

Kingbright

3.0mmx1.0 mm RIGHT ANGLE SMD CHIP LED LAMP

PRELIMINARY SPEC



ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

Part Number: APA3010RWF/A

WHITE

Description

The source color devices are made with InGaN on SiC Light Emitting Diode.

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.

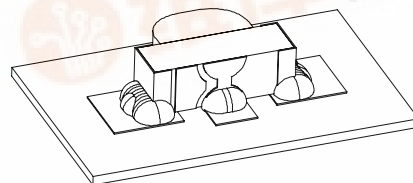
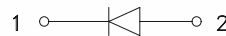
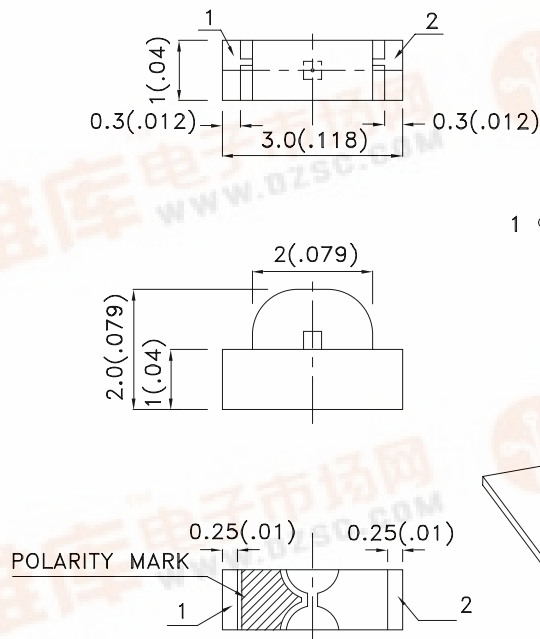
Applications

- traffic signaling.
- backlighting (illuminated advertising , general lighting).
- interior and exterior automotive lighting.
- substitution of micro incandescent lamps.
- Reading lamps.
- 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.

Features

- 3.0mmx1.0mm RIGHT ANGLE SMT LED, 2.0mm THICKNESS.
- LOW POWER CONSUMPTION.
- WIDE VIEWING ANGLE.
- IDEAL FOR BACK LIGHT AND INDICATOR.
- VARIOUS COLORS AND LENS TYPES AVAILABLE.
- PACKAGE : 2000PCS / REEL.
- MOISTURE SENSITIVITY LEVEL : LEVEL 3.
- ELECTROSTATIC DISCHARGE THRESHOLD (HBM):1000V.
- TYP. COLOR TEMPERATURE:6500K
- COLOR COORDINATES:X=0.31,Y=0.31 ACC. TO CIE1931(WHITE).
- OPTICAL EFFICIENCY:8.8 lm/W(TYP.)
- COLOR REPRODUCTION INDEX:80
- RoHS COMPLIANT.

Package Dimensions



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is $\pm 0.15(0.006)$ 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 ^{Note2} Iv(mcd) @ 20 mA		Φv (mlm) ^{Note3} @ 20 mA	Viewing Angle ^{Note1}
			Min.	Typ.	Typ.	2 θ 1/2
APA3010RWF/A	WHITE (InGaN)	YELLOW FLUORESCENT	50	150	560	120 °

Absolute Maximum Ratings at TA=25°C

Parameter	Symbol	Value	Unit
Power dissipation	Pt	120	mW
Reverse Voltage	VR	5	V
Junction temperature	TJ	110	°C
Operating Temperature	Top	-40 To +85	°C
Storage Temperature	Tstg	-40 To +100	°C
DC Forward Current	IF	30	mA
Peak Forward Current ^{Note4}	IFM	100	mA
Thermal resistance ^{Note5} Junction/ambient Junction/solder point	Rth JA Rth JS	350 120	°C/W °C/W

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 is measured by a current pulse of 10ms at a tolerance of ±15%.
3. The typical data of Luminous Flux can only reflect statistical figures, actual parameters of individual product could differ from the typical data. For the purpose of product enhancement, the typical data is subject to change without prior notice.
4. 1/10 Duty Cycle, 0.1ms Pulse Width.
5. Rth(J-A) Results from mounting on PC board FR4 (pad size ≥ 16 mm² per pad),

