

PRELIMINARY SPEC



ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

Part Number: APFA3210QBDZGSURKC

Blue
Green
Hyper Red

Features

- Low power consumption.
- 3.2mmX1.0mm right angle SMT LED, 1.5mm thickness.
- Wide viewing angle.
- Package : 2000pcs / reel.
- Moisture sensitivity level : level 3
- RoHS compliant.

Description

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

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

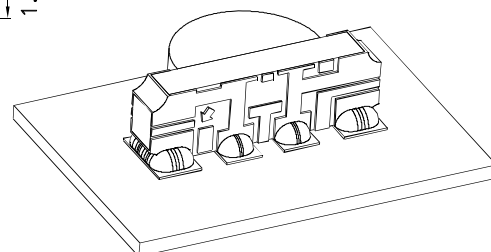
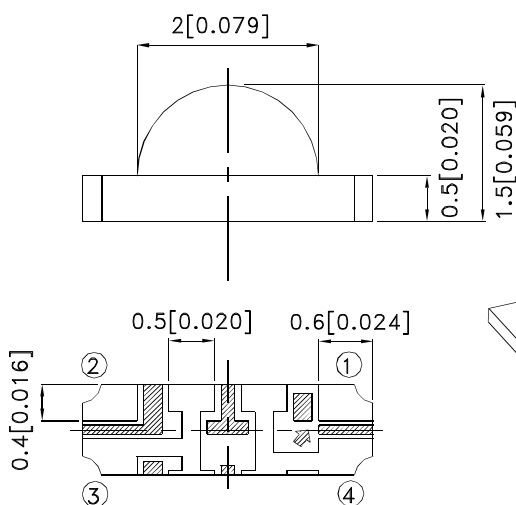
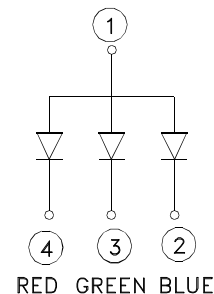
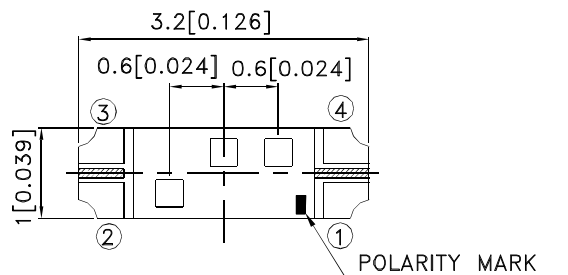
The Hyper Red source color devices are made with Al-GaN on GaAs substrate Light Emitting Diode.

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.

Package Dimensions



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is ± 0.1 (0.004") 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	Iv (mcd) [2] @ 20mA		Viewing Angle [1]
			Min.	Typ.	2θ1/2
APFA3210QBDZGSURKC	Blue (InGaN)	WATER CLEAR	50	120	130°
	Green (InGaN)		70	250	
	Hyper Red (AlGaInP)		70	200	

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%.

Electrical / Optical Characteristics at TA=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λ_{peak}	Peak Wavelength	Blue Green Hyper Red	468 515 650		nm	I _F =20mA
λ_D [1]	Dominant Wavelength	Blue Green Hyper Red	470 525 630		nm	I _F =20mA
$\Delta\lambda_{1/2}$	Spectral Line Half-width	Blue Green Hyper Red	25 30 28		nm	I _F =20mA
C	Capacitance	Blue Green Hyper Red	100 45 35		pF	V _F =0V;f=1MHz
V _F [2]	Forward Voltage	Blue Green Hyper Red	3.3 3.3 1.95	4 4.1 2.5	V	I _F =20mA
I _R	Reverse Current	Blue Green Hyper Red		10 10 10	uA	V _R =5V

Notes:

