

Part Number: APTB1612ESGC-F01

High Efficiency Red
Super Bright Green

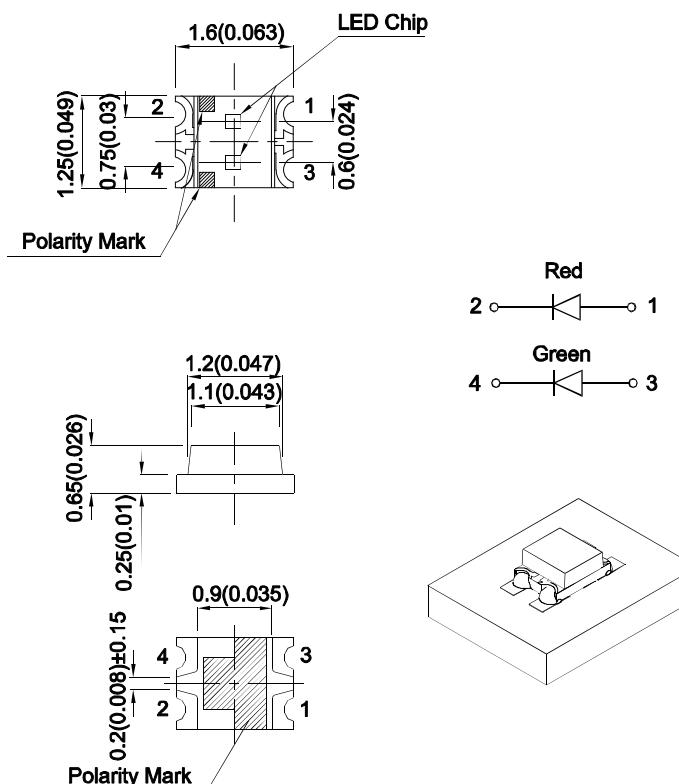
Features

- 1.6mmx1.25mm SMD LED, 0.65mm thickness.
- Bi-color, low power consumption.
- Wide viewing angle.
- Ideal for backlight and indicator.
- Package : 2000pcs / reel.
- Moisture sensitivity level : level 3.
- RoHS compliant.

Descriptions

- The High Efficiency Red source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Orange Light Emitting Diode.
- The Super Bright Green source color devices are made with Gallium Phosphide Green Light Emitting Diode.

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.



Kingbright

Selection Guide

Part No.	Emitting Color (Material)	Lens Type	I _v (mcd) [2] @ 20mA		Viewing Angle [1]
			Min.	Typ.	
APTB1612ESGC-F01	High Efficiency Red (GaAsP/GaP)	Water Clear	8	15	150°
			*3	*7	
	Super Bright Green (GaP)		5	12	
			*5	*12	

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 CIE127-2007 standards.

Electrical / Optical Characteristics at TA=25°C

Symbol	Parameter	Emitting Color	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	High Efficiency Red Super Bright Green	627 565		nm	I _F =20mA
λD [1]	Dominant Wavelength	High Efficiency Red Super Bright Green	617 568		nm	I _F =20mA
Δλ1/2	Spectral Line Half-width	High Efficiency Red Super Bright Green	45 30		nm	I _F =20mA
C	Capacitance	High Efficiency Red Super Bright Green	15 15		pF	V _F =0V;f=1MHz
V _F [2]	Forward Voltage	High Efficiency Red Super Bright Green	2 2.2	2.5 2.5	V	I _F =20mA
I _R	Reverse Current	High Efficiency Red Super Bright Green		10 10	uA	V _R = 5V

Notes:

1. Wavelength: +/-1nm.

2. Forward Voltage: +/-0.1V.

3. Wavelength value is traceable to CIE127-2007 standards.

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

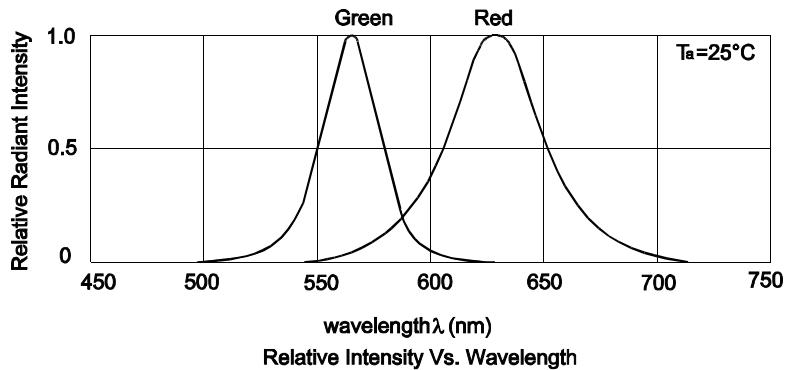
Absolute Maximum Ratings at TA=25°C

Parameter	High Efficiency Red	Super Bright Green	Units
Power dissipation	75	62.5	mW
DC Forward Current	30	25	mA
Peak Forward Current [1]	160	140	mA
Reverse Voltage		5	V
Operating Temperature		-40°C To +85°C	
Storage Temperature		-40°C To +85°C	