Electrical / Optical Characteristics at TA=25°C

Parameter	Symbol	Value	Unit
Chromaticity coordinate x acc.to CIE1931 IF=20mA [Typ.]	X ^{Note1}	0.31	-
Chromaticity coordinate y acc.to CIE1931 IF=20mA [Typ.]	Y ^{Note1}	0.31	-
Forward Voltage IF=20mA [Min.]	VF ^{Note2}	2.7	V
Forward Voltage IF=20mA [Typ.]		3.2	
Forward Voltage IF=20mA [Max.]		4.0	
Reverse Current (VR=5V) [Typ.]	IR	0.01	μ A
Reverse Current (VR=5V) [Max.]		10	
Temperature coefficient of x IF=20mA, -10 ° C ≤ T ≤ 100 ° C [Typ.]	TCx	-0.1	10 ⁻³ /° C
Temperature coefficient of y IF=20mA, -10 ° C ≤ T ≤ 100 ° C [Typ.]	TCy	-0.2	10 ⁻³ /° C
Temperature coefficient of VF IF=20mA, -10 ° C ≤ T ≤ 100 ° C [Typ.]	TCv	-2.5	mV/° C

Notes:

1. Chromaticity coordinates are measured by a current pulse of 20ms with a tolerance of ±0.01 in X and Y color coordinates.
2. Forward voltage is measured with a current pulse of 10ms at a tolerance of ±0.1V.

Brightness codes

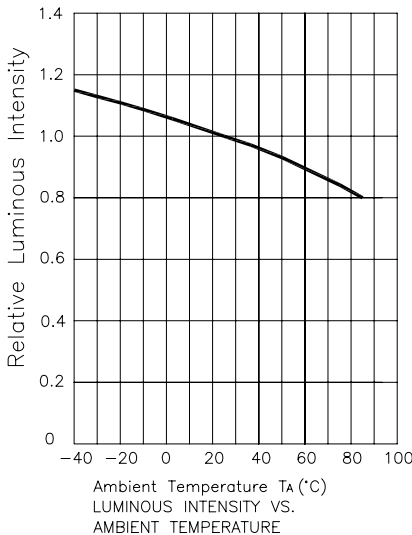
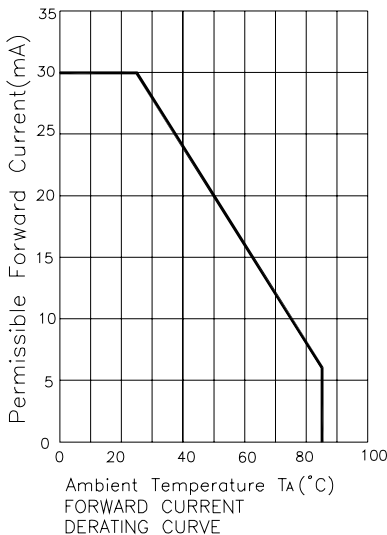
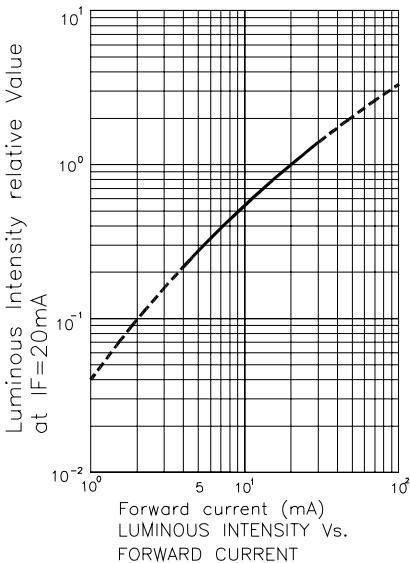
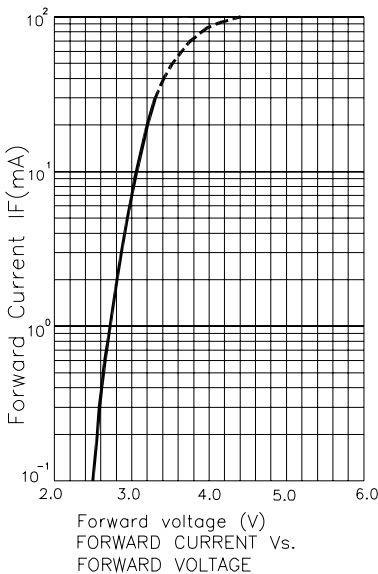
luminous Intensity ^{Note1} Iv(mcd) @ 20 mA			Φ_v (mlm) ^{Note2} @ 20 mA
Code.	Min.	Max.	Typ.
H	50	90	200
M	70	130	300
N	110	220	480
P	180	320	710