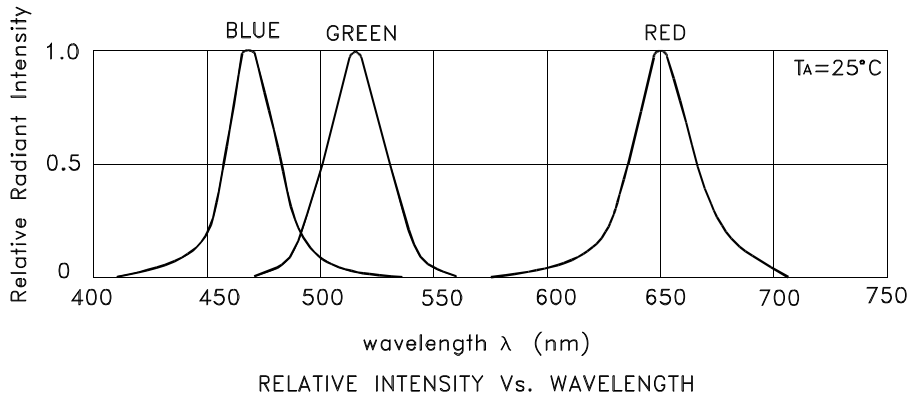
1. Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.

Absolute Maximum Ratings at TA=25°C

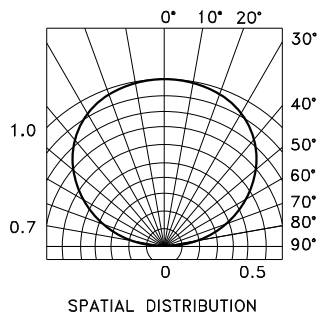
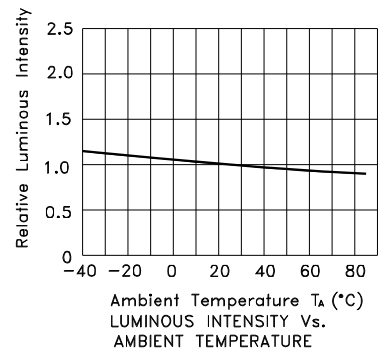
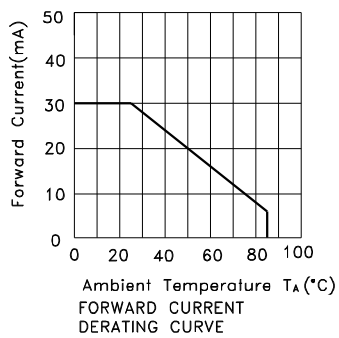
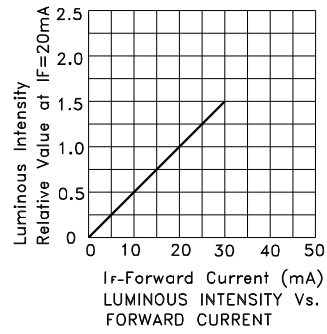
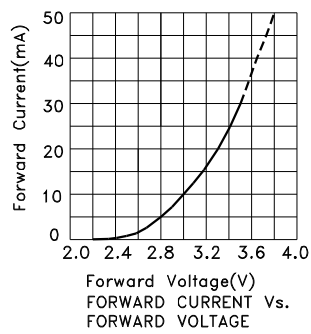
Parameter	Blue	Green	Hyper Red	Units
Power dissipation	120	102.5	75	mW
DC Forward Current	30	25	30	mA
Peak Forward Current [1]	150	150	185	mA
Reverse Voltage	5			V
Operating Temperature	-40°C To +85°C			
Storage Temperature	-40°C To +85°C			

Notes:

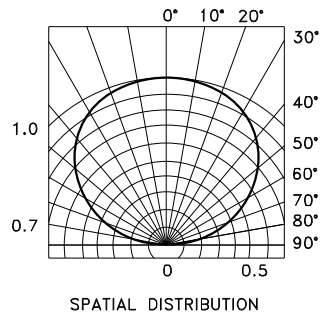
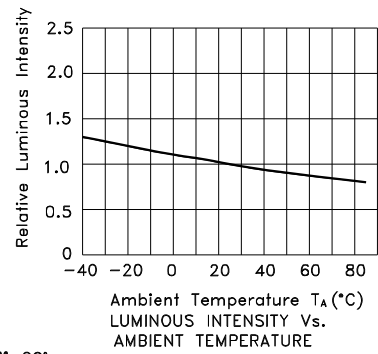
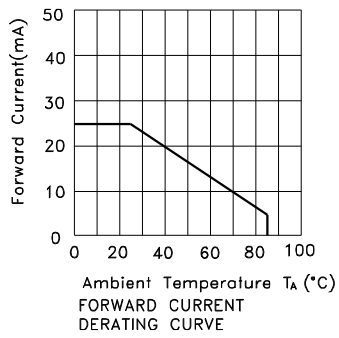
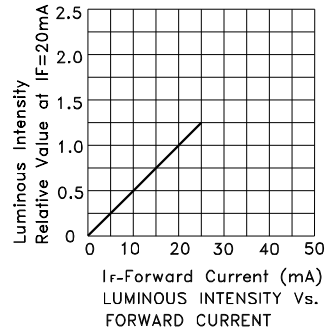
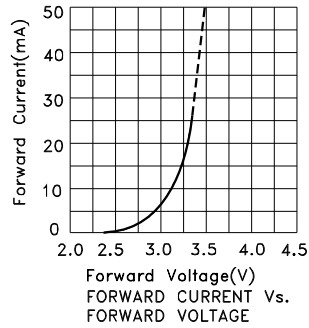
1. 1/10 Duty Cycle, 0.1ms Pulse Width.



