



ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

Part Number: APFA3010SURKCGKQBDC

Hyper Red
Green
Blue

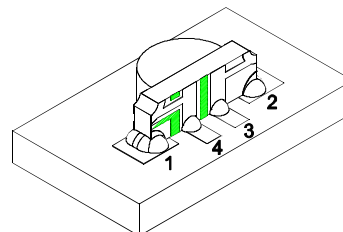
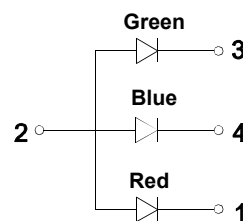
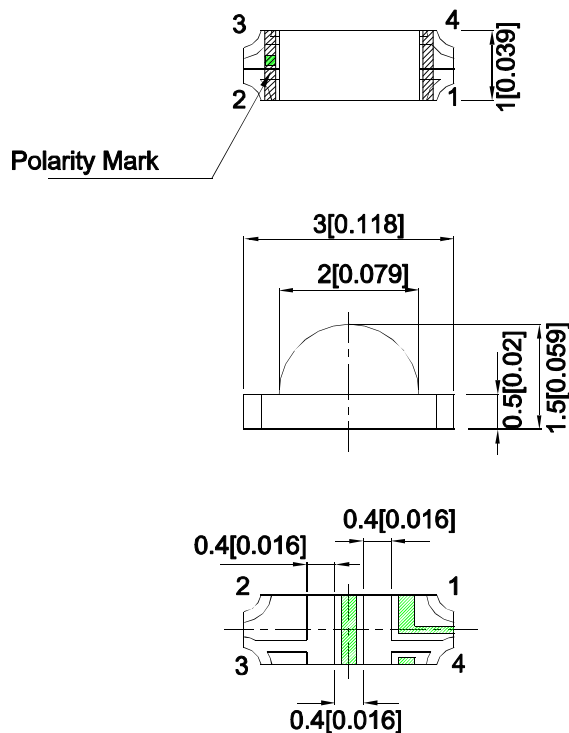
Features

- 3.0x1.5x1.0mm right angle SMD LED, 1.0mm 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 AlGaInP on GaAs substrate 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.	Emitting Color (Material)	Lens Type	Iv (mcd) [2] @ 20mA		Viewing Angle [1]
			Min.	Typ.	2θ1/2
APFA3010SURKCGKQBDC	Hyper Red (AlGaInP)	Water Clear	120	220	120°
			*55	*80	
	Green (AlGaInP)		20	45	
			*20	*45	
	Blue (InGaN)		40	70	
			*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%.

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

Electrical / Optical Characteristics at TA=25°C

Symbol	Parameter	Emitting Color	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	Hyper Red Green Blue	645 574 460		nm	IF=20mA
λD [1]	Dominant Wavelength	Hyper Red Green Blue	630 570 465		nm	IF=20mA
Δλ1/2	Spectral Line Half-width	Hyper Red Green Blue	28 20 25		nm	IF=20mA
C	Capacitance	Hyper Red Green Blue	35 15 100		pF	VF=0V;f=1MHz
VF [2]	Forward Voltage	Hyper Red Green Blue	1.95 2.1 3.3	2.5 2.5 4	V	IF=20mA
IR	Reverse Current	Hyper Red Green Blue		10 10 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.

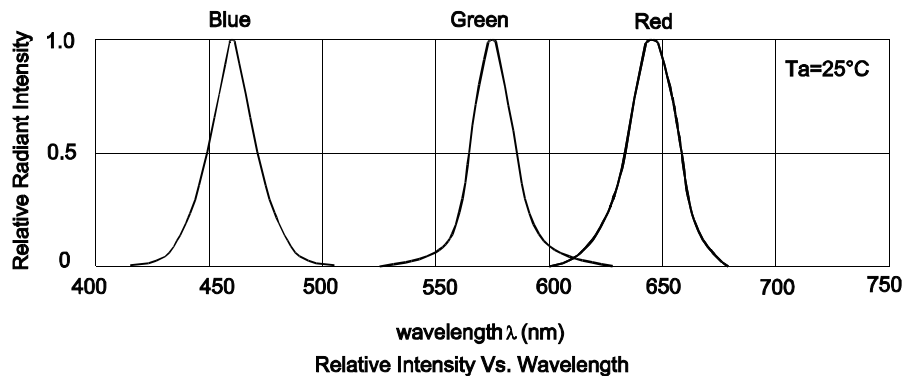
4. Excess driving current and / or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

