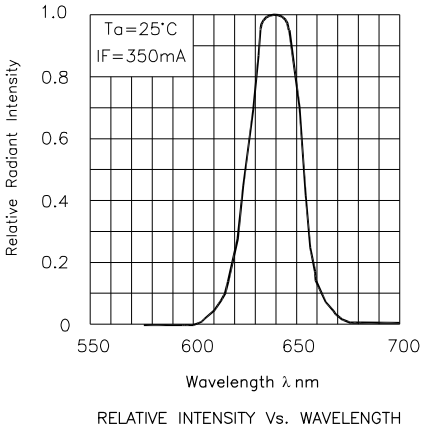
Notes:
1. Results from mounting on MCPCB.
2. 1/10 Duty Cycle, 0.1ms Pulse Width.
3.1.29mm distance from solder joint to package.

Electrical / Optical Characteristics at T_A=25°C

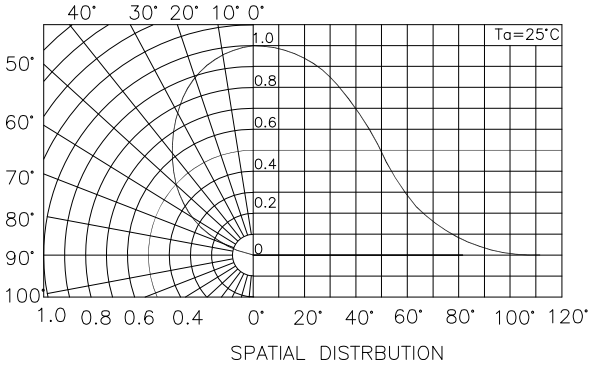
Parameter	Symbol	Value	Unit
Wavelength at peak emission I_F=350mA [Typ.]	λpeak	640	nm
Dominant Wavelength I_F=350mA [Typ.]	λ dom [1]	625	nm
Spectral bandwidth at 50%$\Phi_{REL\ MAX}$ I_F=350mA [Typ.]	Δλ	30	nm
Reverse Current (V_R = 5V) [Max.]	I_R	10	uA
Forward Voltage I_F=350mA [Min.]	V_F [2]	2.0	V
Forward Voltage I_F=350mA [Typ.]		2.5	
Forward Voltage I_F=350mA [Max.]		3.0	
Temperature coefficient of λpeak I_F=350mA, -10°C≤ T≤100°C [Typ.]	TCλpeak	0.12	nm/°C
Temperature coefficient of λdom I_F=350mA, -10°C≤ T≤100°C [Typ.]	TCλdom	0.05	nm/°C
Temperature coefficient of V_F I_F=350mA, -10°C≤ T≤100°C [Typ.]	TC_V	-2.6	mV/°C

