香港至恩科技有限公司
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公司授权代理销售LITE-ON:光耦，贴片LED灯等
进口原装，现货供应，价格优势，技术支持
电话：0755-83464948 传真：0755-83464076

APTB1612SURKQWDF

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 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

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

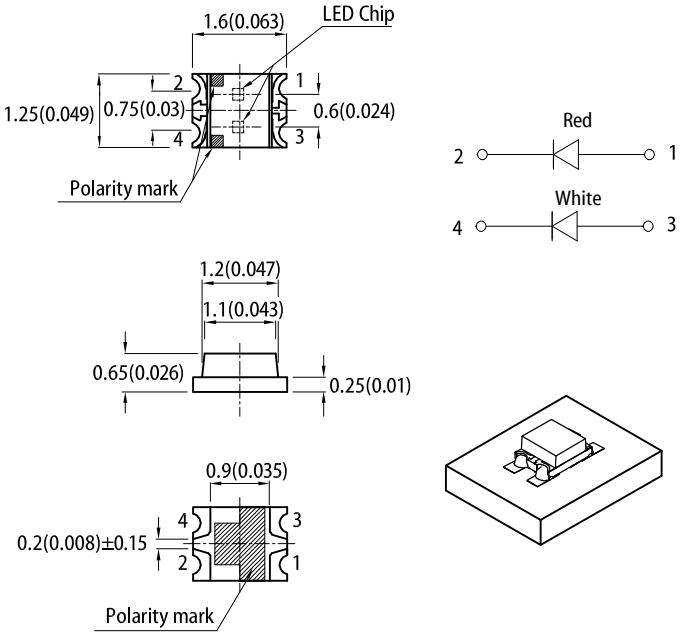
APPLICATIONS

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

ATTENTION

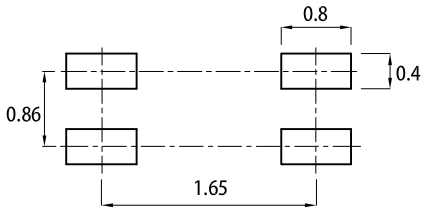
Observe precautions for handling electrostatic discharge sensitive devices

PACKAGE DIMENSIONS



RECOMMENDED SOLDERING PATTERN

(units : mm; tolerance : ± 0.1)



Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±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) @ 20mA [2]		Viewing Angle [1]
			Min.	Typ.	2θ1/2
APTB1612SURKQWDF	Hyper Red (AlGaInP)	Yellow Fluorescent	120	200	160°
			*40	*80	
	White (InGaN)		120	250	
			*120	*250	

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.*

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ELECTRICAL / OPTICAL CHARACTERISTICS at T_A=25°C (RED)

Parameter	Symbol	Emitting Color	Value		Unit
			Typ.	Max.	
Wavelength at Peak Emission I_F = 20mA	λ_{peak}	Hyper Red	645	-	nm
Dominant Wavelength I_F = 20mA	λ_{dom} [1]	Hyper Red	630	-	nm
Spectral Bandwidth at 50% Φ REL MAX	Δλ	Hyper Red	28	-	nm
Capacitance	C	Hyper Red	35	-	pF
Forward Voltage I_F = 20mA	V_F [2]	Hyper Red	1.95	2.5	V
Reverse Current (V_R = 5V)	I_R	Hyper Red	-	10	uA

Notes:
1. The dominant wavelength (λd) above is the setup value of the sorting machine. (Tolerance λd : ±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.

ELECTRICAL / OPTICAL CHARACTERISTICS at T_A=25°C (WHITE)

Parameter	Symbol	Emitting Color	Value		Unit
			Typ.	Max.	
Chromaticity Coordinates x I_F = 20mA	x [1]	White	0.31	-	-
Chromaticity Coordinates y I_F = 20mA	y [1]	White	0.31	-	-
Capacitance	C	White	100	-	pF
Forward Voltage I_F = 20mA	V_F [2]	White	3.3	4.0	V
Reverse Current (V_R = 5V)	I_R	White	-	50	uA

Notes:
1. Measurement tolerance of the chromaticity coordinates is ±0.01.
2. Forward voltage: ±0.1V.
3. 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
		Hyper Red	White	
Power Dissipation	P_D	75	120	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]	185	150	mA
Electrostatic Discharge Threshold (HBM)	-	3000	250	V

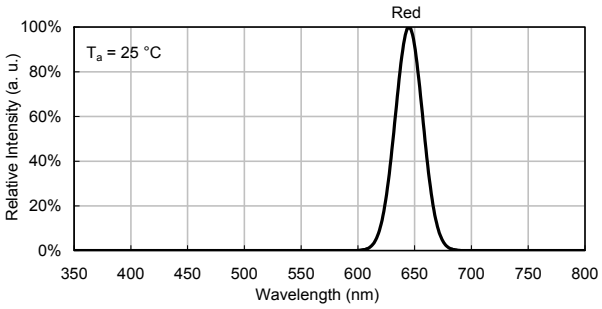
Notes:
1. 1/10 Duty Cycle, 0.1ms Pulse Width.
2. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.

