



ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

Part Number: APTF1616SEEZGKBKC

Hyper Red
Green
Blue

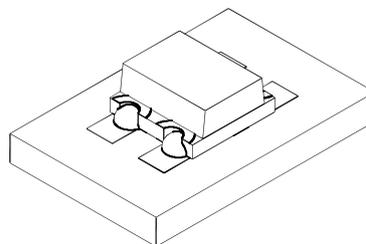
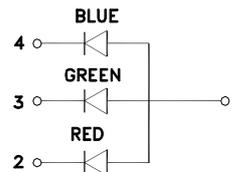
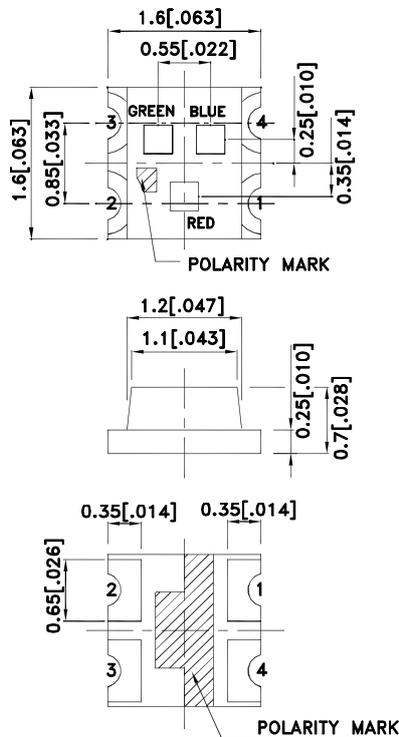
Features

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

Descriptions

- 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.
- Electrostatic discharge and power surge could damage the LEDs.
- It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs.
- All devices, equipments and machineries 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
APTF1616SEEZGKQBKC	Hyper Red (AlGaInP)	Water Clear	55	110	120°
	Green (InGaN)		120	280	
	Blue (InGaN)		40	70	

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%.
3. Luminous intensity value is traceable to the CIE127-2007 compliant national standards.

Electrical / Optical Characteristics at TA=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λ_{peak}	Peak Wavelength	Hyper Red Green Blue	630 515 460		nm	I _F =20mA
λ_D [1]	Dominant Wavelength	Hyper Red Green Blue	621 525 465		nm	I _F =20mA
$\Delta\lambda_{1/2}$	Spectral Line Half-width	Hyper Red Green Blue	20 30 25		nm	I _F =20mA
C	Capacitance	Hyper Red Green Blue	25 45 100		pF	V _F =0V;f=1MHz
V _F [2]	Forward Voltage	Hyper Red Green Blue	2 3.3 3.3	2.5 4.1 4	V	I _F =20mA
I _R	Reverse Current	Hyper Red Green Blue		10 50 50	uA	V _R =5V

Notes:

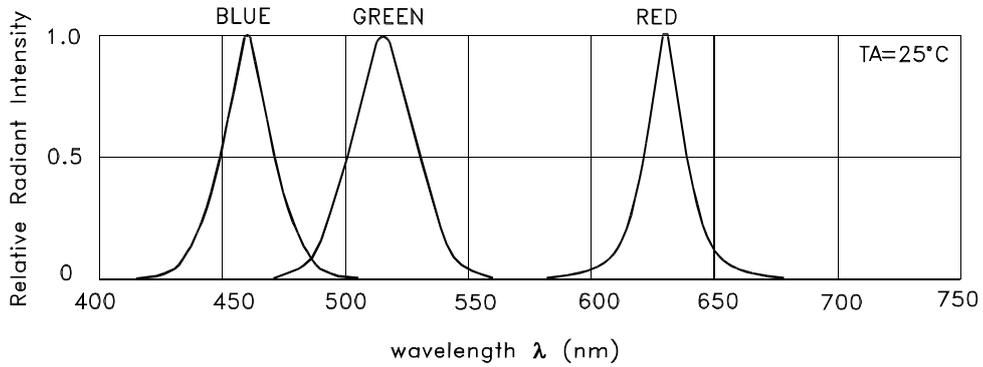
- 1.Wavelength: +/-1nm.
- 2.Forward Voltage: +/-0.1V.
- 3.Wavelength value is traceable to the CIE127-2007 compliant national standards.
- 4.Excess driving current and/or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