Notes:

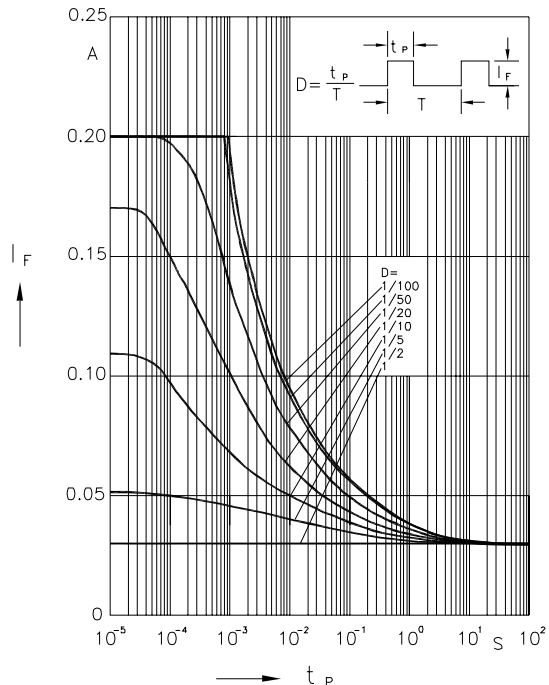
- 1.Luminous intensity is measured by a current pulse of 10ms at a tolerance of $\pm 15\%$.
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White