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

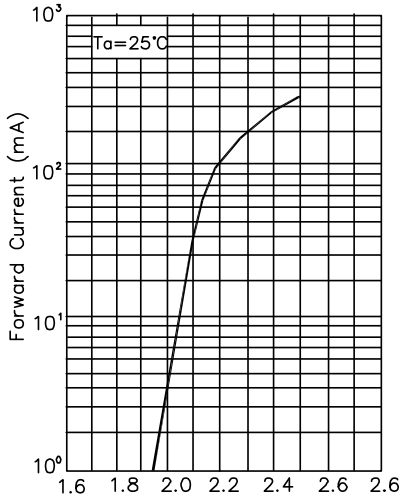
KAD1-9090SE28Z1S



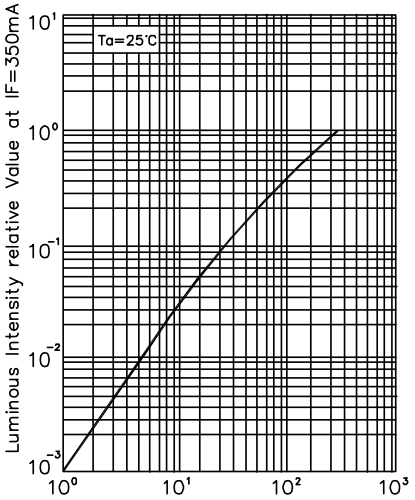
RELATIVE INTENSITY Vs. WAVELENGTH



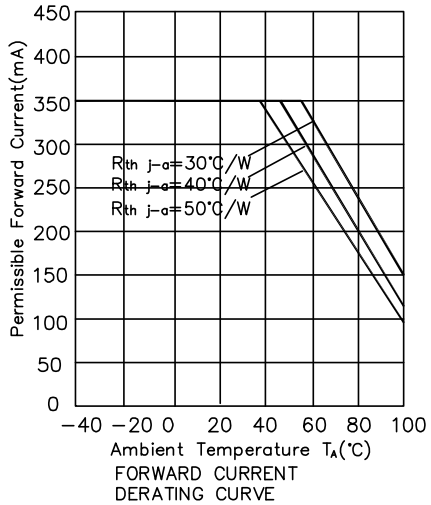
SPATIAL DISTRBUTION



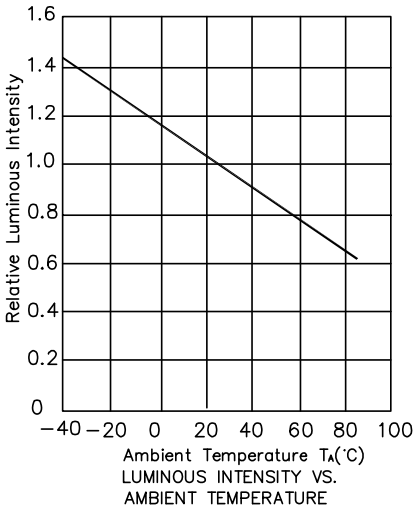
FORWARD CURRENT Vs.
FORWARD VOLTAGE



LUMINOUS INTENSITY Vs.
FORWARD CURRENT

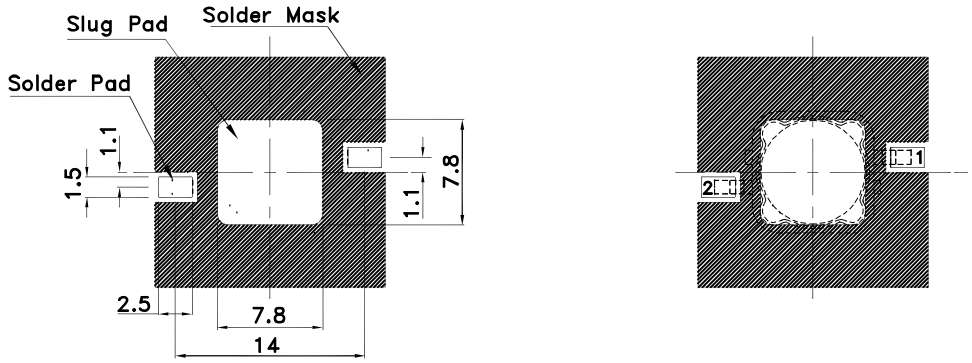


FORWARD CURRENT
DERATING CURVE

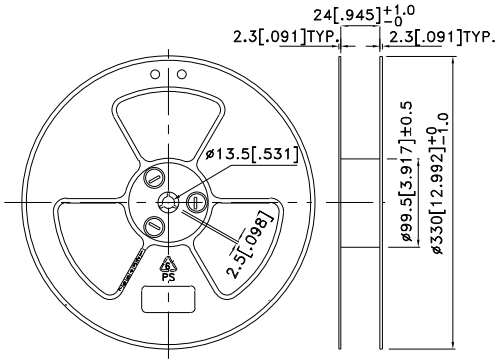


LUMINOUS INTENSITY VS.
AMBIENT TEMPERATURE

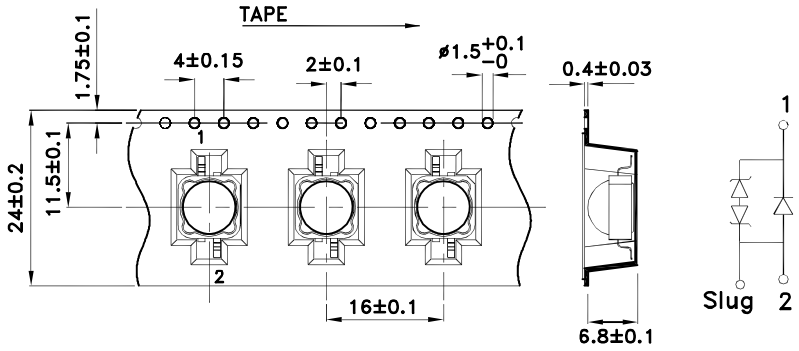
KAD1-9090SE28Z1S
Recommended Soldering Pattern
(Units : mm; Tolerance: ±0.1)