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			V
Operating Temperature	-40°C To +85°C			
Storage Temperature	-40°C To +85°C			

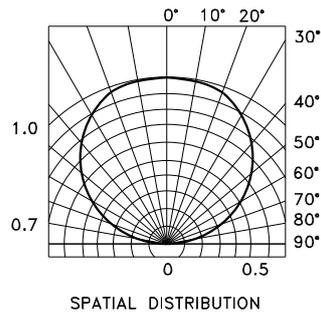
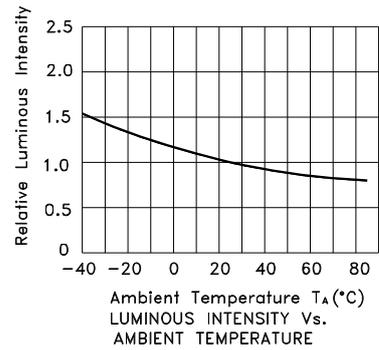
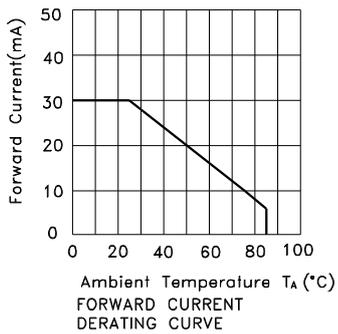
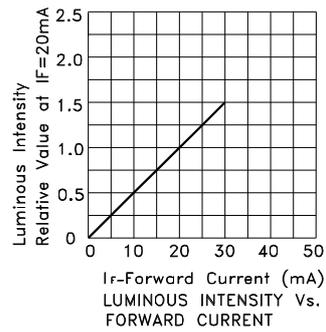
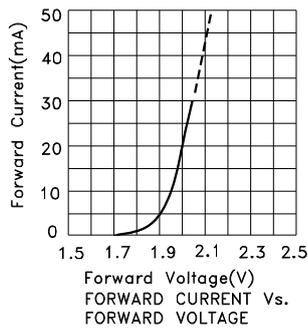
Notes:

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

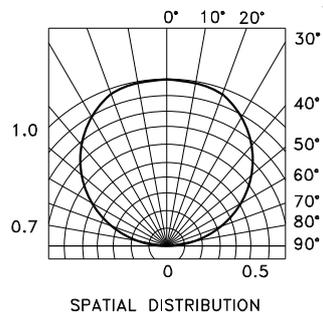
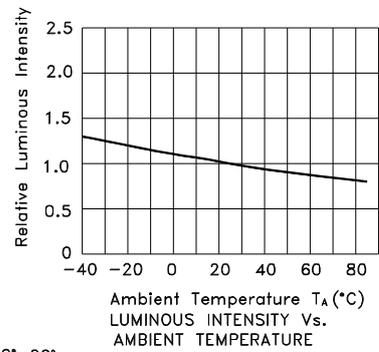
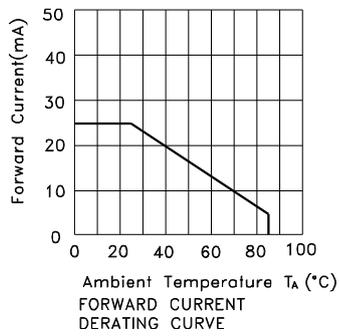
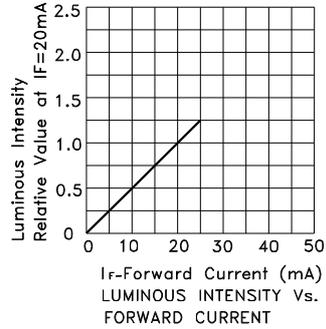
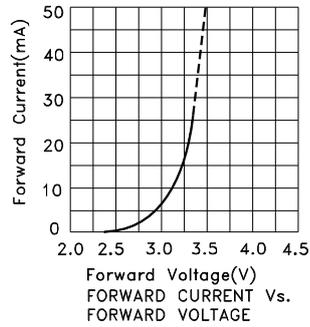


