

Selection Guide

Part No.	Dice	Lens Type	luminous Intensity ^{Note2} Iv(mcd) @ 20 mA		Φ_v (mlm) ^{Note3} @ 20 mA	Viewing Angle ^{Note1}
			Min.	Typ.	Typ.	2θ1/2
APKA2810RWC/A-F01	WHITE (InGaN)	WATER CLEAR	70	180	700	90°

Absolute Maximum Ratings at TA=25°C

Parameter	Symbol	Value	Unit
Power dissipation	PI	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 Junction/ambient ^{Note5} Junction/solder point	Rth JA Rth JS	400 140	°C/W °C/W

Notes:

1.θ1/2 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	μA
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.
M	70	130	300
N	110	220	480
P	180	320	710
Q	280	420	960

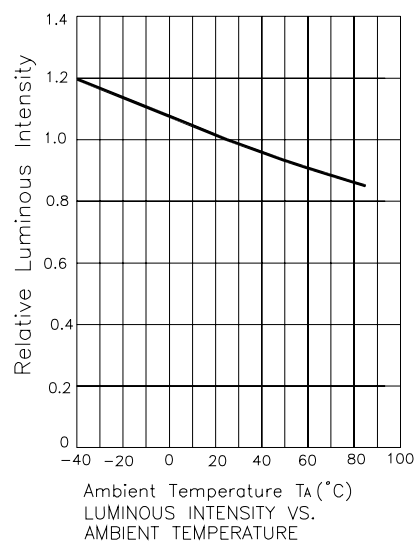
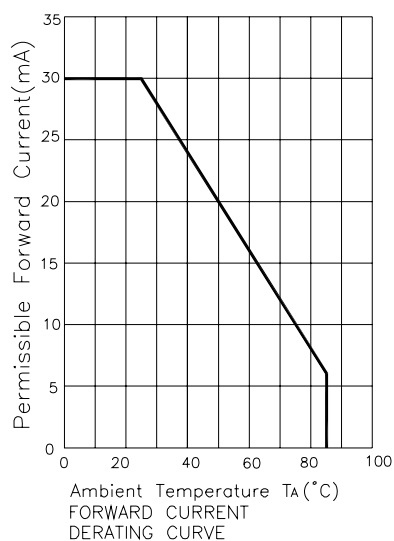
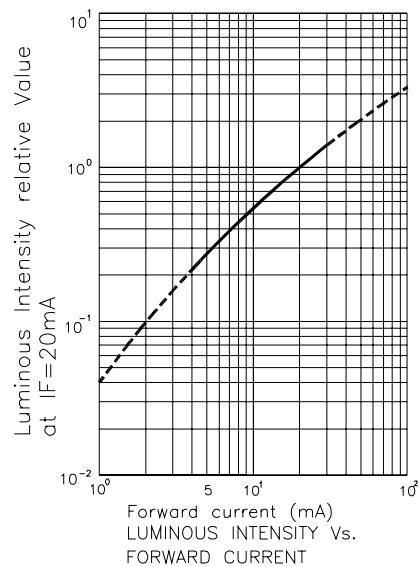
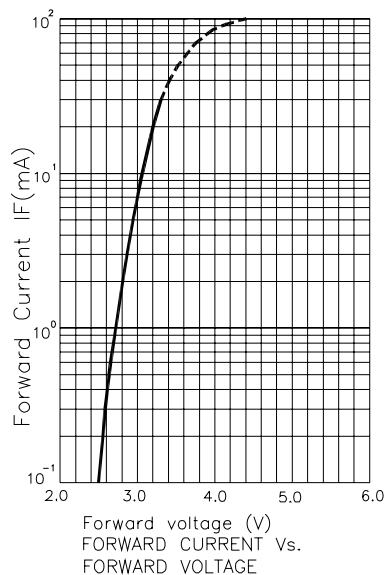
Notes:

