

1.6x1.6mm FULL-COLOR SURFACE MOUNT **LED**



ATTENTION

OBSERVE PRECAUTIONS FOR HANDLING **ELECTROSTATIC** DISCHARGE SENSITIVE **DEVICES**

Part Number: APTF1616SEEZGQBDC

Hyper Red Green Blue

Features

- 1.6mmX1.6mm SMT LED, 0.7mm thickness.
- Low power consumption.
- One red, one green and one blue 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 Hyper Red source color devices are made with AlGaInP on GaAs substrate Light Emitting Diode.

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

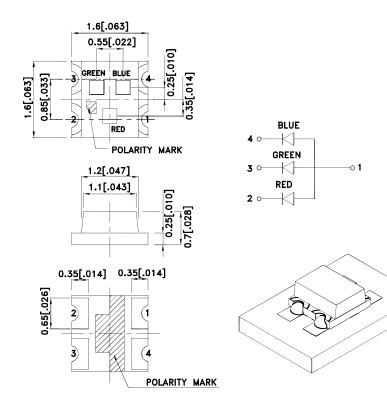
The Blue source color devices are made with InGaN Light Emitting Diode.

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





- 1. All dimensions are in millimeters (inches).
- 2. Tolerance is ±0.2(0.008") unless otherwise noted.
- The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.
 The device has a single mounting surface. The device must be mounted according to the specifications.

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Selection Guide

Part No.	Dice	Lens Type	lv (mcd) [2] @ 20mA		Viewing Angle [1]
			Min.	Тур.	201/2
APTF1616SEEZGQBDC	Hyper Red (AlGaInP)		180	400	120°
	Green (InGaN)	WATER CLEAR	70	180	
	Blue (InGaN)		36	100	

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	Тур.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	Hyper Red Green Blue	630 515 468		nm	IF=20mA
λD [1]	Dominant Wavelength	Hyper Red Green Blue	621 525 470		nm	IF=20mA
Δλ1/2	Spectral Line Half-width	Hyper Red Green Blue	20 30 25		nm	IF=20mA
С	Capacitance	Hyper Red Green Blue	25 45 100		pF	VF=0V;f=1MHz
VF [2]	Forward Voltage	Hyper Red Green Blue	2 3.3 3.3	2.5 4.1 4	V	Ir=20mA
lR	Reverse Current	Hyper Red Green Blue		10 10 10	uA	VR=5V

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

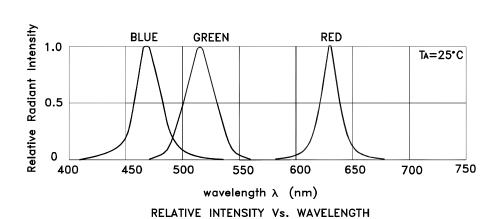
Absolute Maximum Ratings at TA=25°C

Parameter	Hyper Red	Green	Blue	Units		
Power dissipation	75	102.5	120	mW		
DC Forward Current	30	25	30	mA		
Peak Forward Current [1]	195	150	150	mA		
Reverse Voltage	5					
Operating Temperature	-40°C To +85°C					
Storage Temperature	-40°C To +85°C					

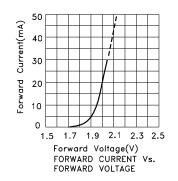
Note:

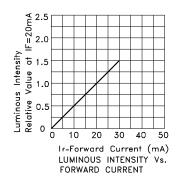
1. 1/10 Duty Cycle, 0.1ms Pulse Width.

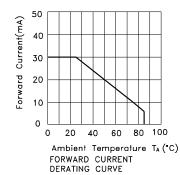
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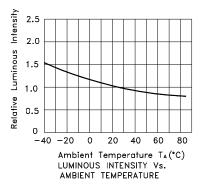


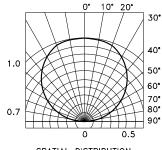
APTF1616SEEZGQBDC Hyper Red









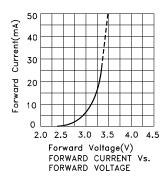


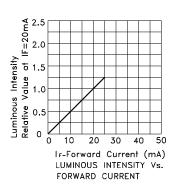
SPATIAL DISTRIBUTION

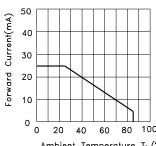
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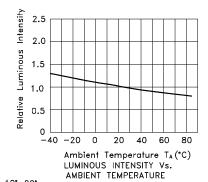
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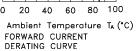
Green

