

PRELIMINARY SPEC



ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

Part Number: APTF1616SEEVGAPBAC

Hyper Red
Green
Blue

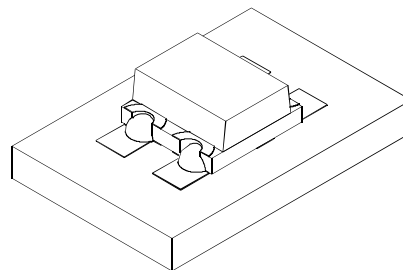
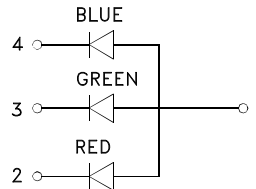
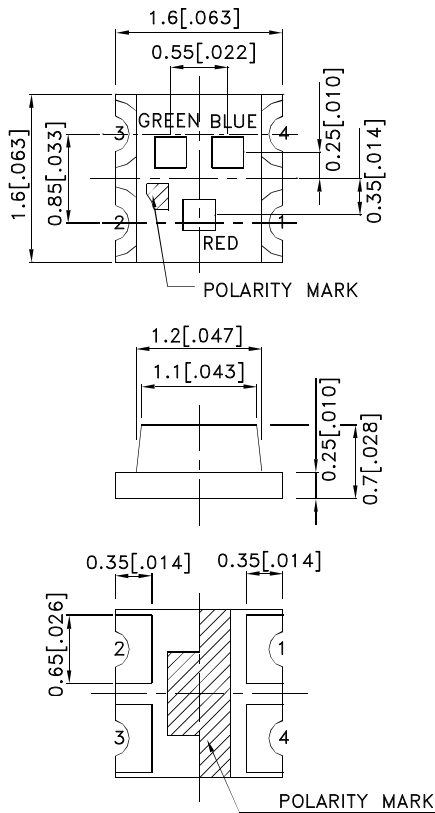
Features

- 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 Al-GaN on GaAs substrate Light Emitting Diode.
The Green source color devices are made with InGaN on G-SiC Light Emitting Diode.
The Blue source color devices are made with InGaN on SiC 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. Specifications are subjected 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
APTF1616SEEVGAPBAC	Hyper Red (AlGaInP)	WATER CLEAR	180	400	120°
	Green (InGaN)		70	180	
	Blue (InGaN)		10	40	

Notes:

1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline 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	Hyper Red Green Blue	630 520 468		nm	I _F =20mA
λ _D [1]	Dominant Wavelength	Hyper Red Green Blue	621 525 470		nm	I _F =20mA
Δλ _{1/2}	Spectral Line Half-width	Hyper Red Green Blue	20 35 21		nm	I _F =20mA
C	Capacitance	Hyper Red Green Blue	25 100 100		pF	V _F =0V;f=1MHz
V _F [2]	Forward Voltage	Hyper Red Green Blue	2 3.2 3.2	2.5 4 4	V	I _F =20mA
I _R	Reverse Current	Hyper Red Green Blue		10 10 10	uA	V _R =5V

Notes:

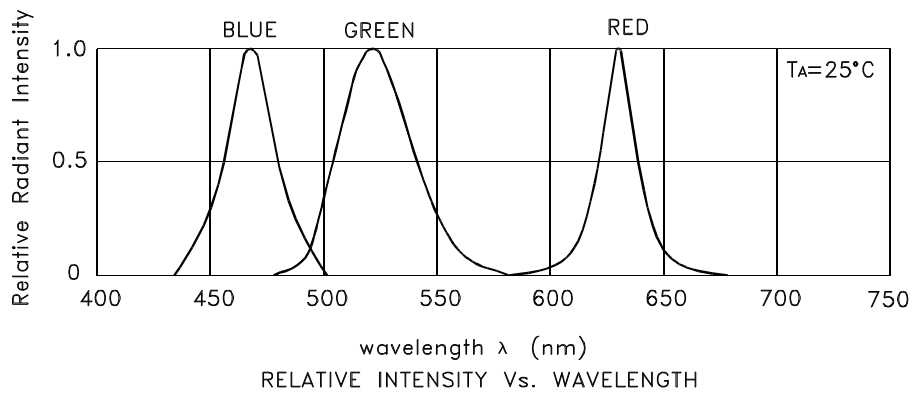
1. Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.