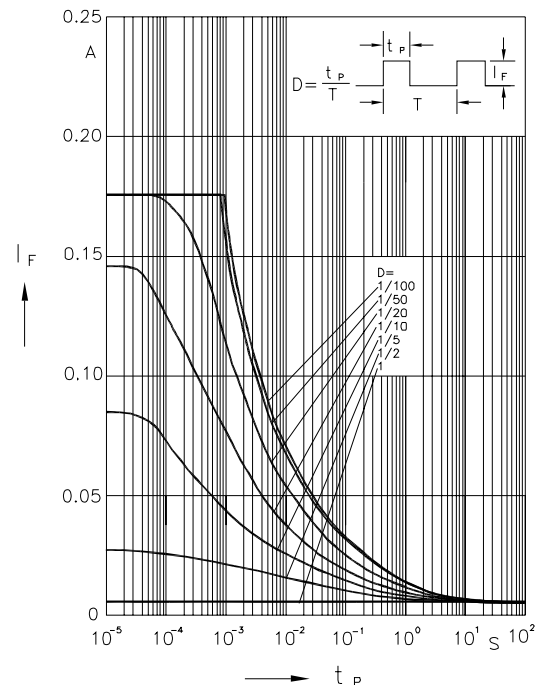
APA3010RWF/A



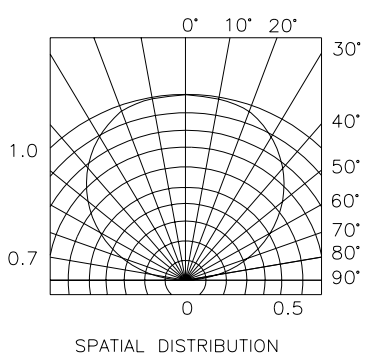
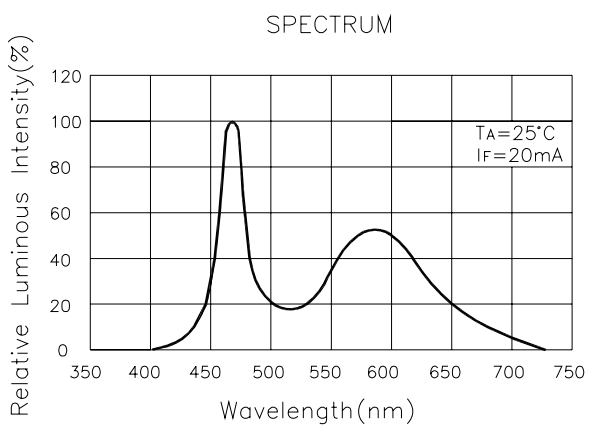
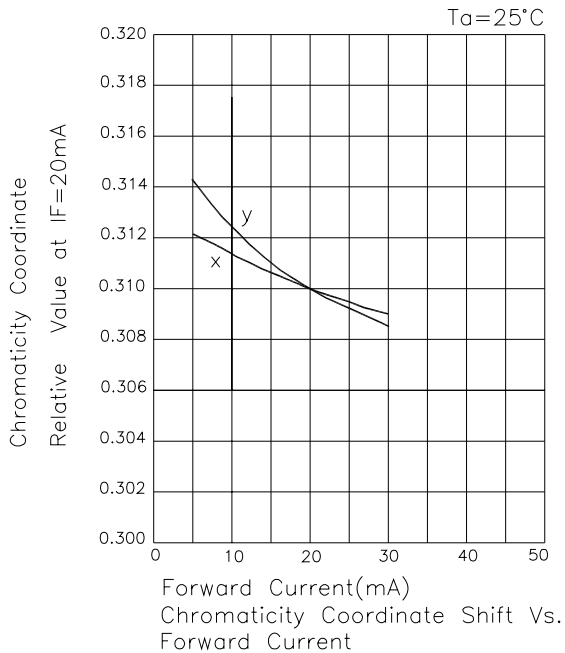
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Permissible Pulse Handling Capability
Duty cycle D =parameter, $T_A=25^\circ\text{C}$

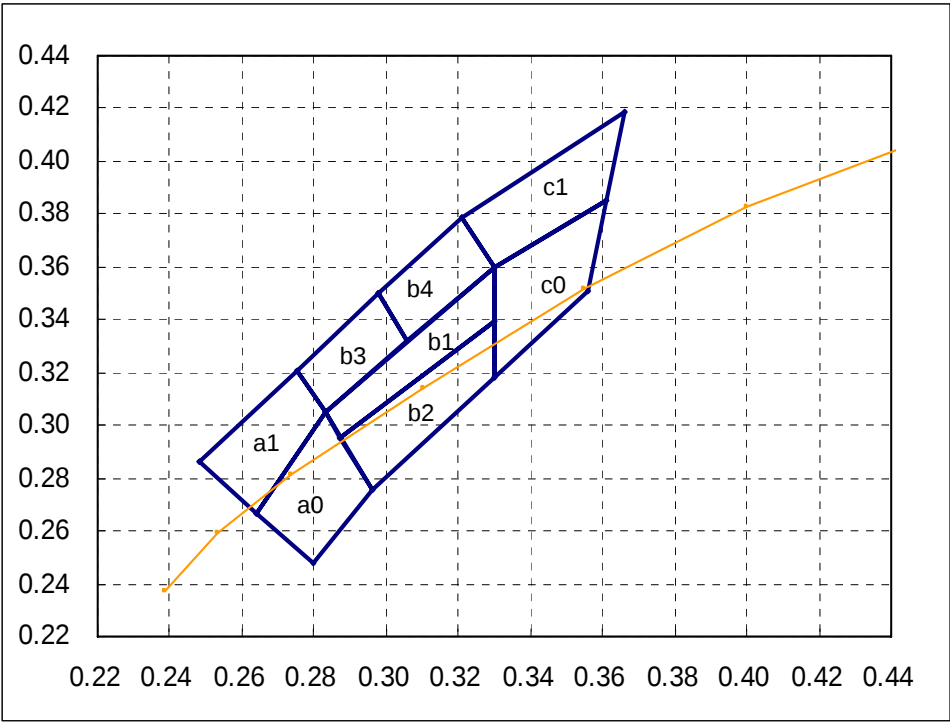


Permissible Pulse Handling Capability
Duty cycle D =parameter, $T_A=85^\circ\text{C}$