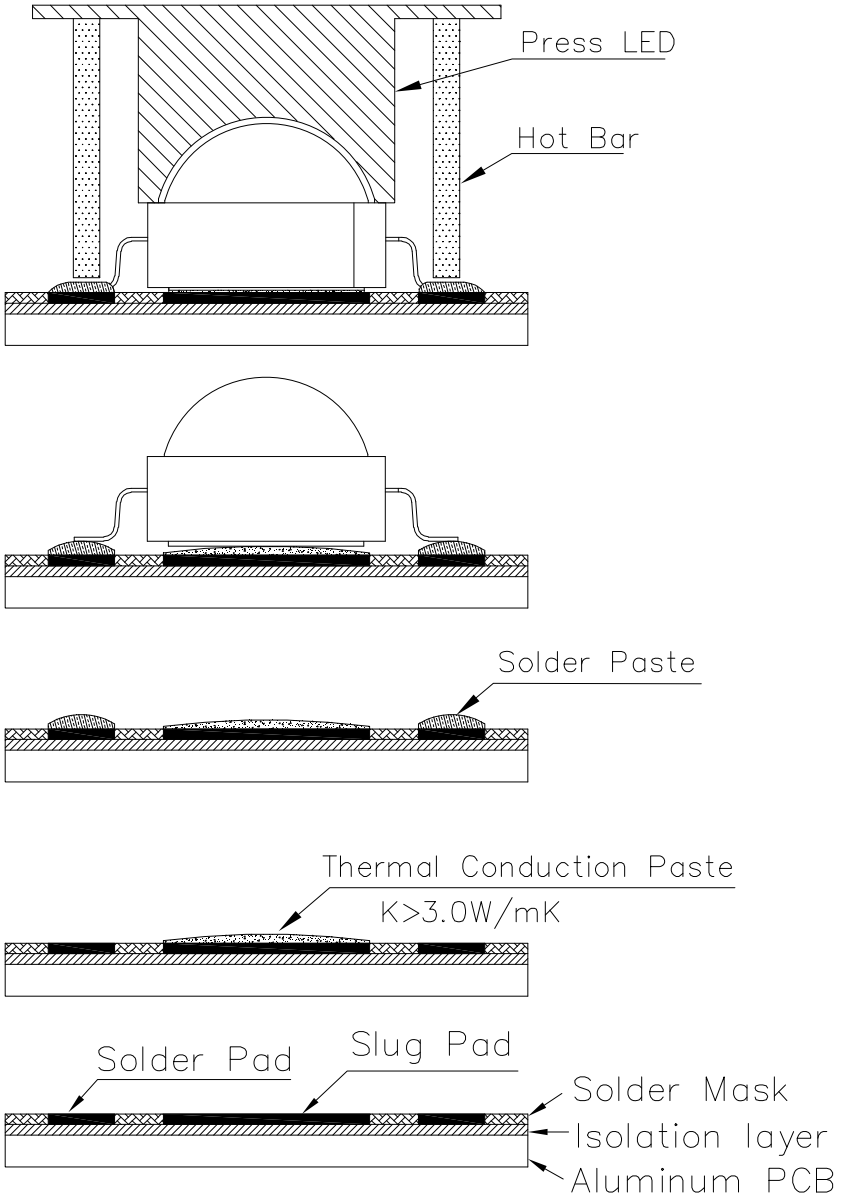
Reel Dimension



Tape Specifications
(Units : mm)



KAD1-9090SE28Z1S
Recommended Solder Steps



PACKING & LABEL SPECIFICATIONS **KAD1-9090SE28Z1S**