



ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

Part Number: APTF1616QBDSURKZGC

Blue
Hyper Red
Green

Features

- 1.6mmX1.6mm SMT LED, 0.7mm thickness.
- Low power consumption.
- One blue, one red and one green chips in one package.
- Can produce any color in visible spectrum, including white light.
- Package : 2000pcs / reel.
- Moisture sensitivity level : level 3.
- RoHS compliant.

Description

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

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

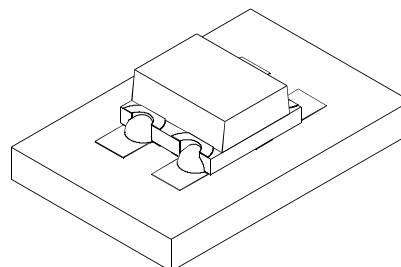
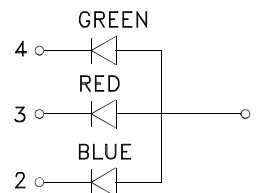
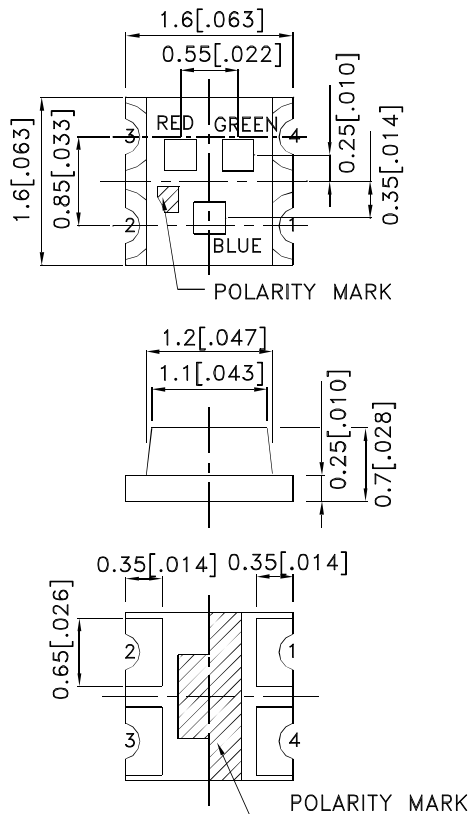
The Green source color devices are made with InGaN on Sapphire Light Emitting Diode.

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 $\pm 0.2(0.008)$ 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.



Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) [2] @ 20mA		Viewing Angle [1]
			Min.	Typ.	2θ1/2
APTF1616QBDSURKZGC	Blue (InGaN)	WATER CLEAR	50	100	120°
	Hyper Red (AlGaInP)		110	230	
	Green (InGaN)		70	180	

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 Hyper Red Green	468 650 515		nm	I _F =20mA
λ _D [1]	Dominant Wavelength	Blue Hyper Red Green	470 630 525		nm	I _F =20mA
Δλ _{1/2}	Spectral Line Half-width	Blue Hyper Red Green	25 28 30		nm	I _F =20mA
C	Capacitance	Blue Hyper Red Green	100 35 45		pF	V _F =0V;f=1MHz
V _F [2]	Forward Voltage	Blue Hyper Red Green	3.3 1.95 3.3	4 2.5 4.1	V	I _F =20mA
I _R	Reverse Current	Blue Hyper Red Green		50 10 50	uA	V _R =5V

Notes:

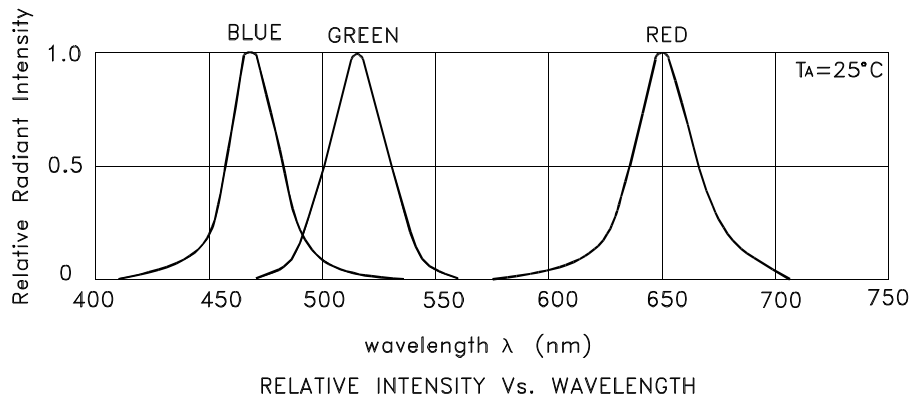
1. Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.

