



## APTB1612LSURKCGKC

1.6 x 1.25 mm Bi-Color SMD Chip LED Lamp

### 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
- 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

### FEATURES

- 1.6 mm x 1.25 mm SMD LED, 0.65 mm thickness
- Bi-color, low power consumption
- Wide viewing angle
- Ideal for backlight and indicator
- Package: 2000 pcs / reel
- Moisture sensitivity level: 3
- RoHS compliant

### APPLICATIONS

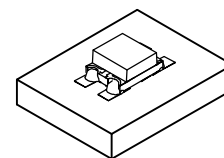
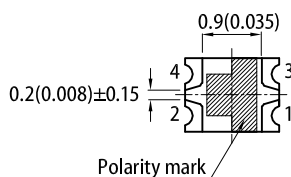
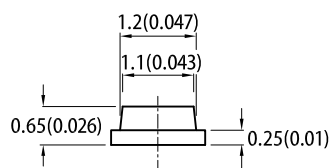
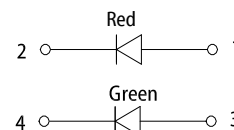
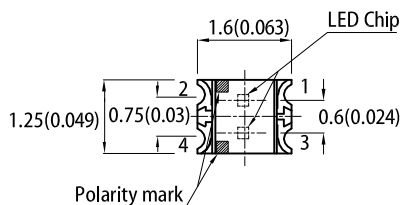
- Backlight
- Status indicator
- Home and smart appliances
- Wearable and portable devices
- Healthcare applications

### ATTENTION

Observe precautions for handling electrostatic discharge sensitive devices

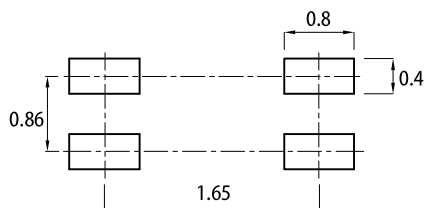


### PACKAGE DIMENSIONS



### RECOMMENDED SOLDERING PATTERN

(units : mm; tolerance : ± 0.1)



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 Number	Emitting Color (Material)	Lens Type	Iv (mcd) @ 2mA [2]		Viewing Angle [1]
			Min.	Typ.	201/2
APTB1612LSURKCGKC	■ Hyper Red (AlGaInP)	Water Clear	10	20	150°
	■ Green (AlGaInP)		*4	*9	
			1.2	3	
			*1.2	*3	

Notes:

1.  $\theta 1/2$  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 T<sub>A</sub>=25°C**

Parameter	Symbol	Emitting Color	Value			Unit
			Min.	Typ.	Max.	
Wavelength at Peak Emission I <sub>F</sub> = 2mA	λ <sub>peak</sub>	Hyper Red Green	-	645 574	-	nm
Dominant Wavelength I <sub>F</sub> = 2mA	λ <sub>dom</sub> <sup>[1]</sup>	Hyper Red Green	-	630 570	-	nm
Spectral Bandwidth at 50% Φ REL MAX I <sub>F</sub> = 2mA	Δλ	Hyper Red Green	-	28 20	-	nm
Capacitance	C	Hyper Red Green	-	35 15	-	pF
Forward Voltage I <sub>F</sub> = 2mA	V <sub>F</sub> <sup>[2]</sup>	Hyper Red Green	1.5 1.5	1.75 1.9	2.1 2.1	V
Reverse Current (V <sub>R</sub> = 5V)	I <sub>R</sub>	Hyper Red Green	-	-	10 10	uA

**Notes:**

1. The dominant wavelength (λ<sub>d</sub>) above is the setup value of the sorting machine. (Tolerance λ<sub>d</sub> : ±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 T<sub>A</sub>=25°C**

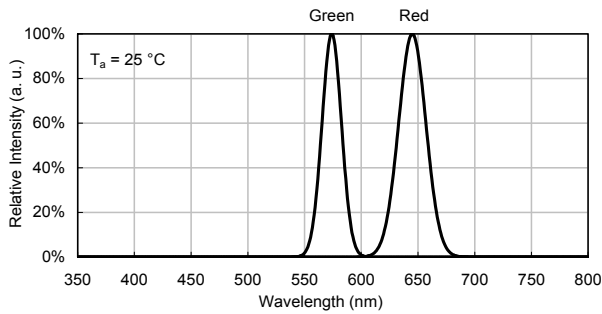
Parameter	Symbol	Value		Unit
		Hyper Red	Green	
Power Dissipation	P <sub>D</sub>	75	75	mW
Reverse Voltage	V <sub>R</sub>	5	5	V
Junction Temperature	T <sub>J</sub>	115	115	°C
Operating Temperature	T <sub>op</sub>	-40 To +85		°C
Storage Temperature	T <sub>stg</sub>	-40 To +85		°C
DC Forward Current	I <sub>F</sub>	30	30	mA
Peak Forward Current	I <sub>FM</sub> <sup>[1]</sup>	185	150	mA
Electrostatic Discharge Threshold (HBM)	-	3000	3000	V

