Kingbright

XPower

PRELIMINARY SPEC

Part Number: KAD1-9090SY28ZC

Super Bright Yellow

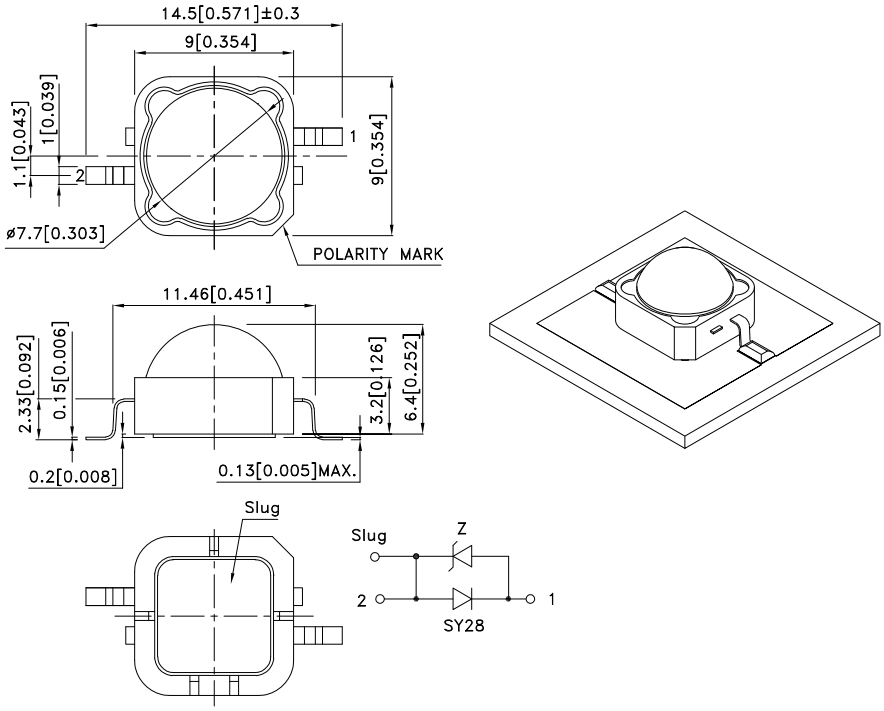
Features

- 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.

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 v(cd)@ 350 mA [2]		Φv (lm) @350mA [2]		Viewing Angle [1]
			Min.	Typ.	Min.	Typ.	2θ1/2
KAD1-9090SY28ZC	SUPER BRIGHT YELLOW (InGaAlP)	WATER CLEAR	8	11.5	25	32	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 T_A=25°C

Parameter	Symbol	Value	Unit
Power dissipation	P_t	0.9	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	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		

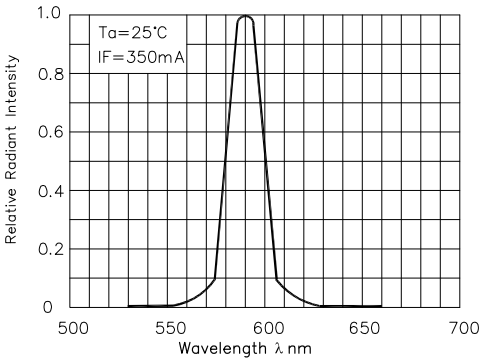
Notes:
1. Metal Core PCB is mounted on the heat Fins.
2. 1/10 Duty Cycle, 0.1ms Pulse Width.
3. 1.29mm below package base.

Electrical / Optical Characteristics at T_A=25°C

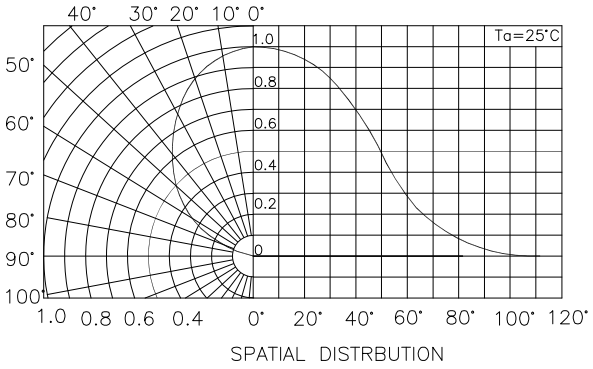
Parameter	Symbol	Value	Unit
Wavelength at peak emission I_F=350mA [Typ.]	λpeak	590	nm
Dominant Wavelength I_F=350mA [Typ.]	λ dom [1]	588	nm
Spectral bandwidth at 50%$\Phi_{REL\ MAX}$ I_F=350mA [Typ.]	Δλ	20	nm
Forward Voltage I_F=350mA [Min.]	V_F [2]	2.0	V
Forward Voltage I_F=350mA [Typ.]		2.5	
Forward Voltage I_F=350mA [Max.]		3.0	
Temperature coefficient of λpeak I_F=350mA, -10°C≤ T≤100°C [Typ.]	TCλpeak	0.09	nm/°C
Temperature coefficient of λdom I_F=350mA, -10°C≤ T≤100°C [Typ.]	TCλdom	0.06	nm/°C
Temperature coefficient of V_F I_F=350mA, -10°C≤ T≤100°C [Typ.]	TC_V	-3.2	mV/°C

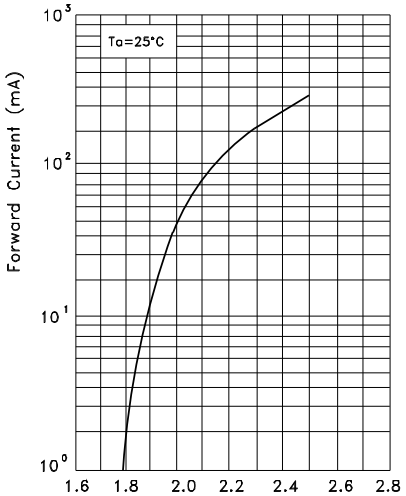
Notes:
1.Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.