RELATIVE INTENSITY Vs. WAVELENGTH

APTF1616SEEZGKBKC Hyper Red

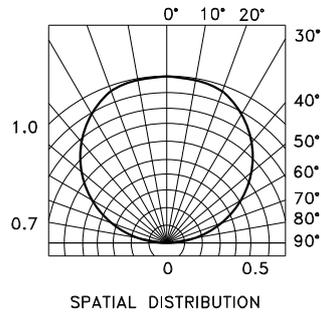
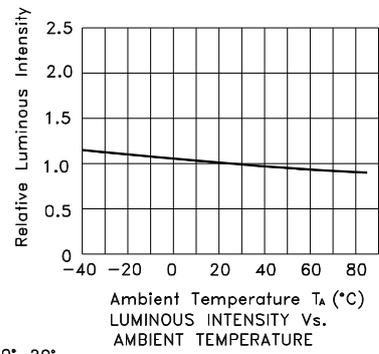
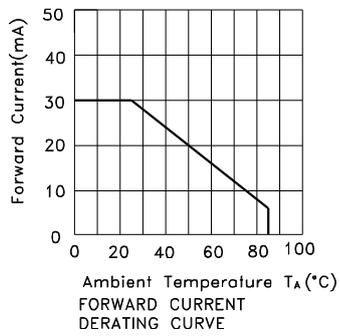
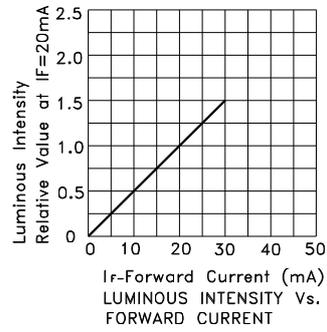
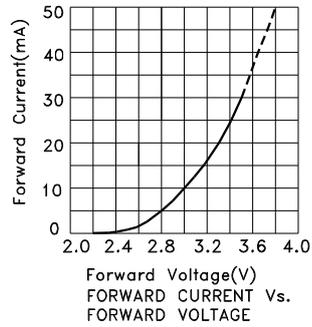


Green



Kingbright

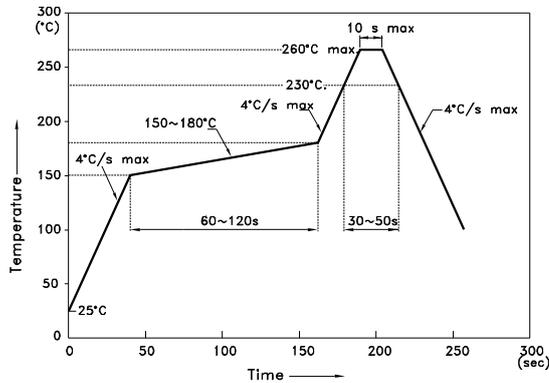
Blue



APTF1616SEEZGKBKC

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.

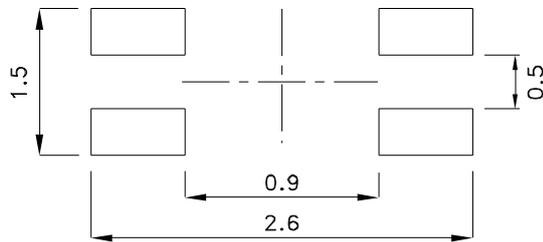
Reflow Soldering Profile For Lead-free SMT Process.



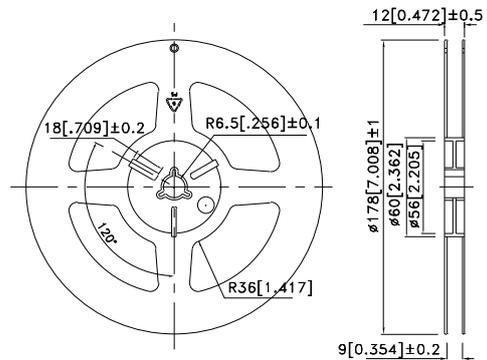
NOTES:

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.