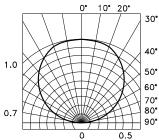








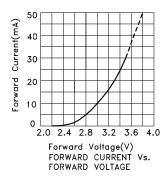


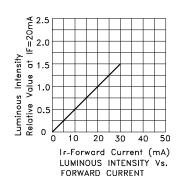


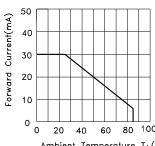
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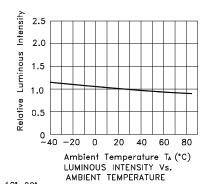
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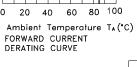
Blue

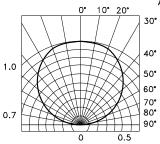












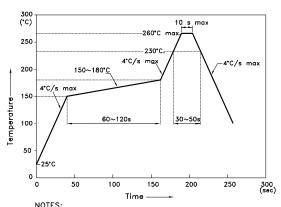
SPATIAL DISTRIBUTION

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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.
- to high temperature.

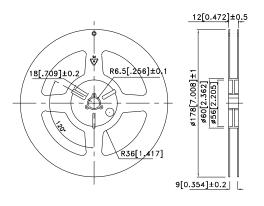
 3.Number of reflow process shall be 2 times or less.

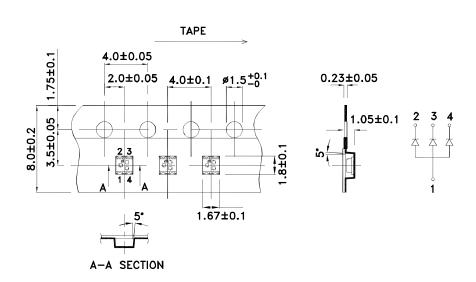
Recommended Soldering Pattern (Units: mm; Tolerance: ± 0.1)

0.9

Tape Dimensions (Units : mm)

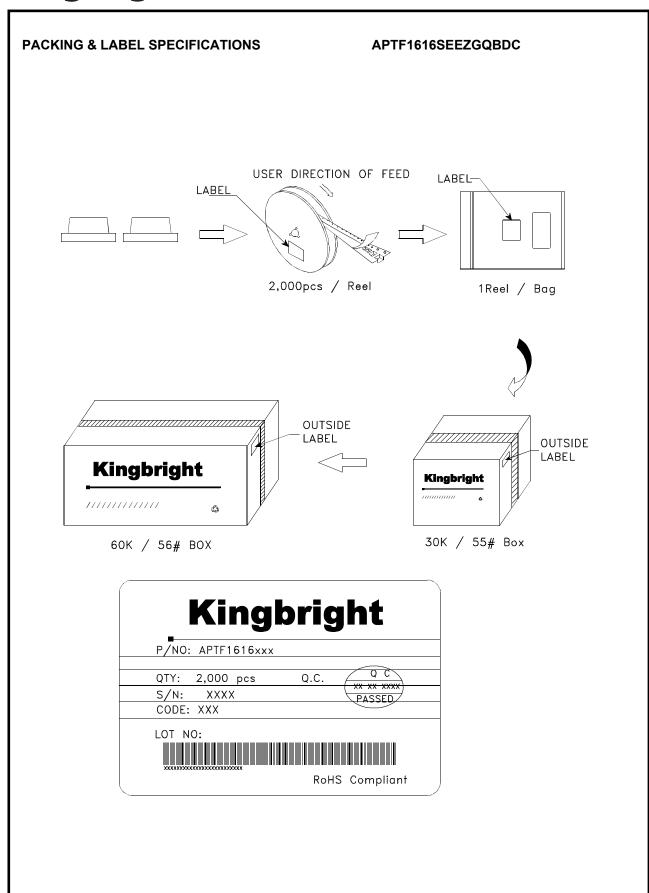
Reel Dimension





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