Absolute Maximum Ratings at TA=25°C

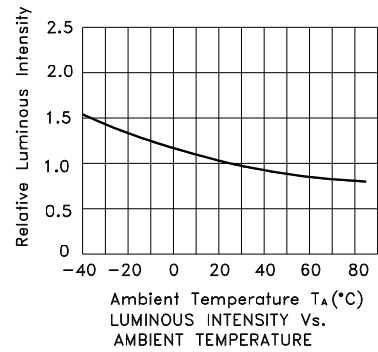
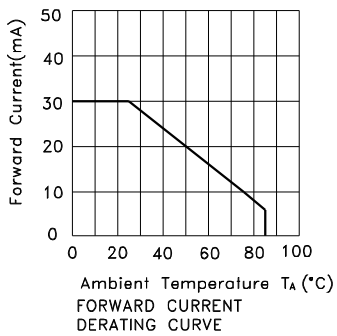
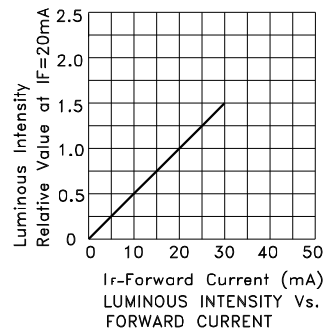
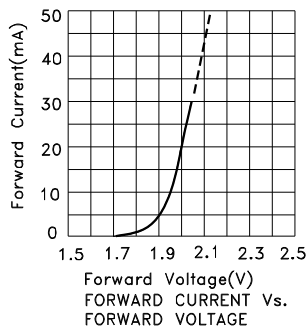
Parameter	Hyper Red	Green	Blue	Units
Power dissipation	75	120	120	mW
DC Forward Current	30	30	30	mA
Peak Forward Current [1]	195	100	100	mA
Reverse Voltage	5			V
Operating Temperature	-40°C To +85°C			
Storage Temperature	-40°C To +85°C			

Notes:

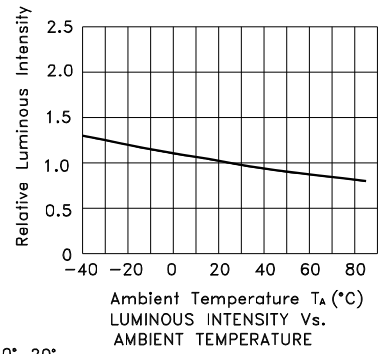
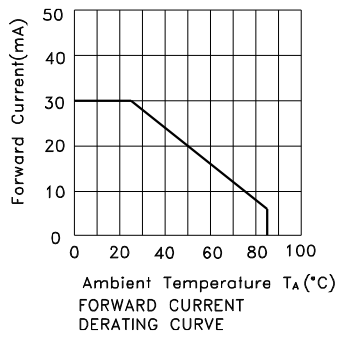
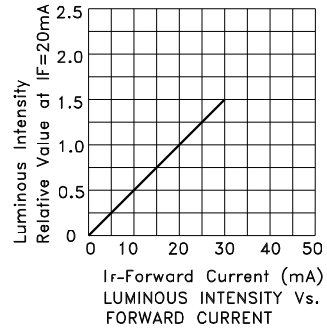
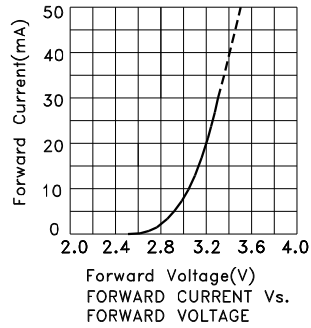
1. 1/10 Duty Cycle, 0.1ms Pulse Width.



APTF1616SEEVGAPBAC Hyper Red

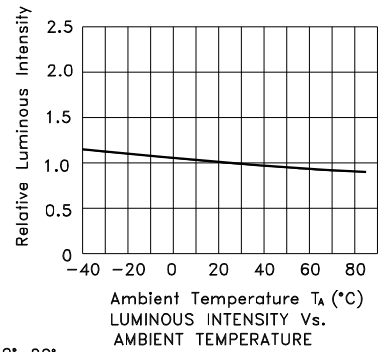
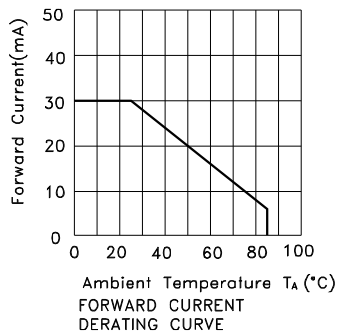
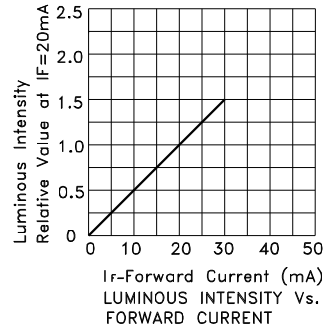
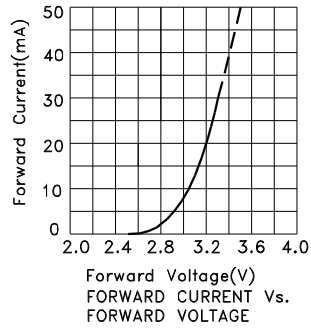


Green



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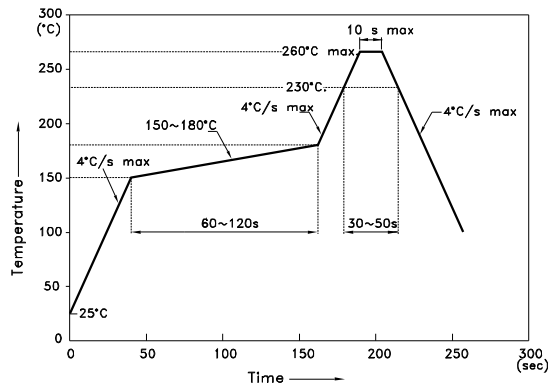
Blue



APTF1616SEEVGAPBAC

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.

