

PRELIMINARY SPEC

Part Number: APTF3216PBAVGASUK



ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

BLUE / GREEN
HYPER RED

Features

- 3.2mm x 1.6mm SMT LED, 0.75mm THICKNESS.
- LOW POWER CONSUMPTION.
- ONE BLUE, ONE GREEN AND ONE RED 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 on SiC Light Emitting Diode.

The Green source color devices are made with InGaN on G-SiC Light Emitting Diode.

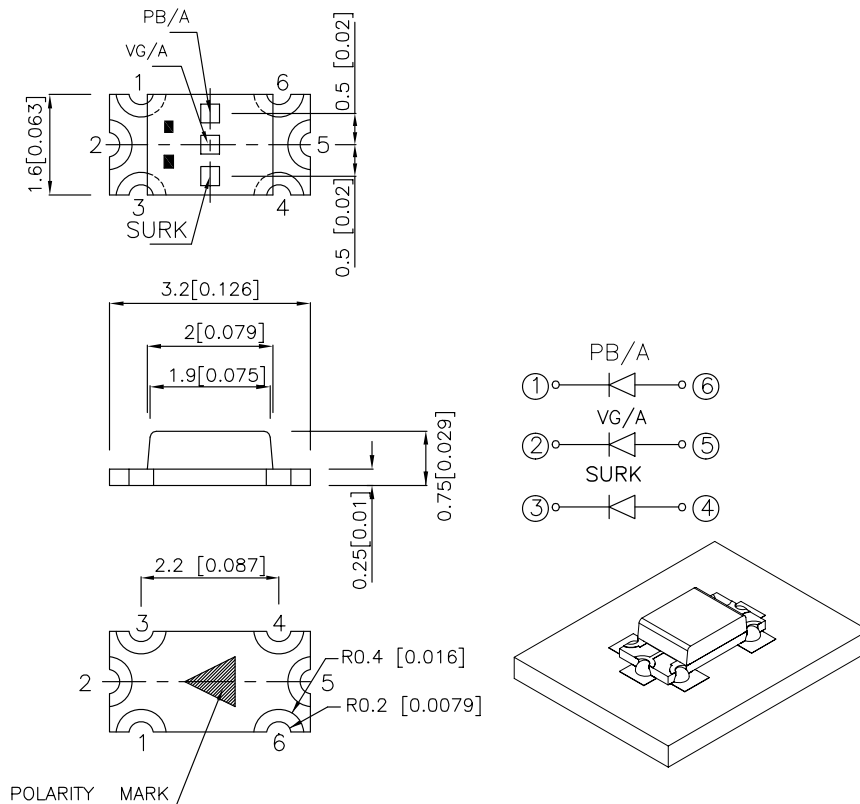
The Hyper Red source color devices are made with DH InGaAlP on GaAs substrate Light Emitting Diode.

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 ± 0.2 (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 |
| APTF3216PBAVGASUK | BLUE (InGaN) | WATER CLEAR | 18 | 60 | 120° |
| | GREEN (InGaN) | | 50 | 150 | |
| | HYPER RED (InGaAlP) | | 70 | 150 | |

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 | Blue Green Hyper Red | 468 520 650 | | nm | IF=20mA |
| λ_D [1] | Dominant Wavelength | Blue Green Hyper Red | 470 525 635 | | nm | IF=20mA |
| $\Delta\lambda_{1/2}$ | Spectral Line Half-width | Blue Green Hyper Red | 21 35 28 | | nm | IF=20mA |
| C | Capacitance | Blue Green Hyper Red | 100 100 35 | | pF | VF=0V;f=1MHz |
| VF [2] | Forward Voltage | Blue Green Hyper Red | 3.2 3.2 1.95 | 4.0 4.0 2.5 | V | IF=20mA |
| IR | Reverse Current | Blue Green Hyper Red | | 10 10 10 | uA | VR= 5V |

Notes:

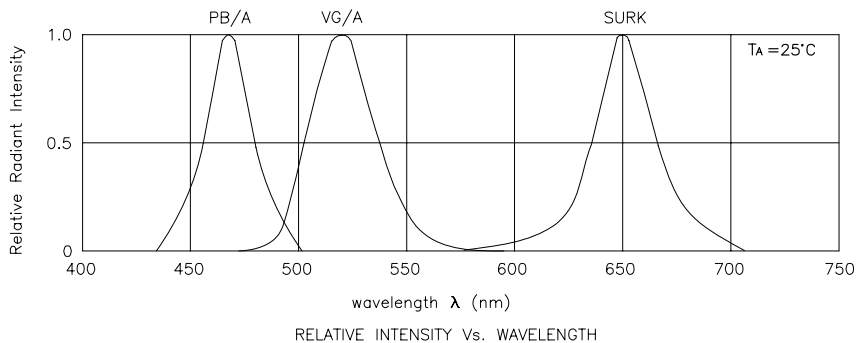
- 1.Wavelength: +/-1nm
- 2.Forward Voltage: +/-0.1V

Absolute Maximum Ratings at TA=25°C

| Parameter | Blue | Green | Hyper Red | Units |
|---------------------------------|----------------|-------|-----------|-------|
| Power dissipation | 120 | 120 | 75 | mW |
| DC Forward Current | 30 | 30 | 30 | mA |
| Peak Forward Current [1] | 100 | 100 | 185 | mA |
| Reverse Voltage | 5 | | | V |
| Operating / Storage Temperature | -40°C To +85°C | | | |

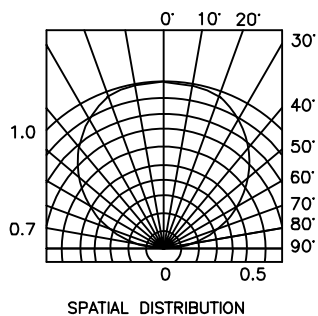
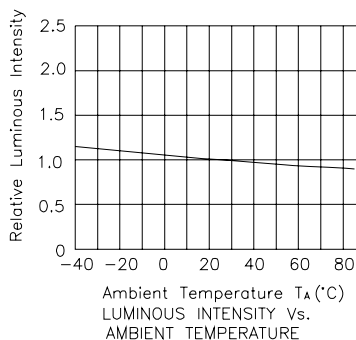
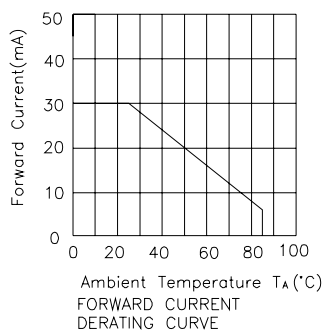
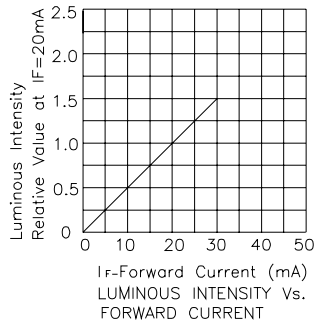
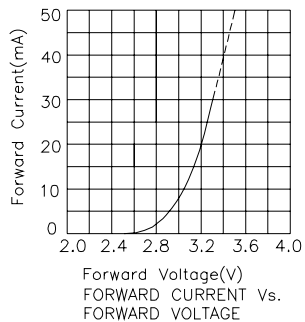
Note:

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



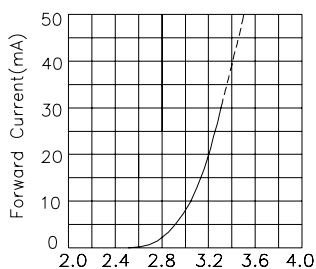
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Blue

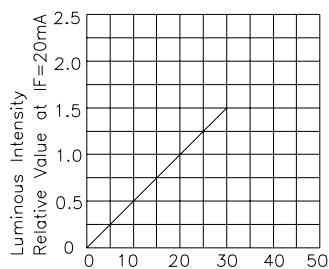


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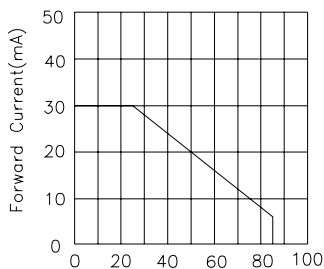
Green



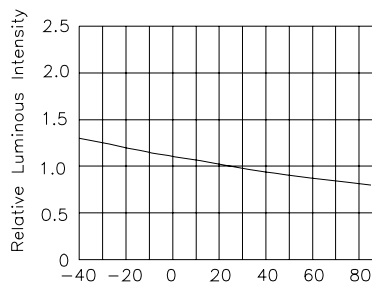
Forward Voltage(V)
FORWARD CURRENT Vs.
FORWARD VOLTAGE



