

## APDA3020LSYCK/J3-PF

## 3.0 x 2.0 mm Right Angle SMD LED



## DESCRIPTIONS

- The Super Bright Yellow device is based on light emitting diode chip made from AlGaInP
- · Electrostatic discharge and power surge could damage the LEDs
- · It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs
- · All devices, equipments and machineries must be electrically grounded

## **FEATURES**

- 3.0 mm x 2.0 mm SMD LED, 2.8 mm thickness
- Low power consumption
- Ideal for backlight and indicator
- Package: 2000 pcs / reel
- Moisture sensitivity level: 3
- · Tinned pads for improved solderability
- Halogen-free
- RoHS compliant

## **APPLICATIONS**

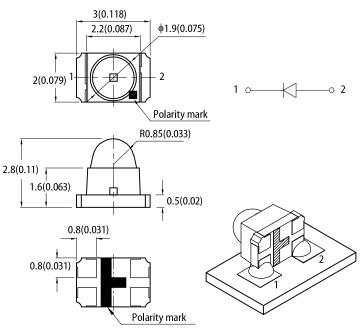
- Backlight
- Status indicator
- · Home and smart appliances
- · Wearable and portable devices
- · Healthcare applications

#### **ATTENTION**

Observe precautions for handling electrostatic discharge sensitive devices

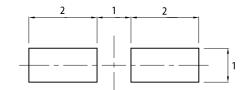


## PACKAGE DIMENSIONS



#### **RECOMMENDED SOLDERING PATTERN**

(units : mm; tolerance :  $\pm 0.1$ )



Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.2(0.008") 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.
5. For right angle SMD LEDs, the solder stencil should be at least 5mil in thickness, to prevent poor solder wetting due to insufficient solder paste.

### **SELECTION GUIDE**

Part Number	Emitting Color (Material)	Lens Type	lv (mcd)	Viewing Angle <sup>[1]</sup>	
i art Number			Min.	Тур.	201/2
APDA3020LSYCK/J3-PF	Super Bright Yellow (AlGaInP)	Water Clear	180	500	10°

Notes

1. 01/2 is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value.
 2. Luminous intensity / luminous flux: +/-15%.
 3. Luminous intensity value is traceable to CIE127-2007 standards.

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## ELECTRICAL / OPTICAL CHARACTERISTICS at T<sub>A</sub>=25°C

Parameter	0k.sl	Enclision Octor	Value			11-14
Parameter	Symbol	Emitting Color	Min. Typ. I		Max.	Unit
Wavelength at Peak Emission $I_F$ = 2mA	$\lambda_{peak}$	Super Bright Yellow	-	590	-	nm
Dominant Wavelength $I_F$ = 2mA	$\lambda_{dom}$ <sup>[1]</sup>	Super Bright Yellow	-	590	-	nm
Spectral Bandwidth at 50% $\Phi$ REL MAX $I_F$ = 2mA	Δλ	Super Bright Yellow	-	20	-	nm
Capacitance	С	Super Bright Yellow	-	45	-	pF
Forward Voltage I <sub>F</sub> = 2mA	V <sub>F</sub> <sup>[2]</sup>	Super Bright Yellow	1.5	1.85	2.1	V
Reverse Current (V <sub>R</sub> = 5V)	I <sub>R</sub>	Super Bright Yellow	-	-	10	μΑ
Temperature Coefficient of $\lambda_{\text{peak}}$ $I_F$ = 2mA, -10°C $\leq T \leq 85$ °C	$TC_{\lambdapeak}$	Super Bright Yellow	-	0.12	-	nm/°C
Temperature Coefficient of $\lambda_{\text{dom}}$ $I_F$ = 2mA, -10°C $\leq$ T $\leq$ 85°C	$TC_{\lambda dom}$	Super Bright Yellow	-	0.07	-	nm/°C
Temperature Coefficient of $~V_F$ $I_F$ = 2mA, -10°C $\leq$ T $\leq$ 85°C	TCv	Super Bright Yellow	-	-2	-	mV/°C

Notes:

The dominant wavelength (λd) above is the setup value of the sorting machine. (Tolerance λd : ±1nm.)
 Forward voltage: ±0.1V.
 Wavelength value is traceable to CIE127-2007 standards.
 Excess driving current and / or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

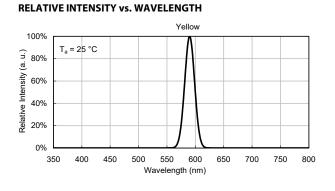
## ABSOLUTE MAXIMUM RATINGS at T<sub>A</sub>=25°C