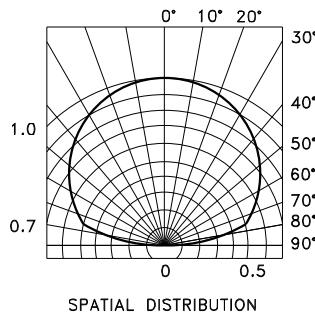
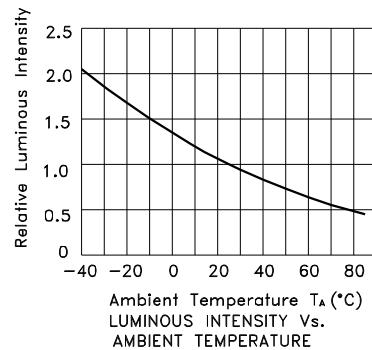
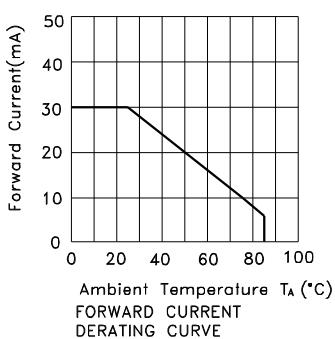
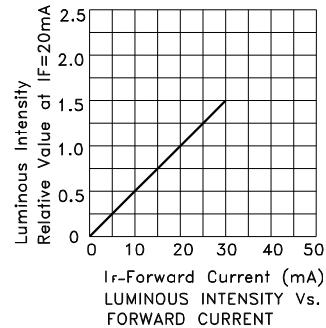
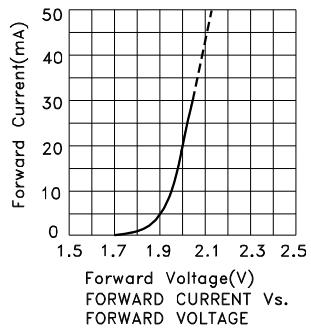
Notes:

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

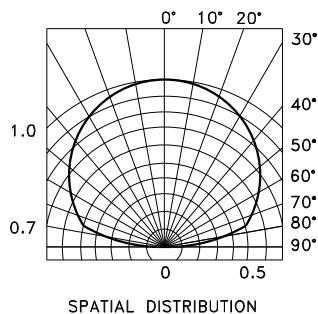
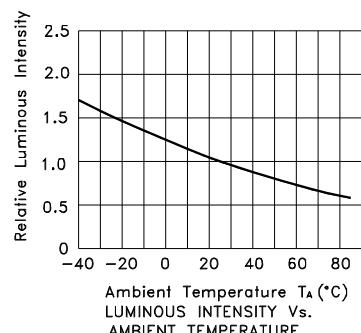
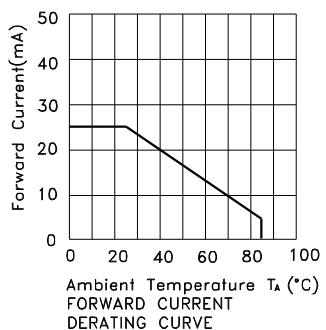
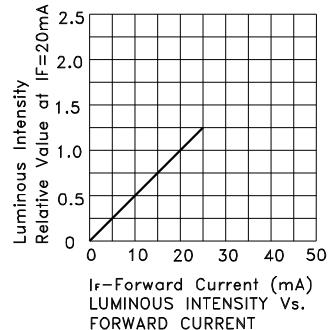
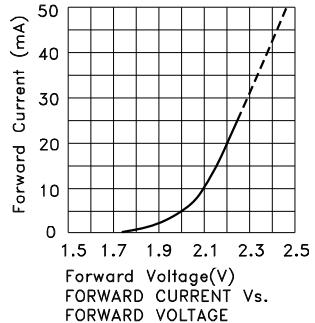
2. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.



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High Efficiency Red



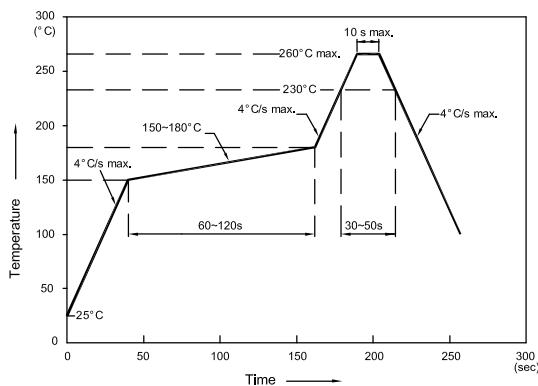
Super Bright Green



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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.

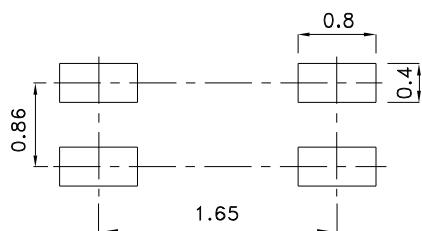
Reflow Soldering Profile For Lead-free SMT Process.