APFA3210QBDZGSURKC Blue

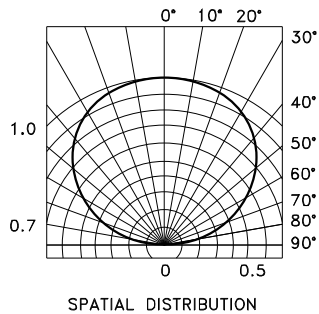
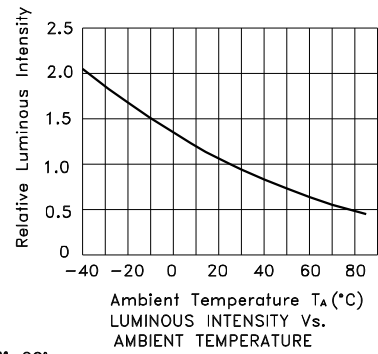
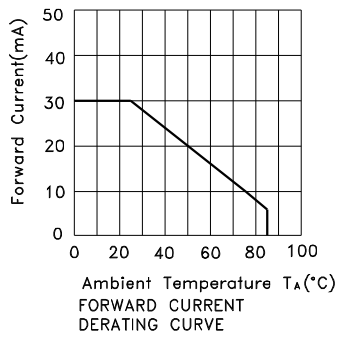
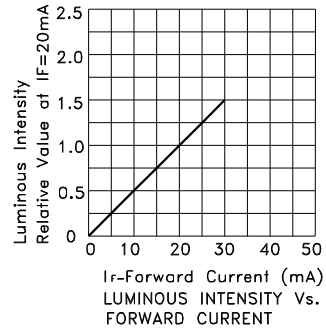
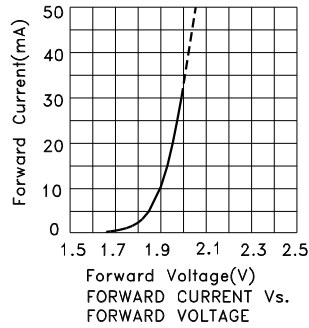


Green



Kingbright

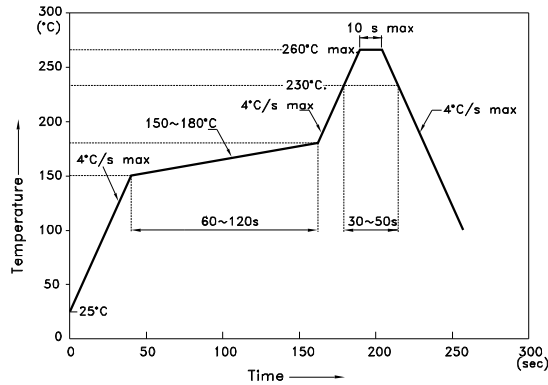
Hyper Red



APFA3210QBDZGSURKC

Reflow soldering is recommended and the soldering profile is shown below.
Other soldering methods are not recommended as they might cause damage to the product.

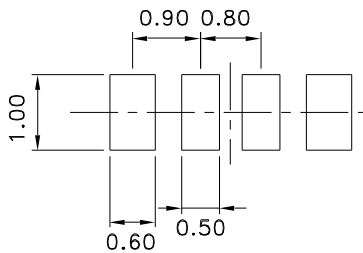
Reflow Soldering Profile For Lead-free SMT Process.