Parameter	Symbol	Value	Unit
Power Dissipation	PD	75	mW
Reverse Voltage	V <sub>R</sub>	5	V
Junction Temperature	Tj	115	°C
Operating Temperature	T <sub>op</sub>	-40 to +85	°C
Storage Temperature	T <sub>stg</sub>	-40 to +85	°C
DC Forward Current	IF	30	mA
Peak Forward Current	I <sub>FM</sub> <sup>[1]</sup>	140	mA
Electrostatic Discharge Threshold (HBM)	-	3000	V
Thermal Resistance (Junction / Ambient)	R <sub>th JA</sub> <sup>[2]</sup>	720	°C/W
Thermal Resistance (Junction / Solder point)	R <sub>th JS</sub> <sup>[2]</sup>	610	°C/W

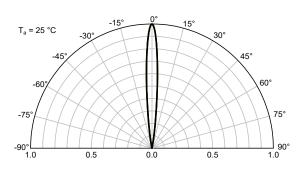
Notes: 1. 1/10 Duty Cycle, 0.1ms Pulse Width. 2. Rt<sub>In A</sub>, R<sub>IN IS</sub> Results from mounting on PC board FR4 (pad size ≥ 16 mm<sup>2</sup> per pad). 3. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.

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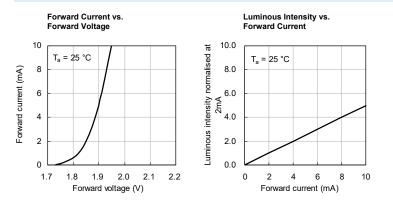
## **TECHNICAL DATA**

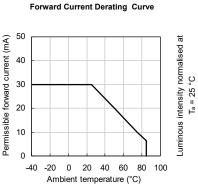


#### SPATIAL DISTRIBUTION

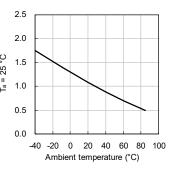


#### **SUPER BRIGHT YELLOW**

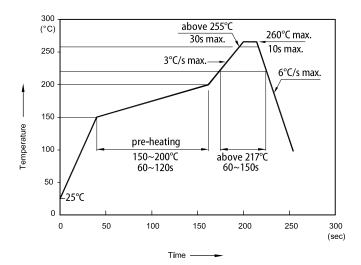




#### Luminous Intensity vs. Ambient Temperature



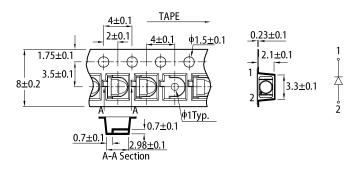
#### **REFLOW SOLDERING PROFILE for LEAD-FREE SMD PROCESS**



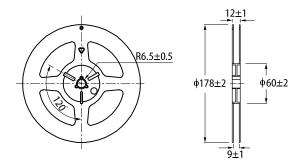
#### Notes

 Don't cause stress to the LEDs while it is exposed to high temperature.
 The maximum number of reflow soldering passes is 2 times.
 Reflow soldering is recommended. Other soldering methods are not recommended as they might cause damage to the product.

#### TAPE SPECIFICATIONS (units : mm)



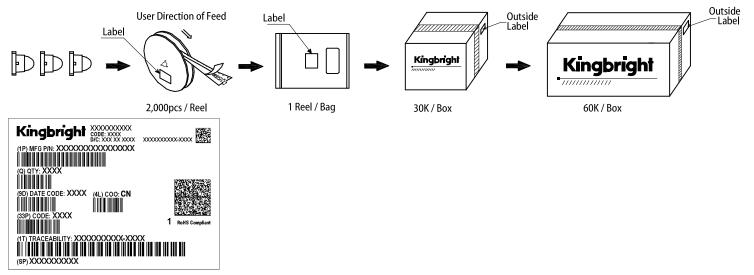
REEL DIMENSION (units : mm)



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#### **PACKING & LABEL SPECIFICATIONS**



#### **PRECAUTIONARY NOTES**

- 1. The information included in this document reflects representative usage scenarios and is intended for technical reference only.
- The part number, type, and specifications mentioned in this document are subject to future change and improvement without notice. Before production usage customer should refer to the latest datasheet for the updated specifications.
   When using the products referenced in this document, please make sure the product is being operated within the environmental and electrical limits specified in the datasheet. If
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