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

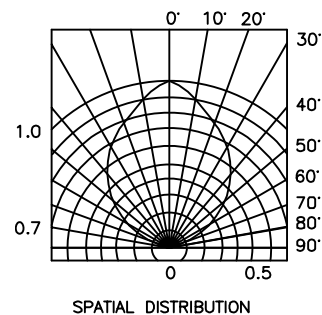
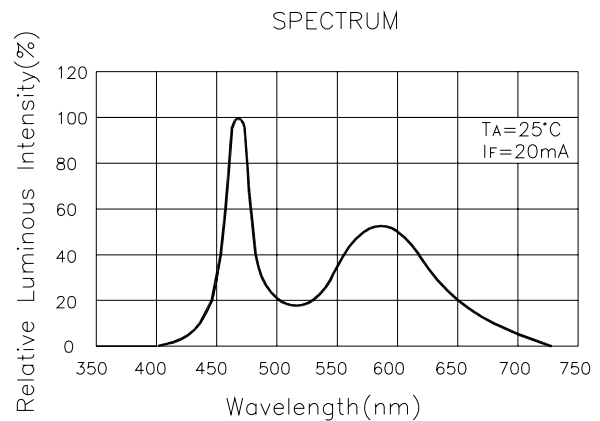
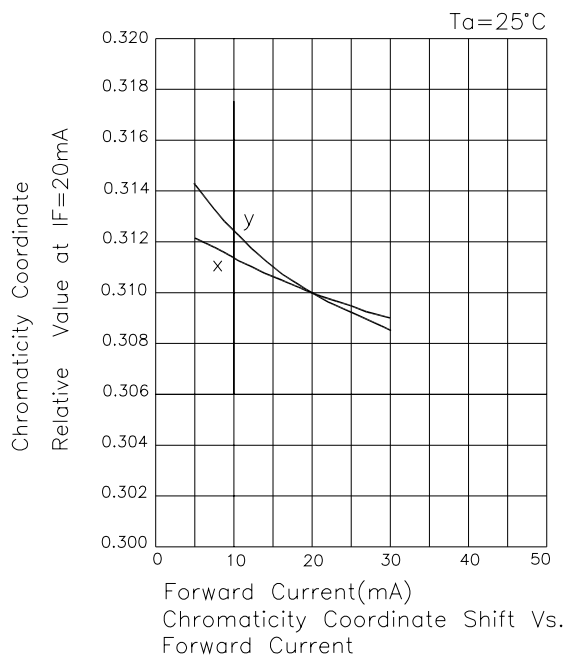
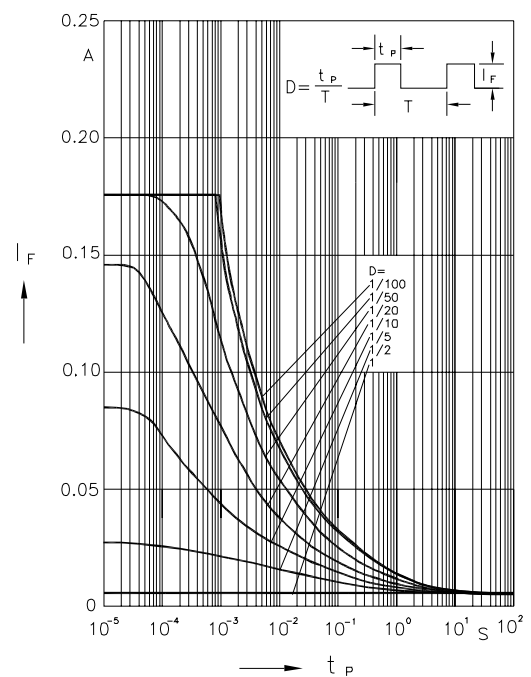
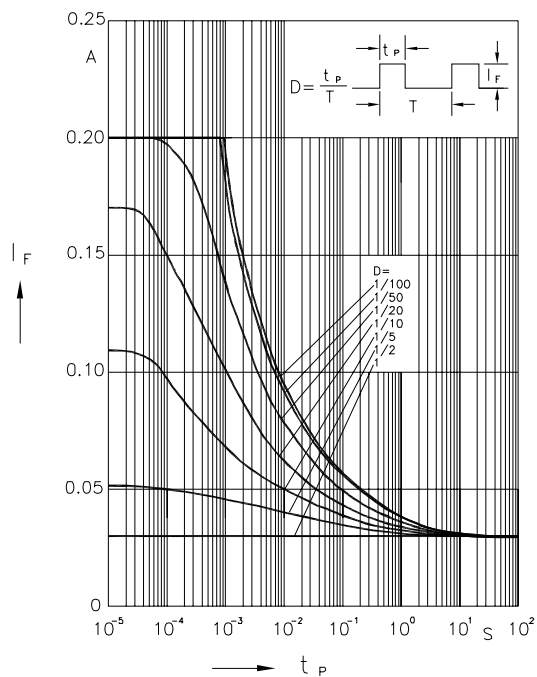
2.The typical data of Luminous Flux can only reflect statistical figures, actual parameters of individual product could differ from the typical data. For the purpose of product enhancement, the typical data is subject to change without prior notice.