Absolute Maximum Ratings at TA=25°C

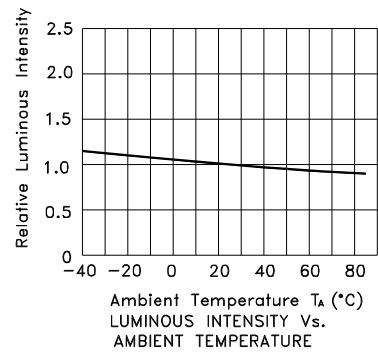
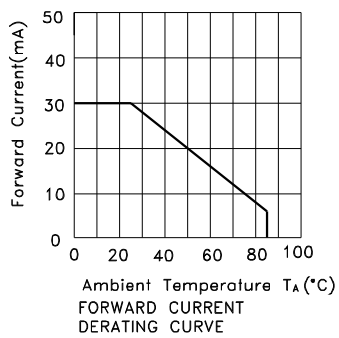
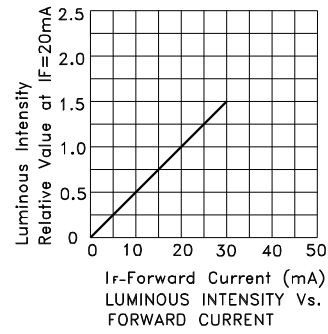
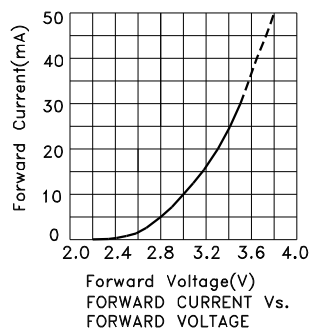
Parameter	Blue	Hyper Red	Green	Units
Power dissipation	120	75	102.5	mW
DC Forward Current	30	30	25	mA
Peak Forward Current [1]	150	185	150	mA
Reverse Voltage	5			V
Operating Temperature	-40°C To +85°C			
Storage Temperature	-40°C To +85°C			

Notes:

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

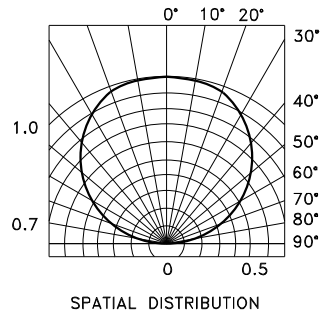
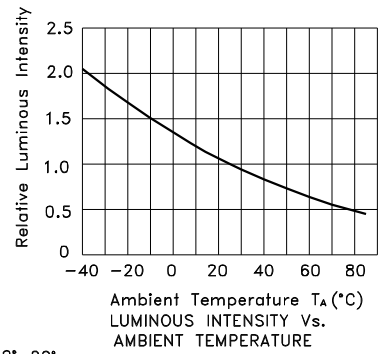
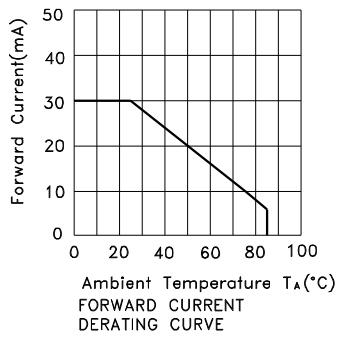
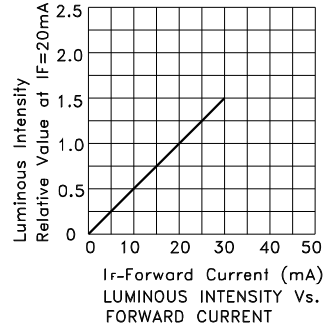
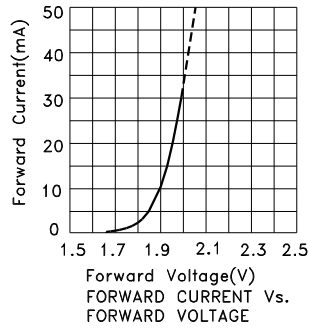