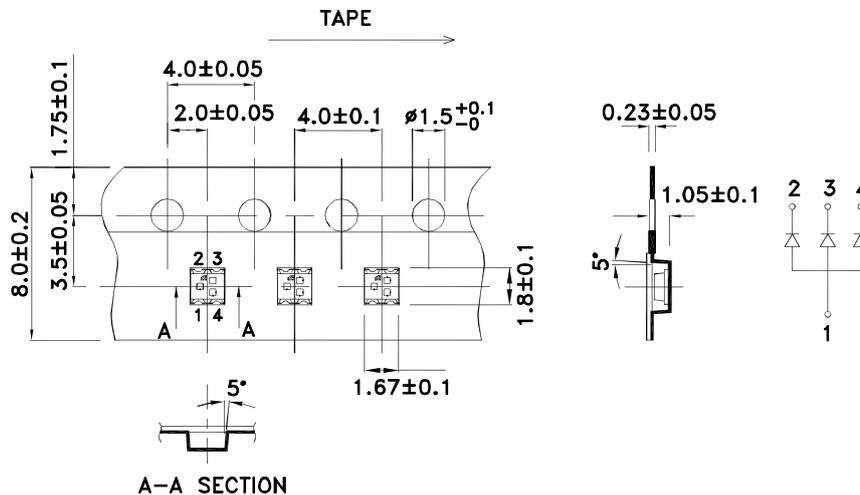
Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.1)



Reel Dimension

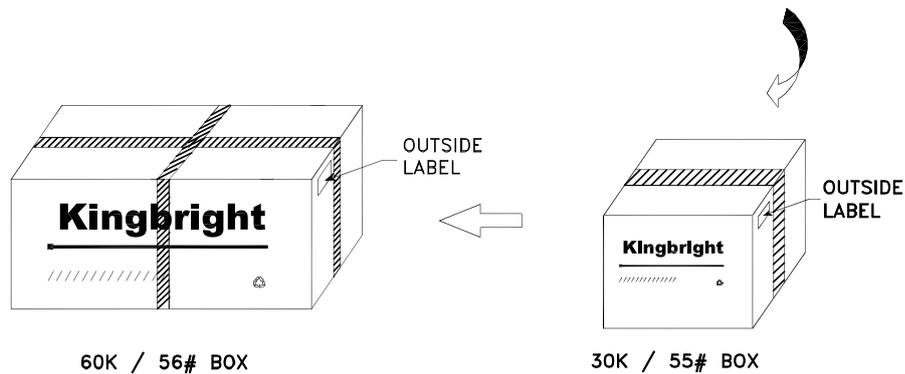
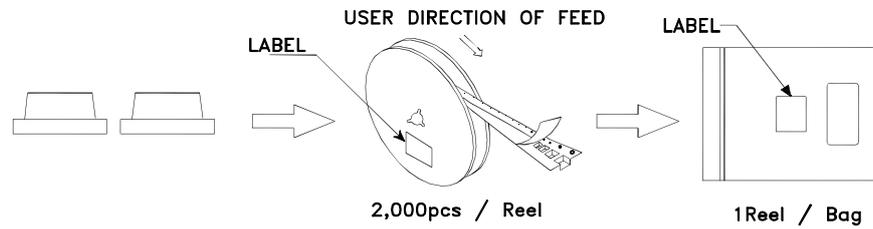


Tape Dimensions (Units : mm)



PACKING & LABEL SPECIFICATIONS

APTF1616SEEZGKBKC



Kingbright	
P/NO: APTF1616xxx	
QTY: 2,000 pcs	Q.C. Q C XX XX XXXX PASSED
S/N: XXXX	
CODE: XXX	
LOT NO:	
 <small>XXXXXXXXXXXXXXXXXXXX</small>	
RoHS Compliant	

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- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
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- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
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