

APHB1608CGKSURKC

1.6 x 0.8 x 0.5 mm Bi-Color Surface Mount LED

DESCRIPTIONS

- The Green source color devices are made with AlGaInP on GaAs substrate Light Emitting Diode
- The Hyper Red 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 x 0.8 mm SMD LED, 0.5 mm thickness
- Compatible with reflow soldering
- Available in various color combination
- Package: 2000 pcs / reel
- Moisture sensitivity level: 3
- Tinned pads for improved solderability
- Halogen-free
- RoHS compliant

APPLICATIONS

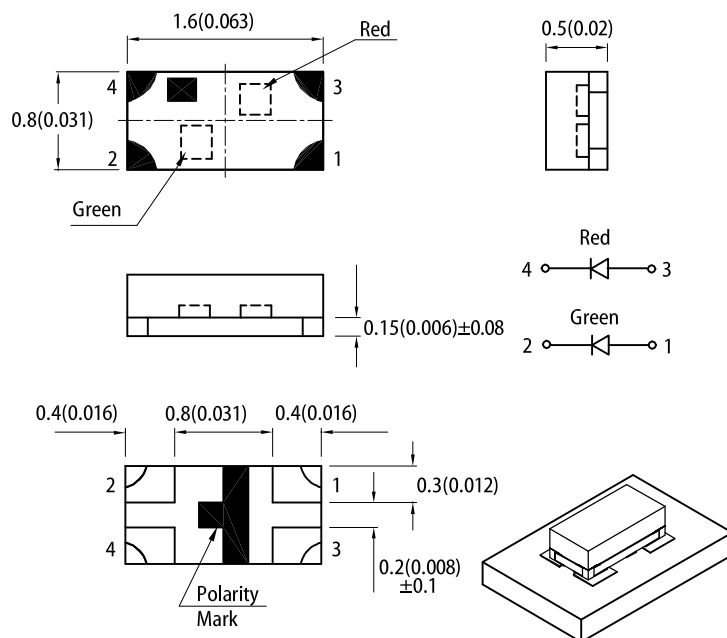
- Backlight
- Status indicator
- Home and smart appliances
- Wearable and portable devices
- Healthcare applications

ATTENTION

Observe precautions for handling electrostatic discharge sensitive devices

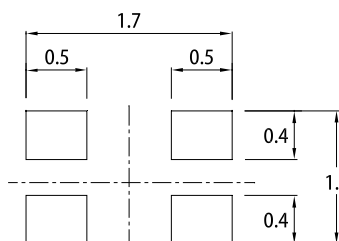


PACKAGE DIMENSIONS



RECOMMENDED SOLDERING PATTERN

(units : mm; tolerance : ± 0.1)



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is $\pm 0.15(0.006)$ 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) @ 20mA ^[2]		Viewing Angle ^[1]
			Min.	Typ.	2θ1/2
APHB1608CGKSURKC	■ Green (AlGaInP)	Water Clear	20	50	130°
			*20	*50	
	■ Hyper Red (AlGaInP)		120	250	
			*40	*90	

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_A=25°C

Parameter	Symbol	Emitting Color	Value		Unit
			Typ.	Max.	
Wavelength at Peak Emission I _F = 20mA	λ _{peak}	Green Hyper Red	574 645	-	nm
Dominant Wavelength I _F = 20mA	λ _{dom} ^[1]	Green Hyper Red	570 630	-	nm
Spectral Bandwidth at 50% Φ REL MAX I _F = 20mA	Δλ	Green Hyper Red	20 28	-	nm
Capacitance	C	Green Hyper Red	15 35	-	pF
Forward Voltage I _F = 20mA	V _F ^[2]	Green Hyper Red	2.1 1.95	2.5 2.5	V
Reverse Current (V _R = 5V)	I _R	Green Hyper Red	-	10 10	μA
Temperature Coefficient of λ _{peak} I _F = 20mA, -10°C ≤ T ≤ 85°C	TC _{λpeak}	Green Hyper Red	0.12 0.14	-	nm/°C
Temperature Coefficient of λ _{dom} I _F = 20mA, -10°C ≤ T ≤ 85°C	TC _{λdom}	Green Hyper Red	0.08 0.05	-	nm/°C
Temperature Coefficient of V _F I _F = 20mA, -10°C ≤ T ≤ 85°C	TC _V	Green Hyper Red	-1.9 -1.9	-	mV/°C

