



ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

Part Number: APFA3010SEEZGQBDC

Hyper Red
Green
Blue

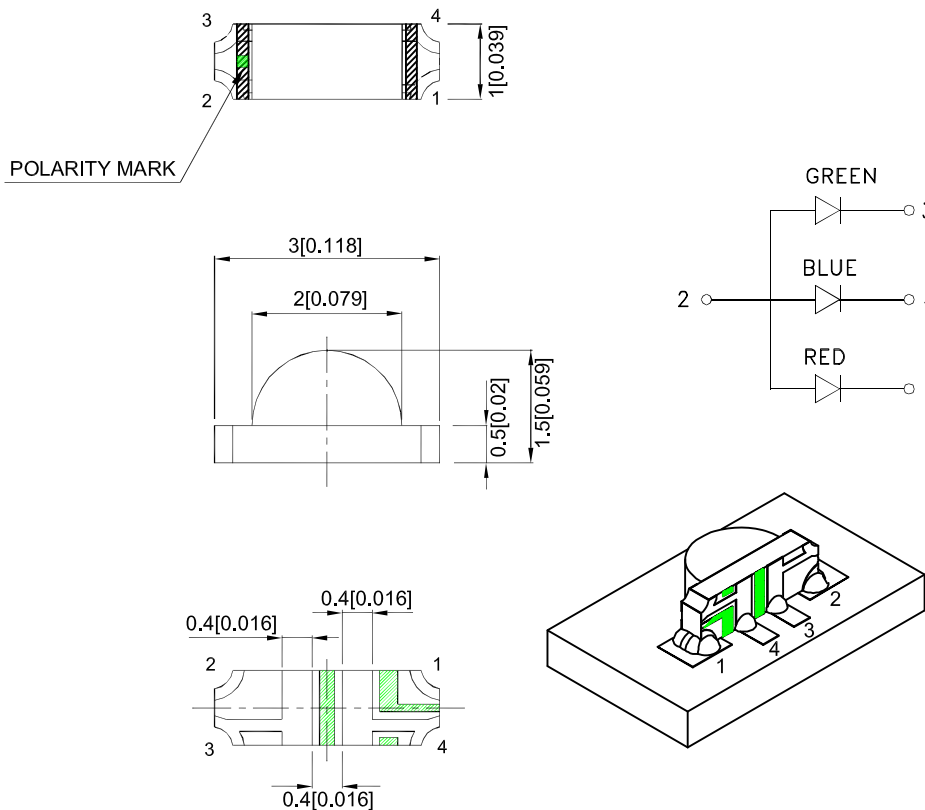
Features

- 3.0mmx1.0mm right angle SMT LED, 1.5mm thickness.
- Low power consumption.
- Wide viewing angle.
- Ideal for backlight and indicator.
- Package : 2000pcs / reel.
- Moisture sensitivity level : level 3.
- Tinned pads for improved solderability.
- 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 ± 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 |
| APFA3010SEEZQBDC | Hyper Red (AlGaInP) | Water Clear | 80 | 140 | 120° |
| | Green (InGaN) | | 200 | 300 | |
| | 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 |
|--------|--------------------------|----------------------------|-------------------|-----------------|-------|-----------------|
| λpeak | Peak Wavelength | Hyper Red Green Blue | 630 515 460 | | nm | If=20mA |
| λD [1] | Dominant Wavelength | Hyper Red Green Blue | 621 525 465 | | nm | If=20mA |
| Δλ1/2 | Spectral Line Half-width | Hyper Red Green Blue | 20 30 25 | | nm | If=20mA |
| C | 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 | If=20mA |
| IR | Reverse Current | Hyper Red Green Blue | | 10 50 50 | uA | VR=5V |

Notes:

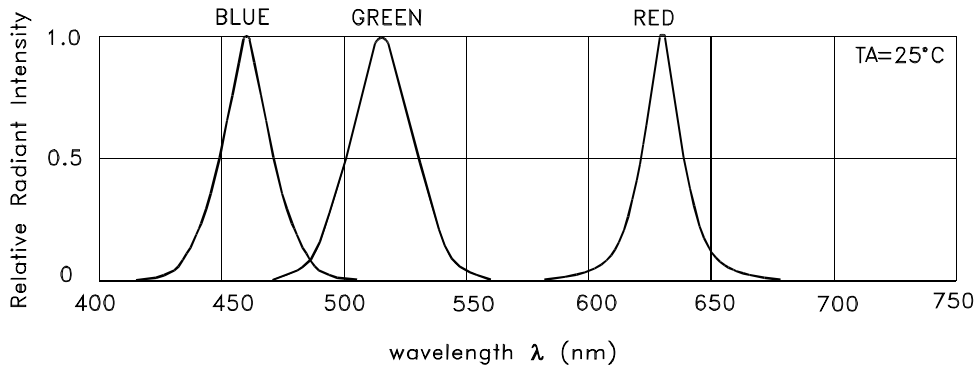
1. Wavelength: + / -1nm.
2. Forward Voltage: + / -0.1V.
3. Wavelength value is traceable to the CIE127-2007 compliant national standards.
4. Excess driving current and / or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

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 | | | |

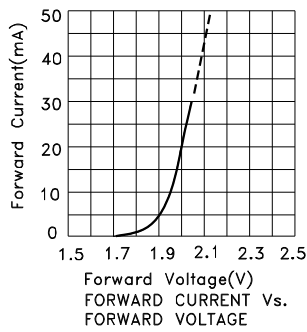
Notes:

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

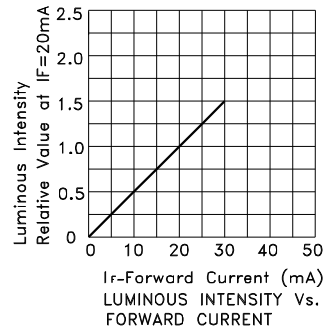


RELATIVE INTENSITY Vs. WAVELENGTH

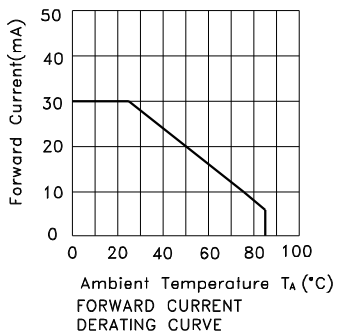
APFA3010SEEZQBDC Hyper Red



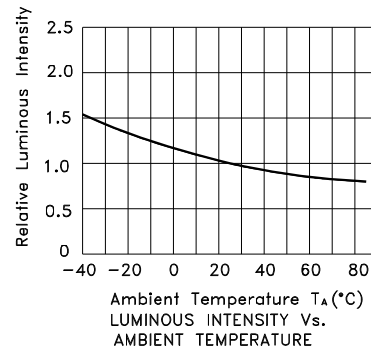
FORWARD CURRENT Vs. FORWARD VOLTAGE



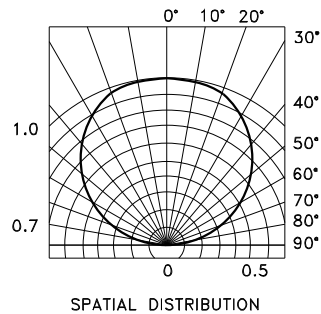
LUMINOUS INTENSITY Vs. FORWARD CURRENT



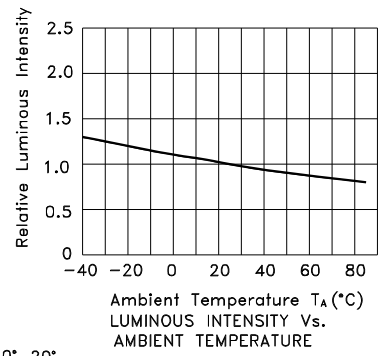
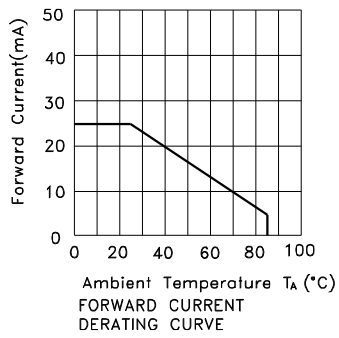
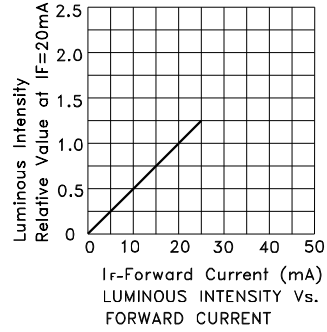
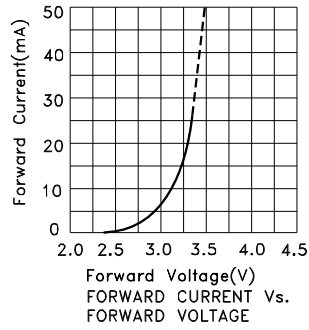
FORWARD CURRENT DERATING CURVE



LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE

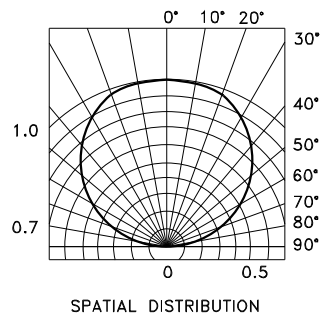
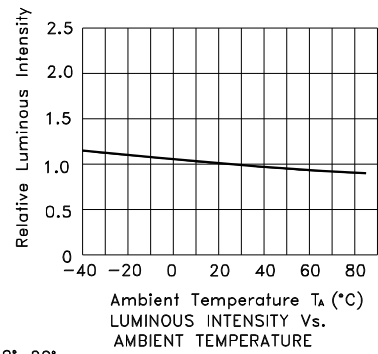
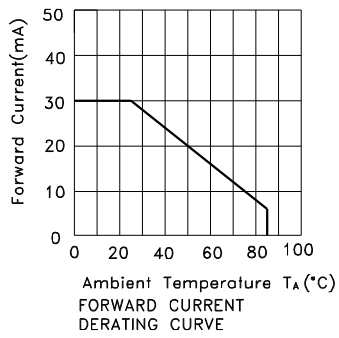
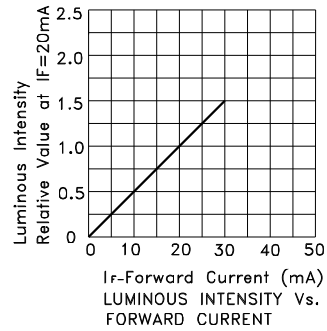
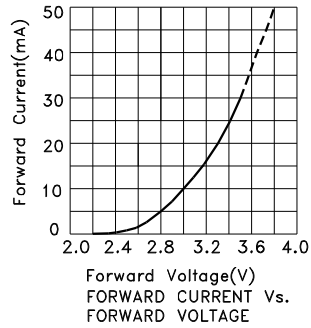


Green



Kingbright

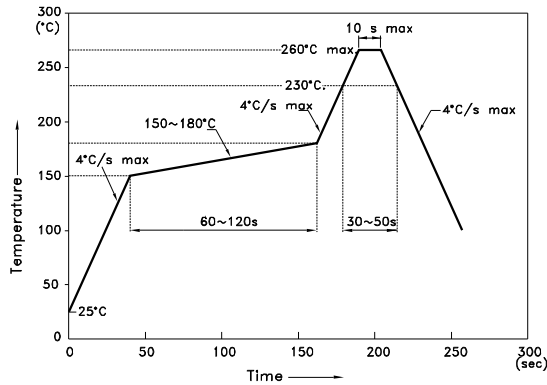
Blue



APFA3010SEEZGQBC

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.

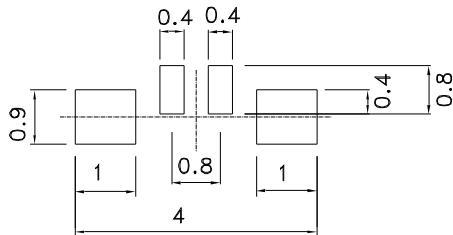
Reflow Soldering Profile For Lead-free SMT Process.



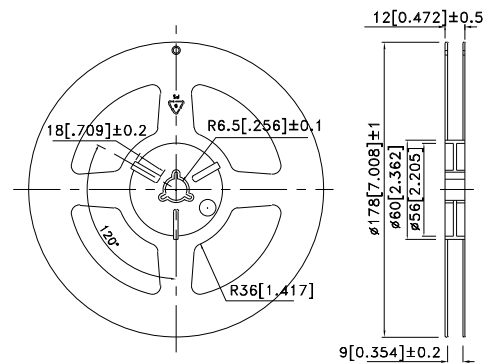
NOTES:

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.