APA3010RWF/A

White CIE

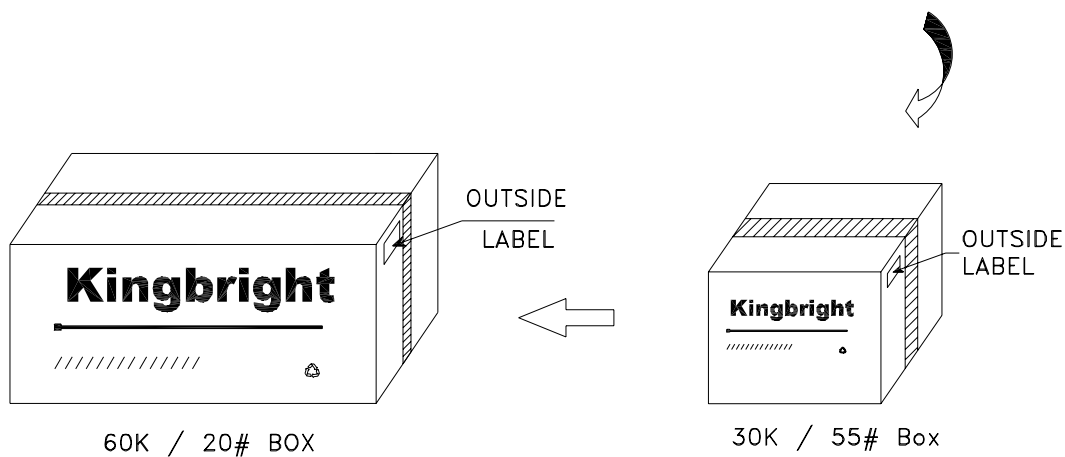
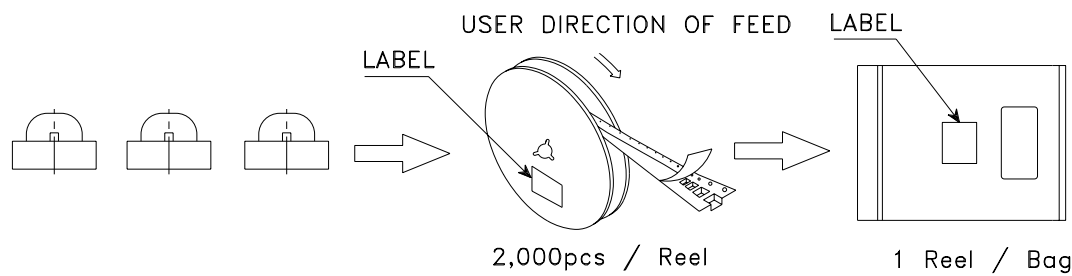


a0				
X	0.264	0.283	0.296	0.280
Y	0.267	0.305	0.276	0.248
Reference CCT: 14000~9000k				
b1				
X	0.283	0.330	0.330	0.287
Y	0.305	0.360	0.339	0.295
Reference CCT: 9000~5600k				
b3				
X	0.275	0.298	0.306	0.283
Y	0.321	0.350	0.332	0.305
Reference CCT: 9000~7000k				
c0				
X	0.330	0.361	0.356	0.330
Y	0.360	0.385	0.351	0.318
Reference CCT: 5600~4600k				

a1				
X	0.248	0.275	0.283	0.264
Y	0.286	0.321	0.305	0.267
Reference CCT: 14000~9000k				
b2				
X	0.287	0.330	0.330	0.296
Y	0.295	0.339	0.318	0.276
Reference CCT: 9000~5600k				
b4				
X	0.298	0.321	0.330	0.306
Y	0.350	0.379	0.360	0.332
Reference CCT: 7600~5600k				
c1				
X	0.321	0.366	0.361	0.330
Y	0.379	0.419	0.385	0.360
Reference CCT: 6000~4600k				

PACKING & LABEL SPECIFICATIONS

APA3010RWF/A



Kingbright	
P/NO: APA3010xxx	
QTY: 2,000 pcs	Q.C. Q C xx xx xxxx PASSED
S/N: XXXX	
CODE: XXX	
LOT NO:  xxxxxxxxxxxxxxxxxxxxxxxxxxxx	
RoHS Compliant	