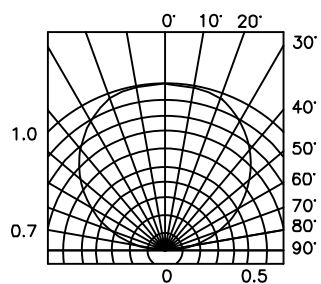
IF-Forward Current (mA)
LUMINOUS INTENSITY Vs.
FORWARD CURRENT



Ambient Temperature T_A (°C)
FORWARD CURRENT
DERATING CURVE



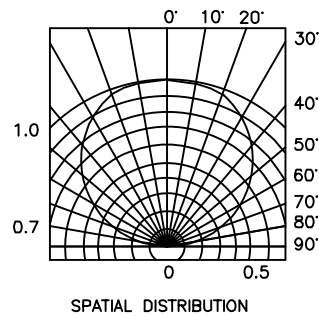
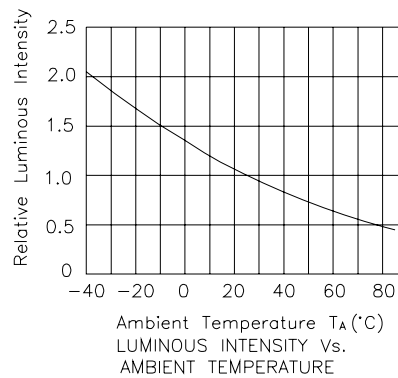
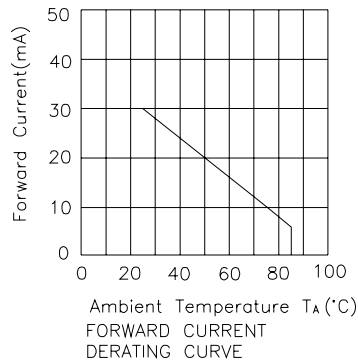
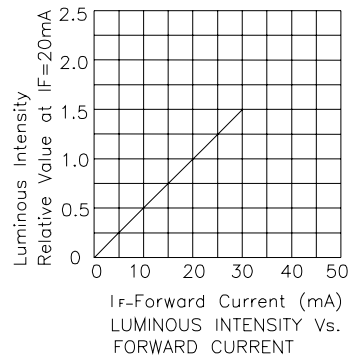
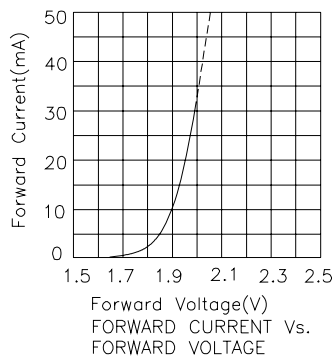
Ambient Temperature T_A (°C)
LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE



SPATIAL DISTRIBUTION

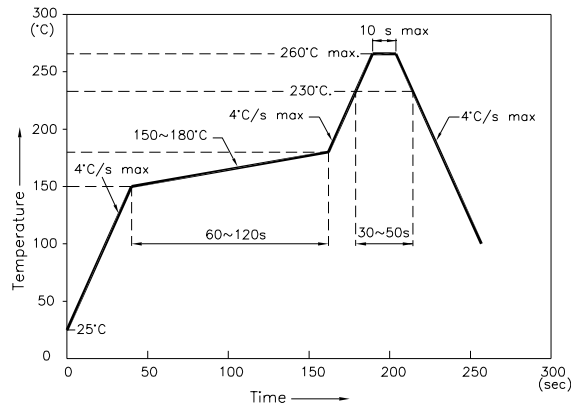
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Hyper Red



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Reflow Soldering Profile For Lead-free SMT Process.

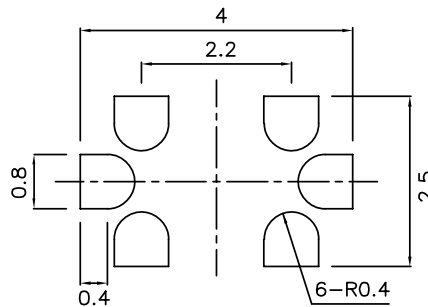


NOTES:

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.