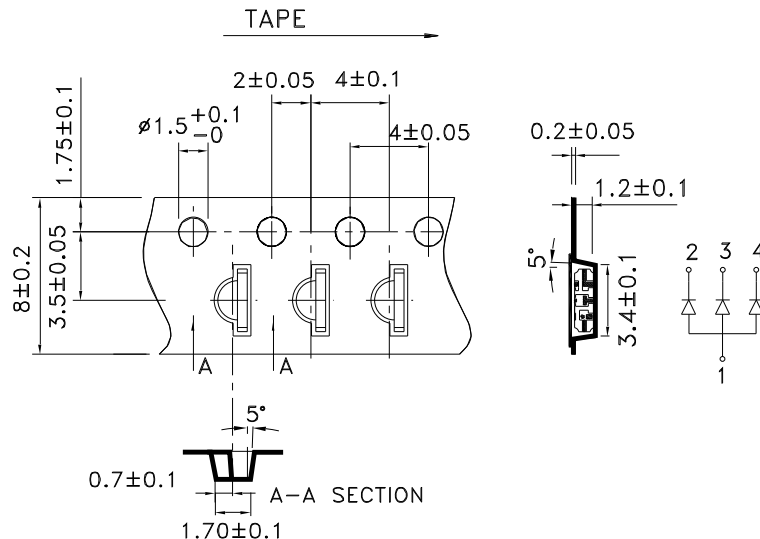
NOTES:

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)



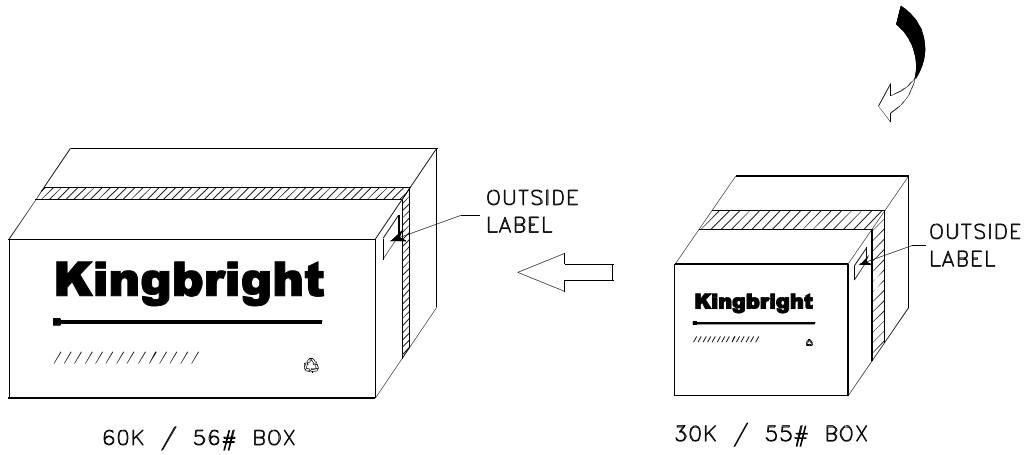
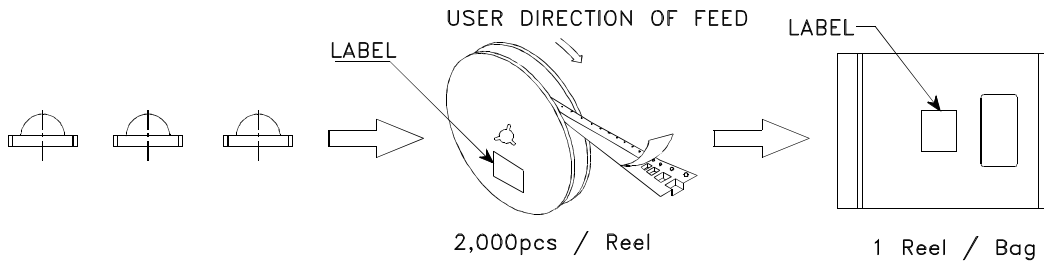
Tape Dimensions (Units : mm)




Kingbright

PACKING & LABEL SPECIFICATIONS

APFA3210QBDZGSURKC



<h1>Kingbright</h1>	
P/N : APFA3210XXX	
QTY: 2,000 pcs	Q.C. Q C xx xx xxxx PASSED
S/N: XXXX	
CODE: XXX	
LOT NO:	
 xxxxxxxxxxxxxxxxxxxxxxxxxxxx	
RoHS Compliant	