### 1x1mm SMD CHIP LED LAMP (0.2mm Height)



ATTENTION OBSERVE PRECAUTIONS FOR HANDLING ELECTROSTATIC DISCHARGE SENSITIVE DEVICES

#### **Features**

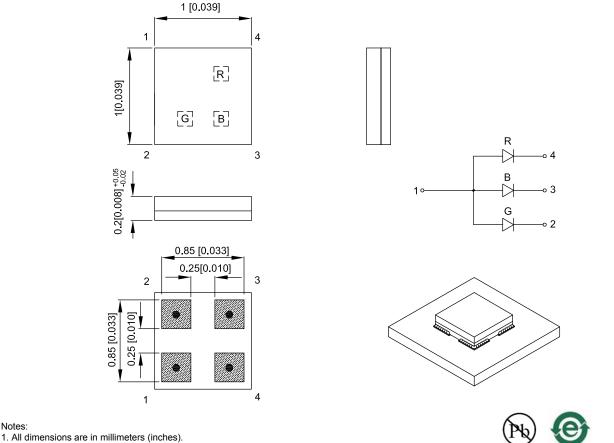
- 1.0mmX1.0mm SMD LED, 0.2mm thickness.
- Low power consumption.
- Package : 4000pcs / reel.
- Moisture sensitivity level : level 3.
- Low current IF=5mA operating.
- RoHS compliant.

Part Number: APGF1011SEEPBVGC-TT Green

Blue Hyper-Red

#### Descriptions

- The Green source color devices are made with InGaN on SiC substrate Light Emitting Diode.
- The Blue source color devices are made with InGaN on SiC substrate Light Emitting Diode.
- The Hyper-Red source color devices are made with AIGaInP on GaAs substrate Light Emitting Diode.
- Electrostatic discharge and power surge could damage the LEDs.
- It is recommended to use a wrist band or antielectrostatic glove when handling the LEDs.
- All devices, equipments and machineries must be electrically grounded.



2. Tolerance is ±0.1(0.004") unless otherwise noted.

 The specifications, characteristics and technical data described in the datastices are subject to encoded.
The device has a single mounting surface. The device must be mounted according to the specifications. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.

Notes:

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### **Package Dimensions**

Part No.	Emitting Color (Material)	Lens Type	lv (mcd) [2] @ 5mA		Viewing Angle [1]		
			Min.	Тур.	201/2		
					G	В	R
APGF1011SEEPBVGC-TT	Green (InGaN)	Water Clear	50	80	150°	150°	130°
	Blue (InGaN)		10	23			
	Hyper-Red (AlGaInP)		15	30			

Notes:

01/2 is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value.
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	Тур.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	Green Blue Hyper-Red	518 461 632		nm	IF=5mA
λD [1]	Dominant Wavelength	Green Blue Hyper-Red	527 467 624		nm	IF=5mA
Δλ1/2	Spectral Line Half-width	Green Blue Hyper-Red	35 22 20		nm	IF=5mA
С	Capacitance	Green Blue Hyper-Red	100 110 25		pF	VF=0V;f=1MHz
VF [2]	Forward Voltage	Green Blue Hyper-Red	3 2.9 1.95	3.2 3.1 2.3	V	IF=5mA
lr	Reverse Current	Green Blue Hyper-Red		50 50 10	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