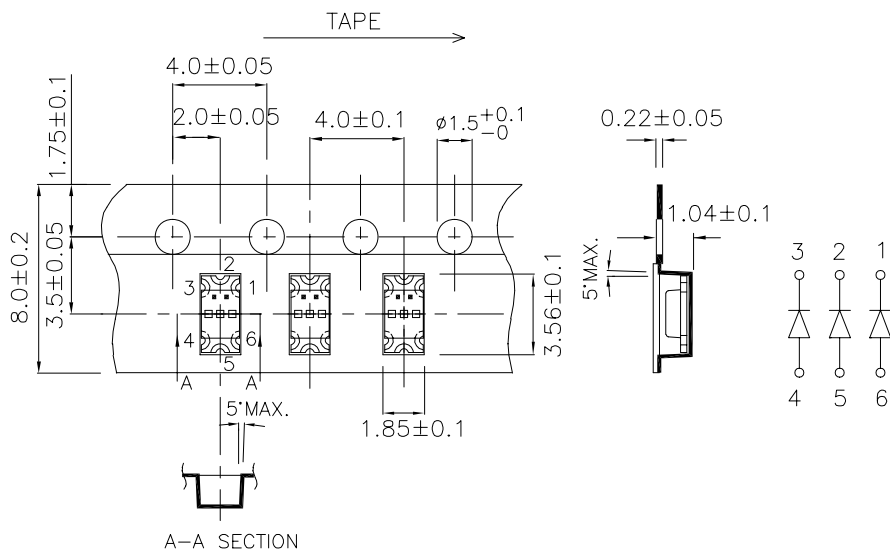
Recommended Soldering Pattern

(Units : mm; Tolerance: ±0.1)



Tape Specifications

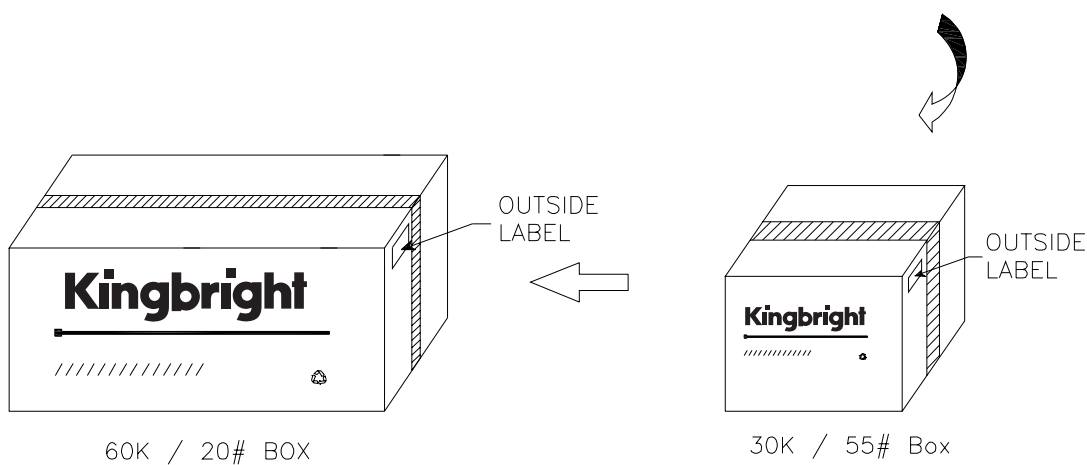
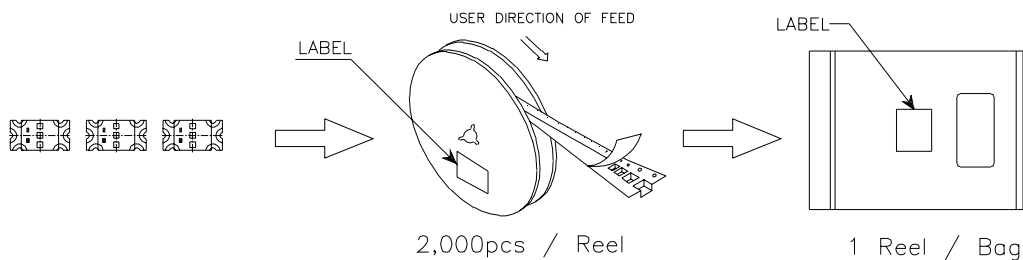
(Units : mm)




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PACKING & LABEL SPECIFICATIONS

APTF3216PBAVGASUK



| | |
|---|--|
| Kingbright | |
| P/NO: APTF3216XXX | |
| QTY: 2,000 pcs | Q.C. Q C xx xx xxxx PASSED |
| S/N: XXXX | |
| CODE: XXX | |
| LOT NO: | |
|  | |
| MADE IN CHINA | RoHS Compliant |