Notes:

1. The dominant wavelength (λ_d) above is the setup value of the sorting machine. (Tolerance λ_d : ±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_A=25°C

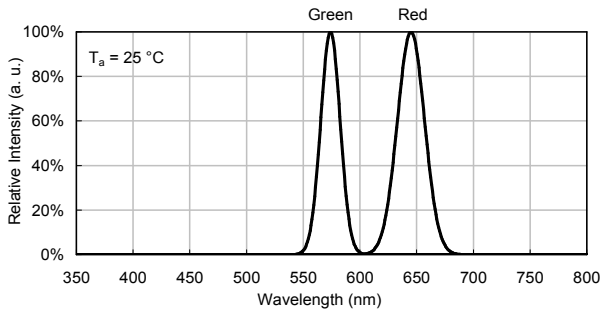
Parameter	Symbol	Value		Unit
		Green	Hyper Red	
Power Dissipation	P _D	75	75	mW
Reverse Voltage	V _R	5	5	V
Junction Temperature	T _j	115	115	°C
Operating Temperature	T _{op}	-40 to +85		°C
Storage Temperature	T _{stg}	-40 to +85		°C
DC Forward Current	I _F	30	30	mA
Peak Forward Current	I _{FM} ^[1]	150	185	mA
Electrostatic Discharge Threshold (HBM)	-	3000	3000	V
Thermal Resistance (Junction / Ambient)	R _{th JA} ^[2]	480	640	°C/W
Thermal Resistance (Junction / Solder point)	R _{th JS} ^[2]	350	490	°C/W

Notes:

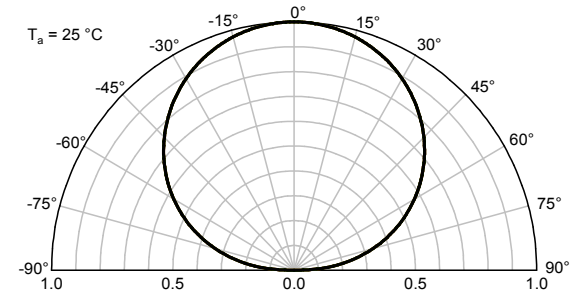
1. 1/10 Duty Cycle, 0.1ms Pulse Width.
2. R_{th JA}, R_{th JS} Results from mounting on PC board FR4 (pad size ≥ 16 mm² per pad).
3. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.

TECHNICAL DATA

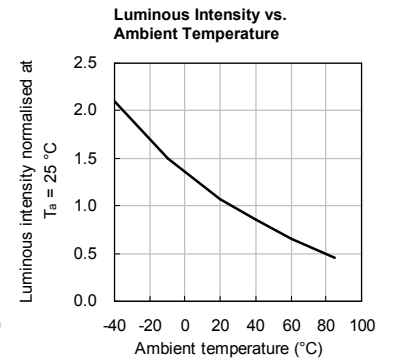
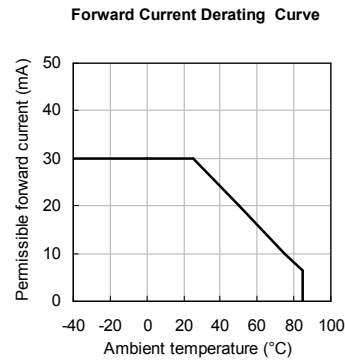
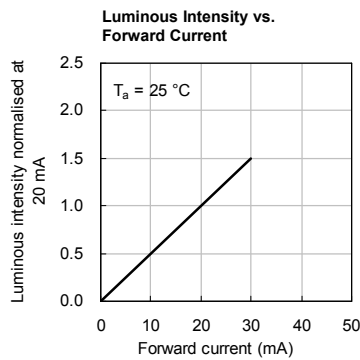
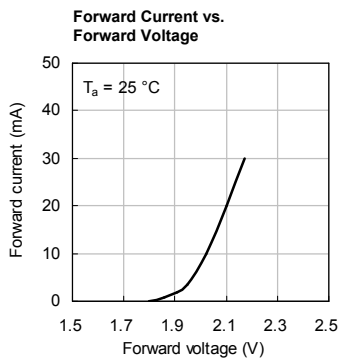
RELATIVE INTENSITY vs. WAVELENGTH



SPATIAL DISTRIBUTION



GREEN



HYPER RED