White

APKA2810RWC/A-F01

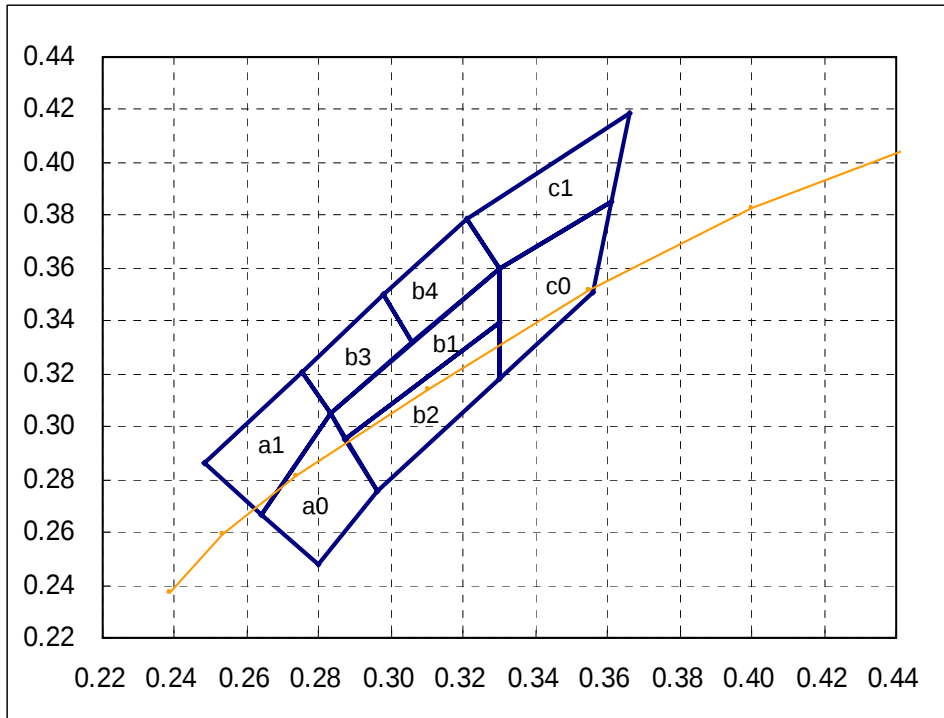


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White CIE

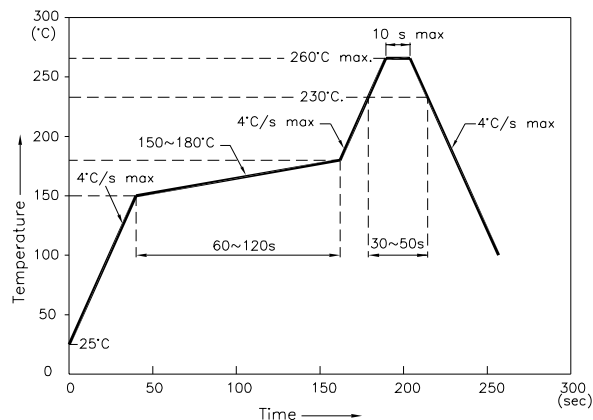


a0				
X	0.264	0.283	0.296	0.280
Y	0.267	0.305	0.276	0.248
Reference CCT: 14000~9000k				
b1				
X	0.283	0.330	0.330	0.287
Y	0.305	0.360	0.339	0.295
Reference CCT: 9000~5600k				
b3				
X	0.275	0.298	0.306	0.283
Y	0.321	0.350	0.332	0.305
Reference CCT: 9000~7000k				
c0				
X	0.330	0.361	0.356	0.330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

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Reflow Soldering Profile For Lead-free SMT Process.



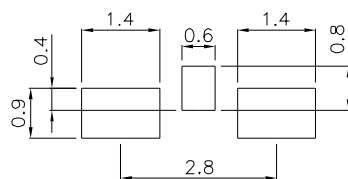
NOTES:

1. We recommend the reflow temperature 245°C(+/-5°C). The maximum soldering temperature should be limited to 260°C.
2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

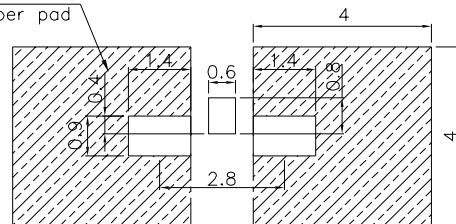
Recommended Soldering Pattern

(Units : mm ; Tolerance: ± 0.1)