APTF1616QBDSURKZGC Blue

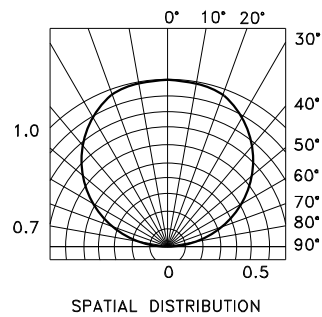
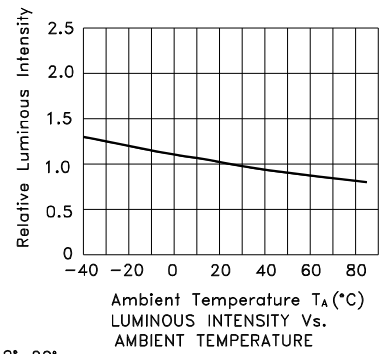
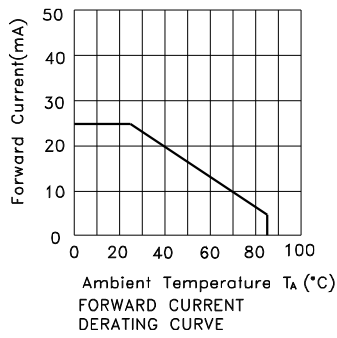
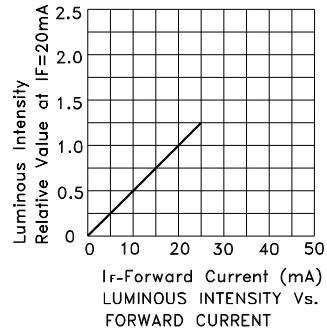
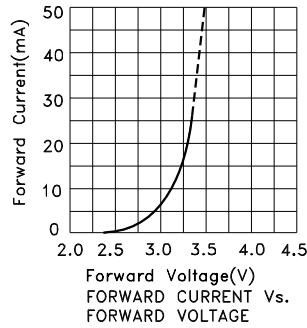


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Hyper Red



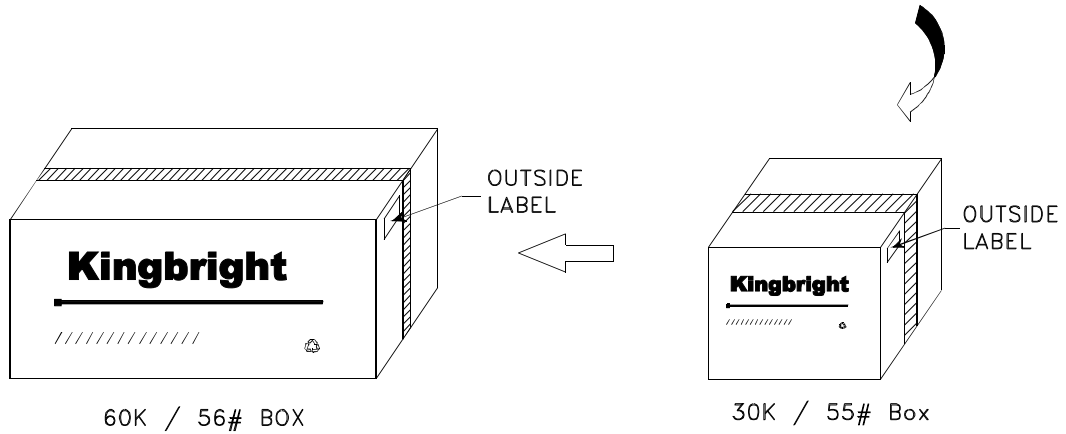
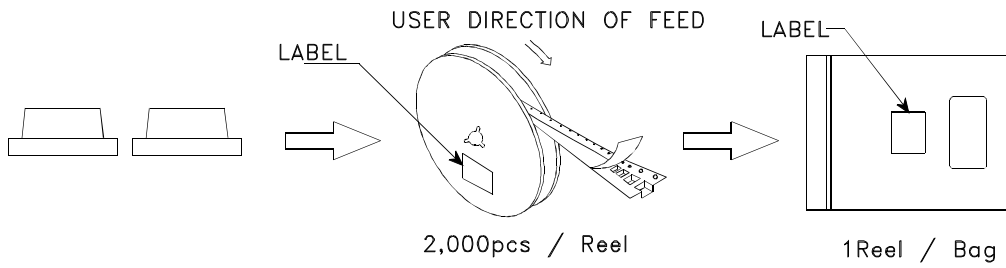
Green




Kingbright

PACKING & LABEL SPECIFICATIONS

APTF1616QBDSURKZGC



Kingbright	
P/NO: APTF1616xxx	
QTY: 2,000 pcs	Q.C. Q C xx xx xxxx PASSED
S/N: XXXX	
CODE: XXX	
LOT NO:	
 xxxxxxxxxxxxxxxxxxxxxxxx	
RoHS Compliant	