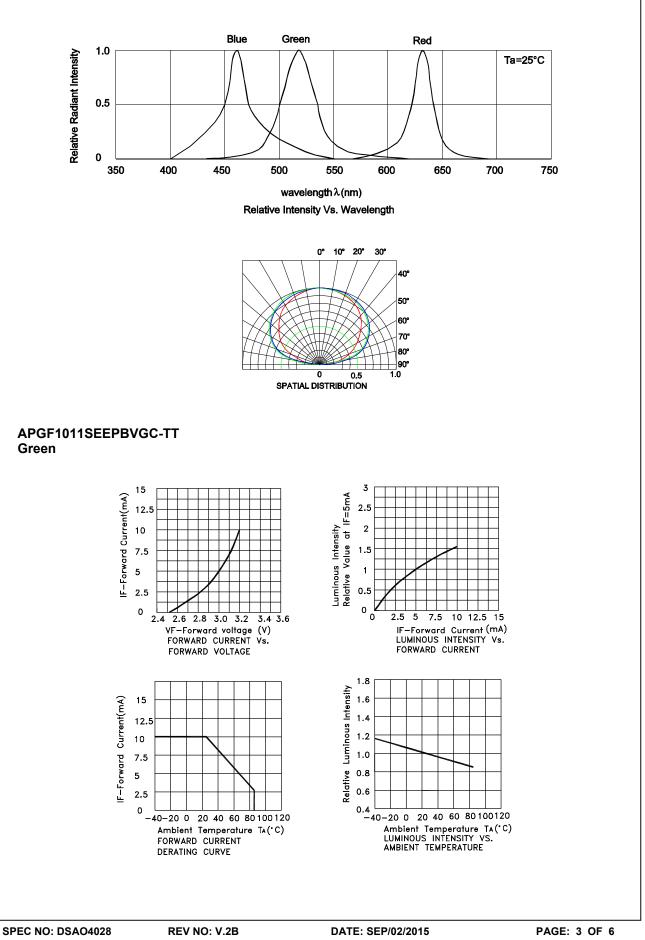
Parameter	Green	Blue	Hyper-Red	Units	
Power dissipation [1]		mW			
DC Forward Current [2]	10	10	10	mA	
Peak Forward Current [3]	50	50	50	mA	
Electrostatic Discharge Threshold (HBM)	1000	1000	3000	V	
Reverse Voltage		V			
Operating Temperature	-40°C To +85°C				
Storage Temperature	-40°C To +100°C				

Notes:

1.Within 35mW when multiple chips are lightened

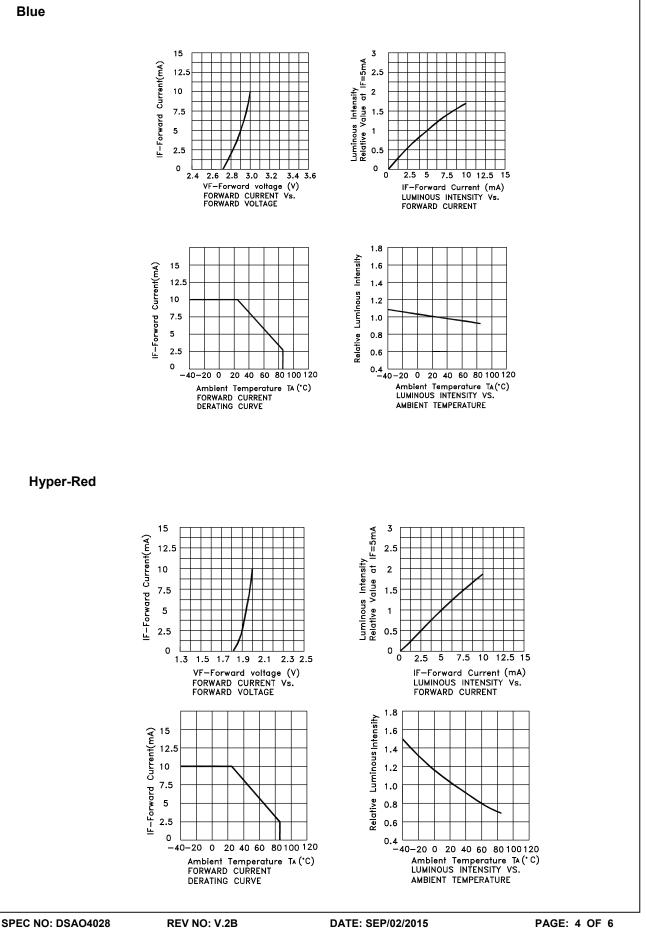
2. The maximum ratings are valid for the case of lighting a single chip When two chips are lit at the same time, each chip should be driven at a current lower than 50% of the absolute maximum ratings When three chips are lit at the same time, each chip should be driven at a current lower than 30% of the absolute maximum ratings 3.Duty Cycle 1/20, Pulse Width=1ms.