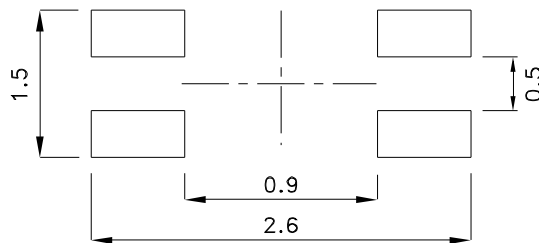
Reflow Soldering Profile For Lead-free SMT Process.



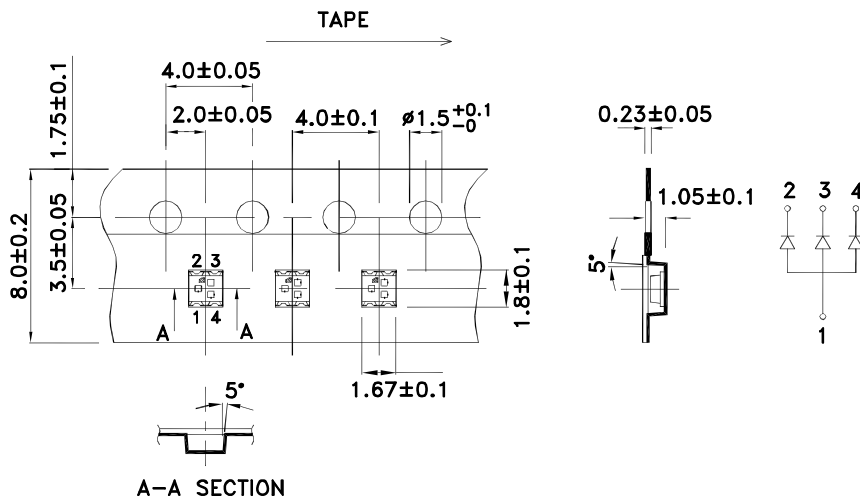
NOTES:

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)



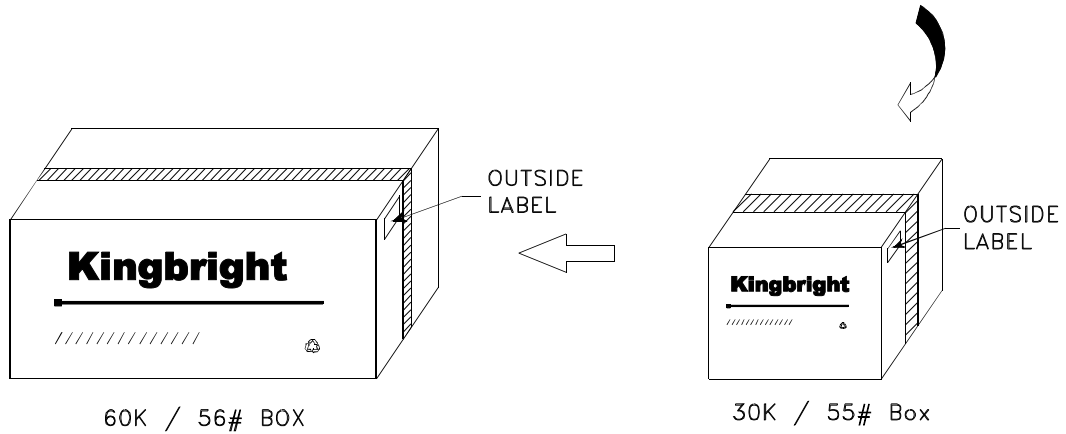
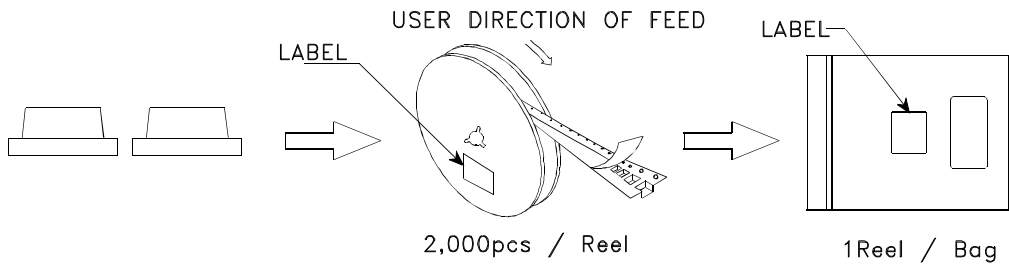
Tape Dimensions (Units : mm)




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PACKING & LABEL SPECIFICATIONS

APTF1616SEEVGAPBAC



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	