KAD1-9090SY28ZC

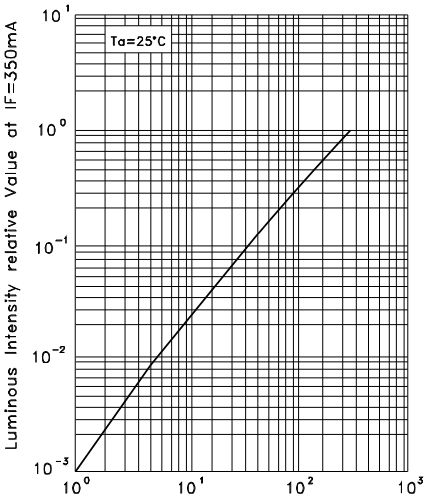


RELATIVE INTENSITY Vs. WAVELENGTH

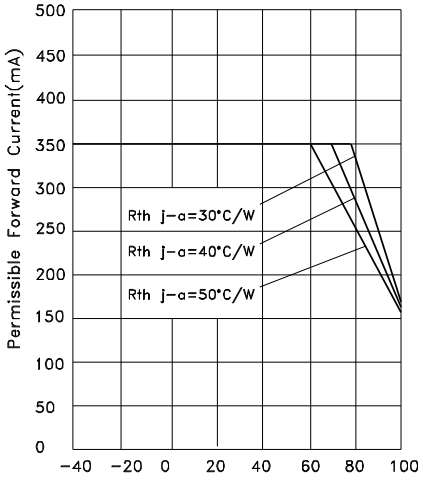




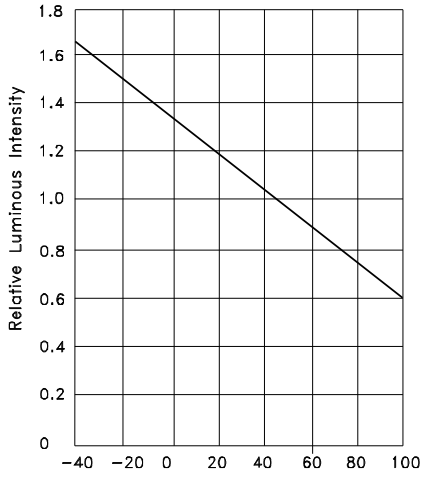
FORWARD CURRENT Vs.
FORWARD VOLTAGE



LUMINOUS INTENSITY Vs.
FORWARD CURRENT

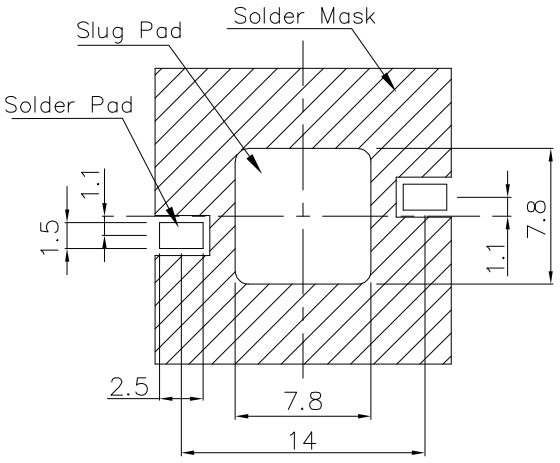


FORWARD CURRENT
DERATING CURVE

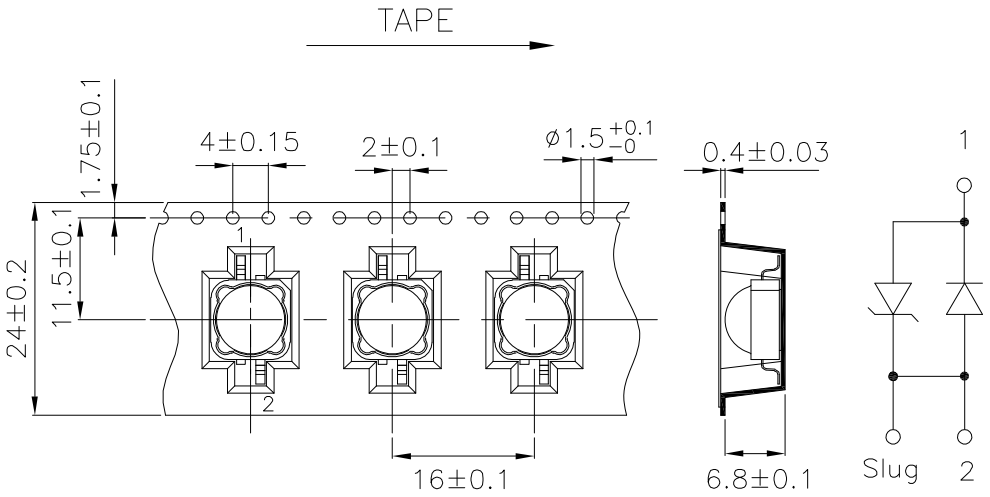


LUMINOUS INTENSITY VS.
AMBIENT TEMPERATURE

KAD1-9090SY28ZC
Recommended Soldering Pattern
(Units : mm; Tolerance: ±0.1)



Tape Specifications
(Units : mm)



KAD1-9090SY28ZC
Recommended Solder Steps