**Notes:**

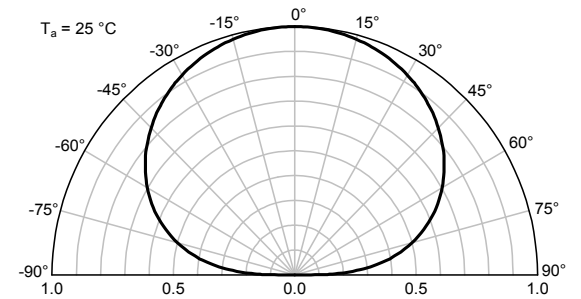
1. 1/10 Duty Cycle, 0.1ms Pulse Width.
2. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.

## TECHNICAL DATA

### RELATIVE INTENSITY vs. WAVELENGTH

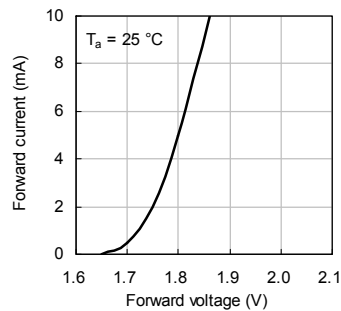


### SPATIAL DISTRIBUTION

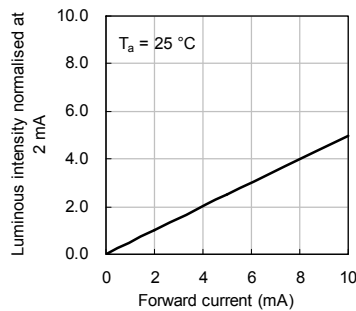


## HYPER RED

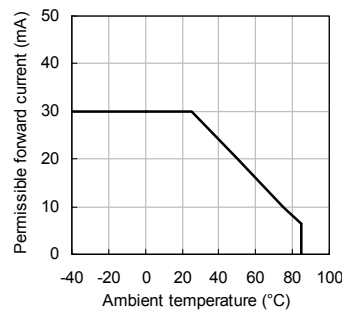
Forward Current vs. Forward Voltage



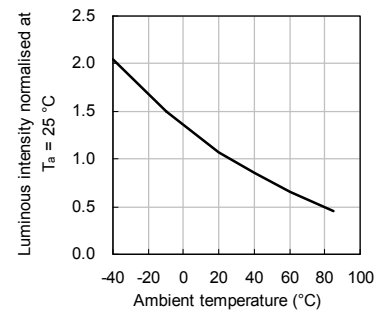
Luminous Intensity vs. Forward Current



Forward Current Derating Curve

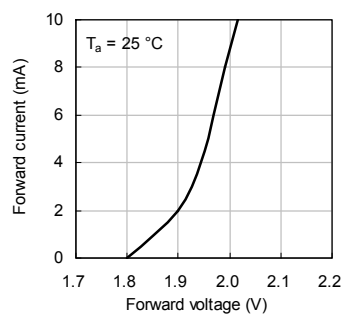


Luminous Intensity vs. Ambient Temperature

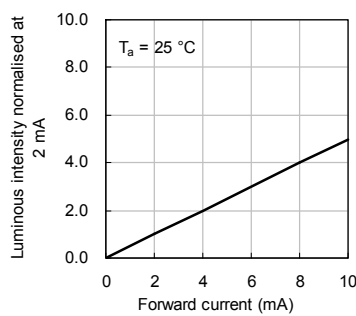


## GREEN

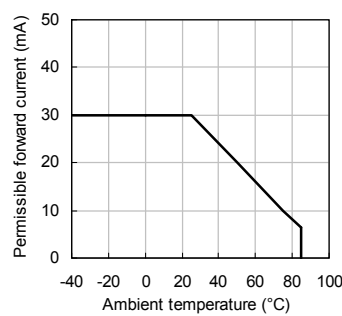
Forward Current vs. Forward Voltage



Luminous Intensity vs. Forward Current



Forward Current Derating Curve



Luminous Intensity vs. Ambient Temperature