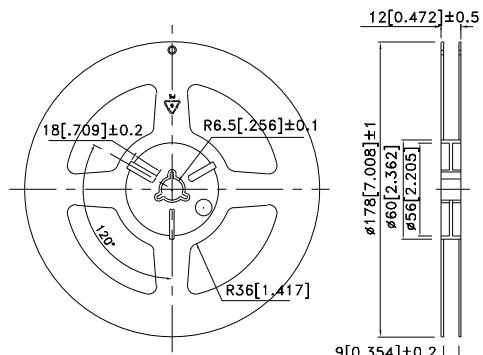
NOTES:

- 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.

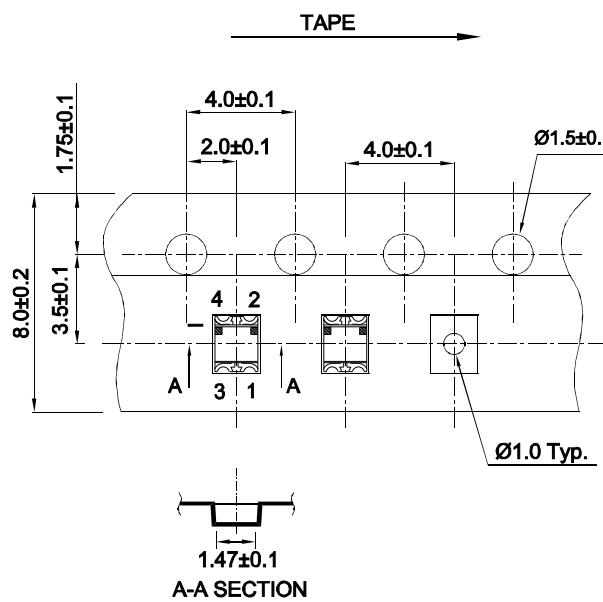
Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.1)

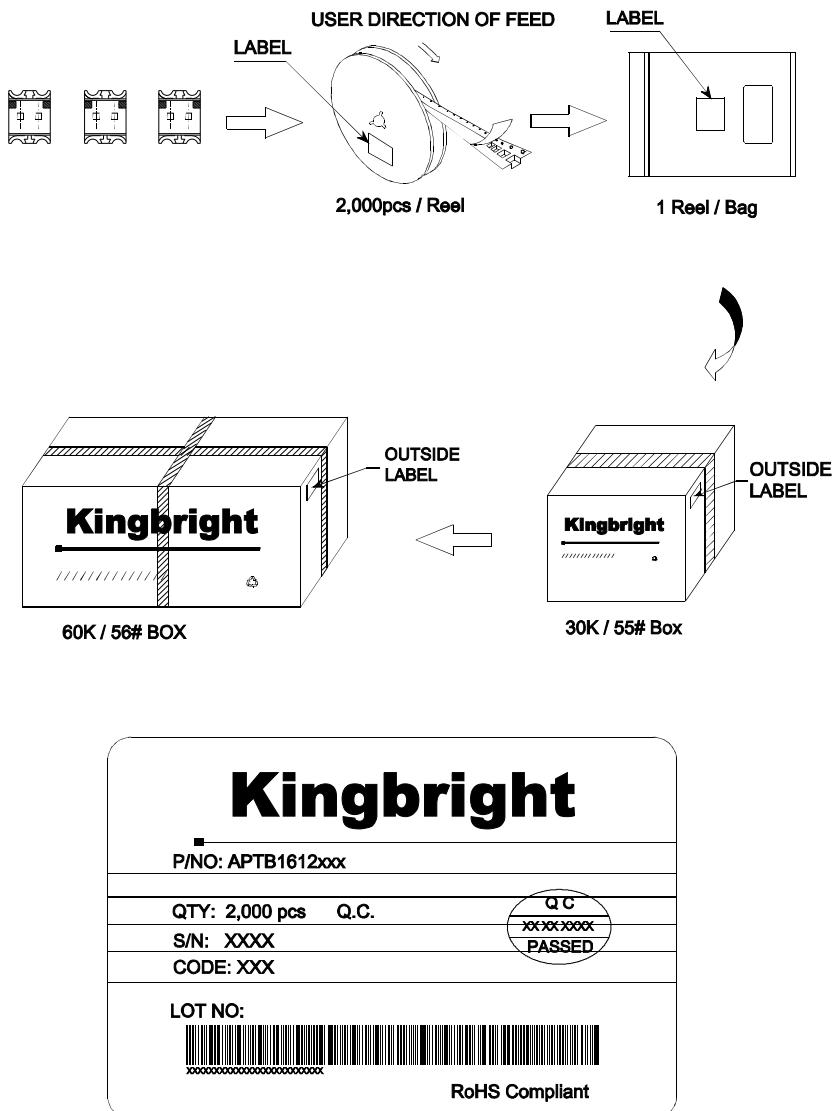


Reel Dimension



Tape Dimensions





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