Pad design for improved heat dissipation



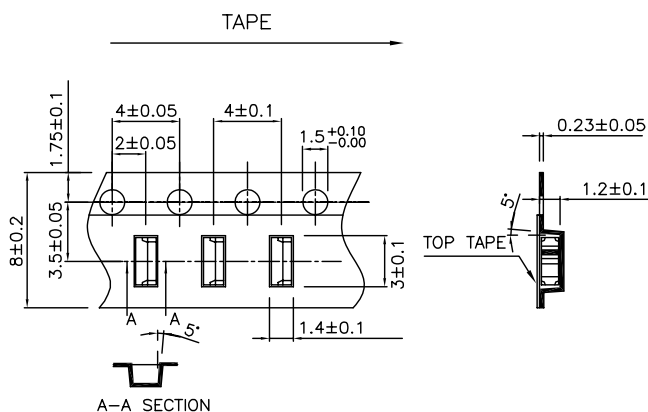
Cu-area $\geq 16^2$ mm² per pad



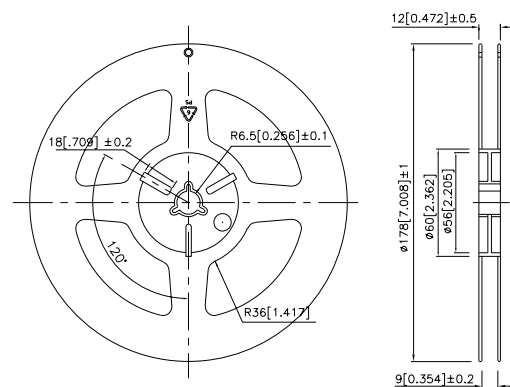
▨ Solder resist

Tape Specifications

(Units : mm)

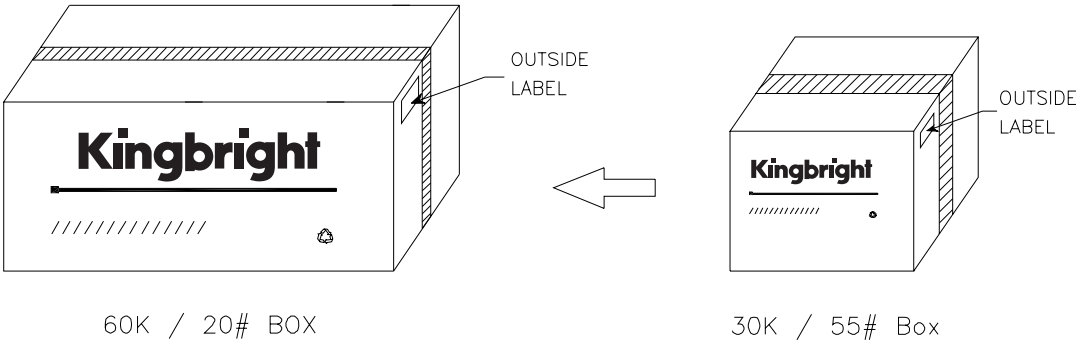
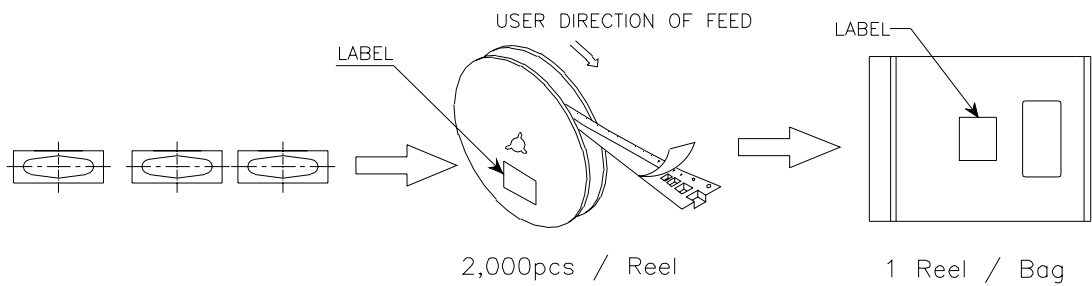


Reel Dimension



PACKING & LABEL SPECIFICATIONS

APKA2810RWC/A-F01



Kingbright	
P/NO: APKA2810xxxx	
QTY: 2,000 pcs	Q.C. Q C xx xx xx PASSED
S/N: XXXX	
CODE: XXX	
LOT NO:	
 XXXXXXXXXXXXXXXXXXXX	
RoHS Compliant	