Absolute Maximum Ratings at TA=25°C

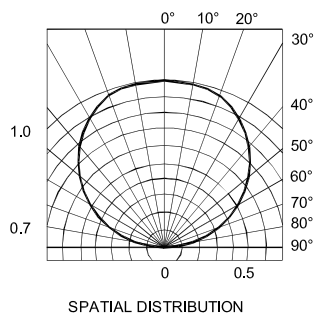
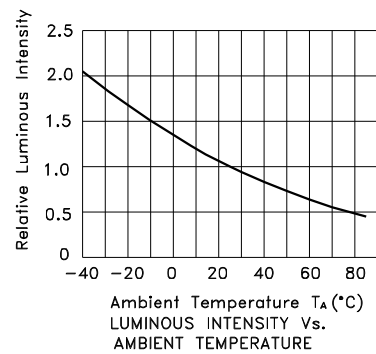
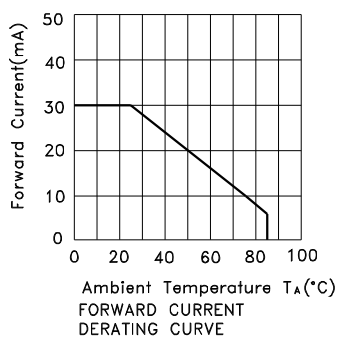
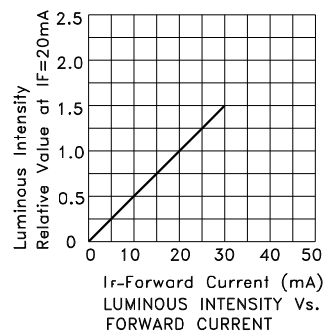
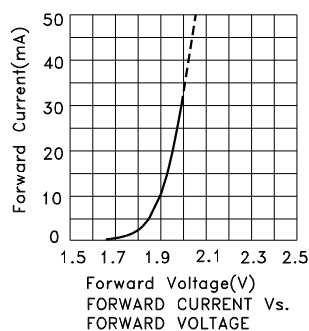
Parameter	Hyper Red	Green	Blue	Units
Power dissipation	75	75	120	mW
DC Forward Current	30	30	30	mA
Peak Forward Current [1]	185	150	150	mA
Electrostatic Discharge Threshold (HBM)	3000	3000	250	V
Reverse Voltage	5			V
Operating Temperature	-40°C To +85°C			
Storage Temperature	-40°C To +85°C			

Notes:

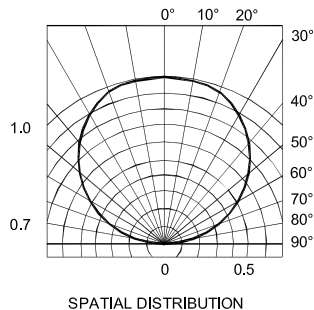
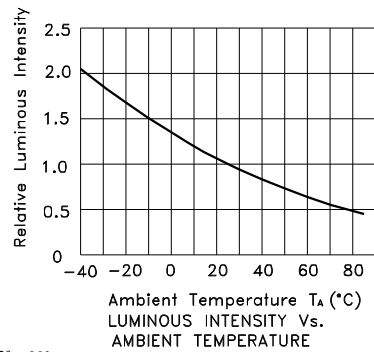
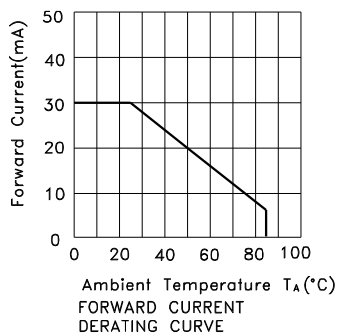
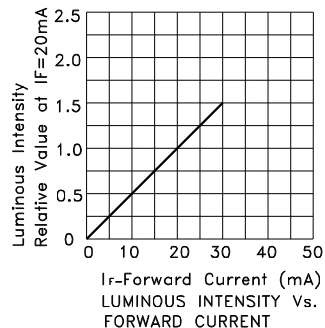
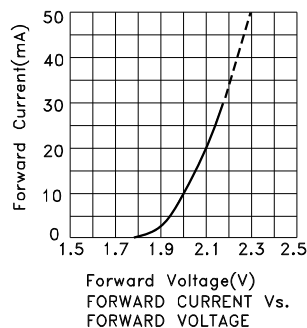
1. 1/10 Duty Cycle, 0.1ms Pulse Width.