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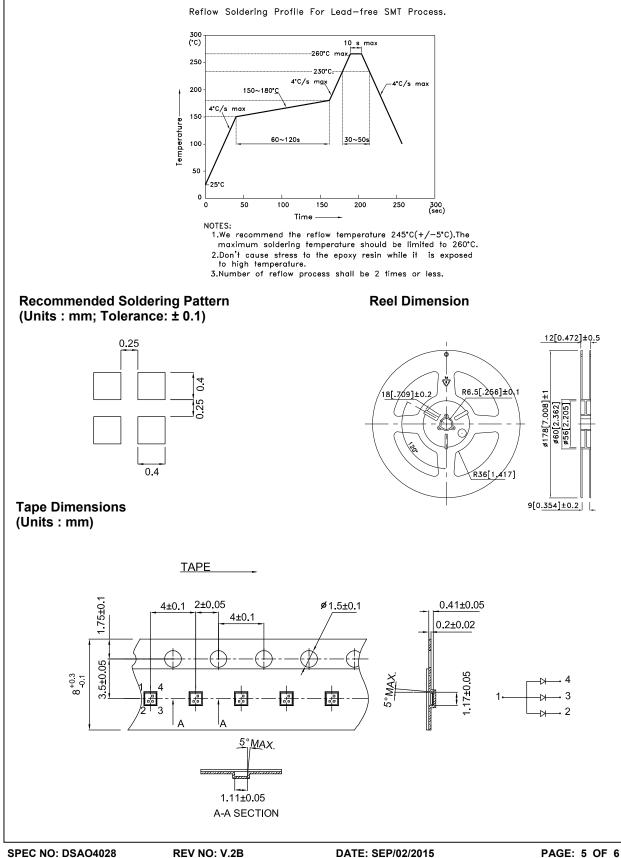
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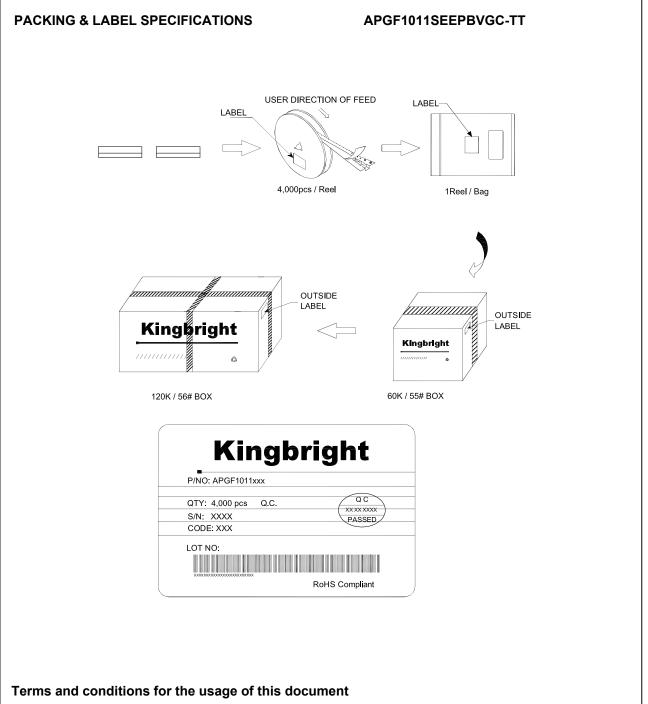
### APGF1011SEEPBVGC-TT

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.



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- 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.
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