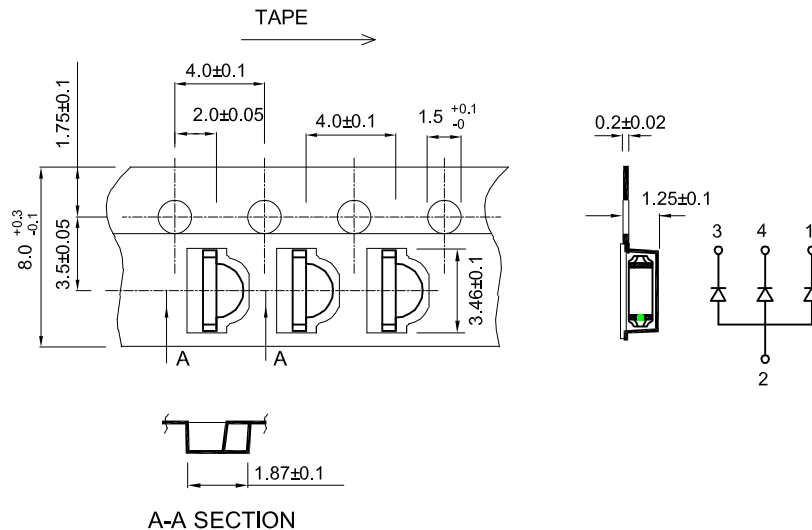
Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.1)



Reel Dimension

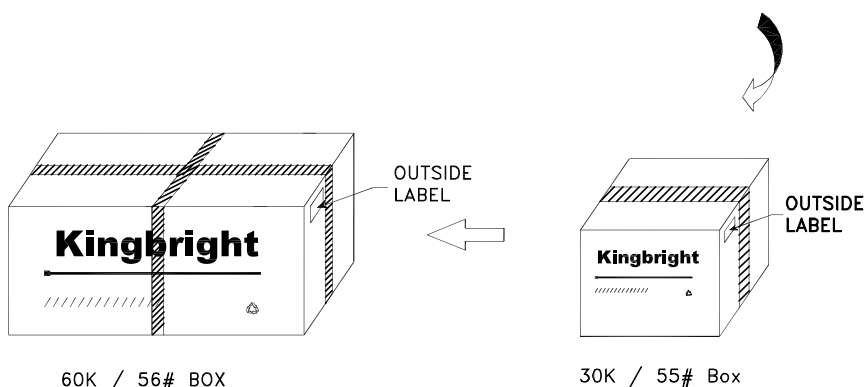
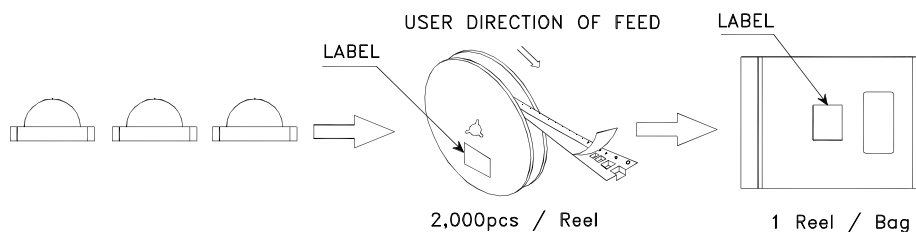



Tape Dimensions (Units : mm)



PACKING & LABEL SPECIFICATIONS

APFA3010SEEZGQBC



| | |
|--|--|
| Kingbright | |
| P/NO: APFA3010xxx | |
| QTY: 2,000 pcs | Q.C. Q C XX-XX-XXXX PASSED |
| S/N: XXXX | |
| CODE: XXX | |
| LOT NO: | |
|  XXXXXXXXXXXXXXXXXXXXXXXX | |
| RoHS Compliant | |

Terms and conditions for the usage of this document

1. The information included in this document reflects representative usage scenarios and is intended for technical reference only.
2. The part number, type, and specifications mentioned in this document are subject to future change and improvement without notice. Before production usage customer should refer to the latest datasheet for the updated specifications.
3. When using the products referenced in this document, please make sure the product is being operated within the environmental and electrical limits specified in the datasheet. If customer usage exceeds the specified limits, Kingbright will not be responsible for any subsequent issues.
4. The information in this document applies to typical usage in consumer electronics applications. If customer's application has special reliability requirements or have life-threatening liabilities, such as automotive or medical usage, please consult with Kingbright representative for further assistance.
5. The contents and information of this document may not be reproduced or re-transmitted without permission by Kingbright.
6. All design applications should refer to Kingbright application notes available at <http://www.KingbrightUSA.com/ApplicationNotes>



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)

Факс: 8 (812) 320-02-42

Электронная почта: org@eplast1.ru

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.