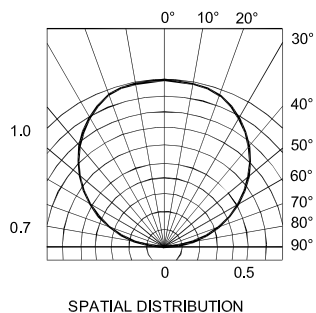
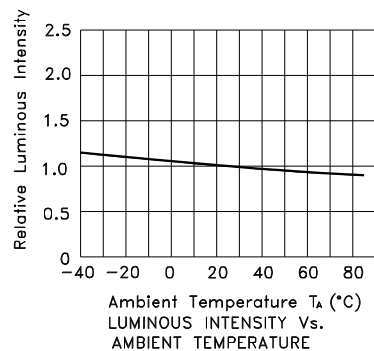
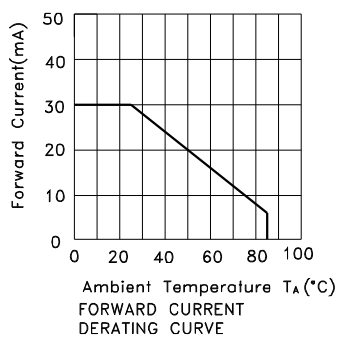
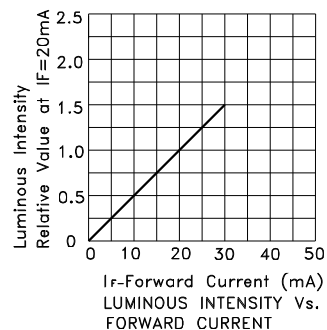
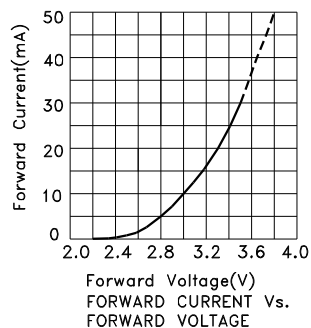
APFA3010SURKCGKQBDC Hyper Red



Green



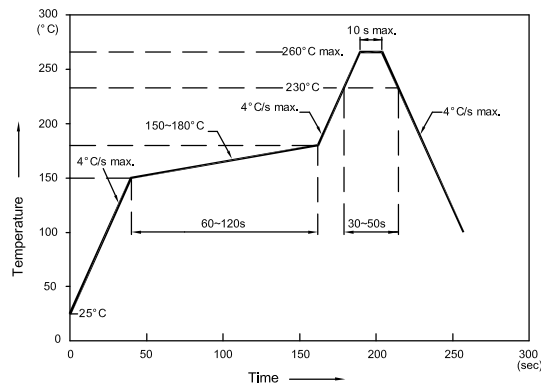
Blue



APFA3010SURKCGKQBDC

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.

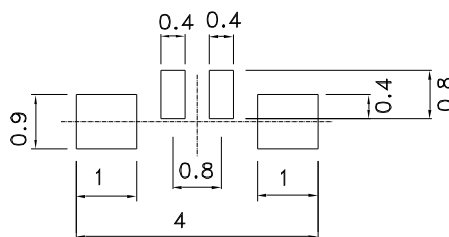
Reflow Soldering Profile For Lead-free SMT Process.



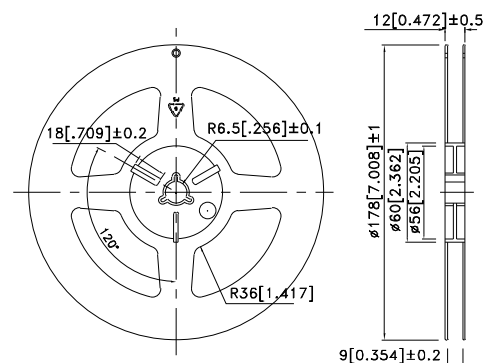
NOTES:

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)