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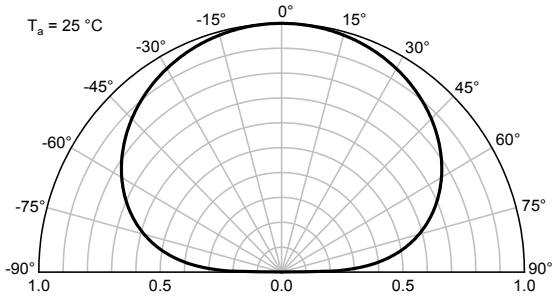
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TECHNICAL DATA

RELATIVE INTENSITY vs. WAVELENGTH

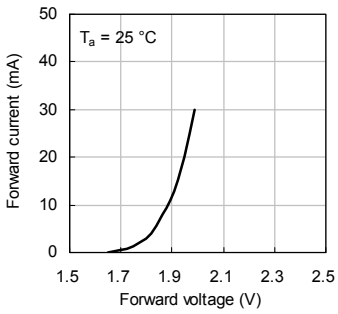


SPATIAL DISTRIBUTION

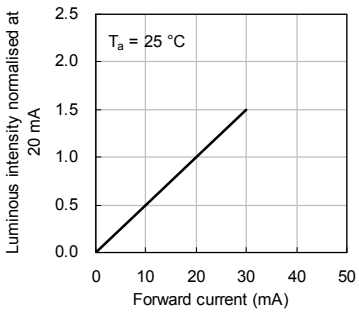


HYPER RED

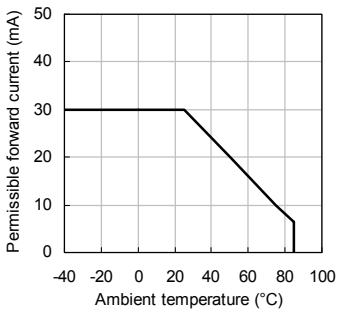
Forward Current vs. Forward Voltage



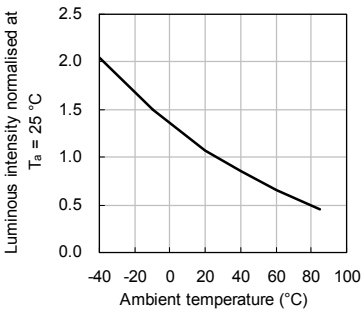
Luminous Intensity vs. Forward Current



Forward Current Derating Curve

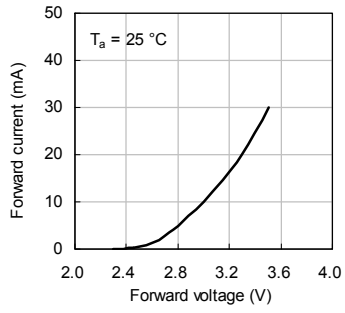


Luminous Intensity vs. Ambient Temperature

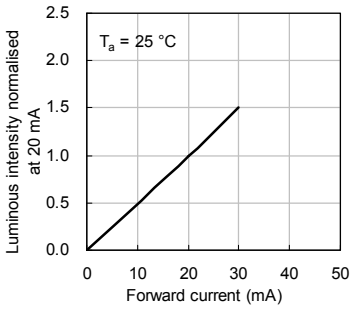


WHITE

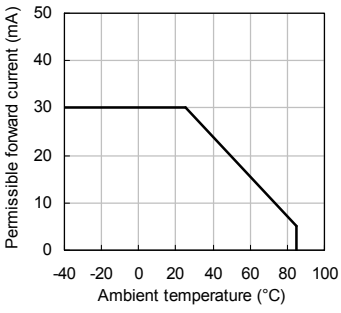
Forward Current vs. Forward Voltage



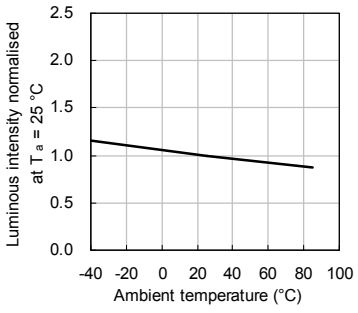
Luminous Intensity vs. Forward Current



Forward Current Derating Curve



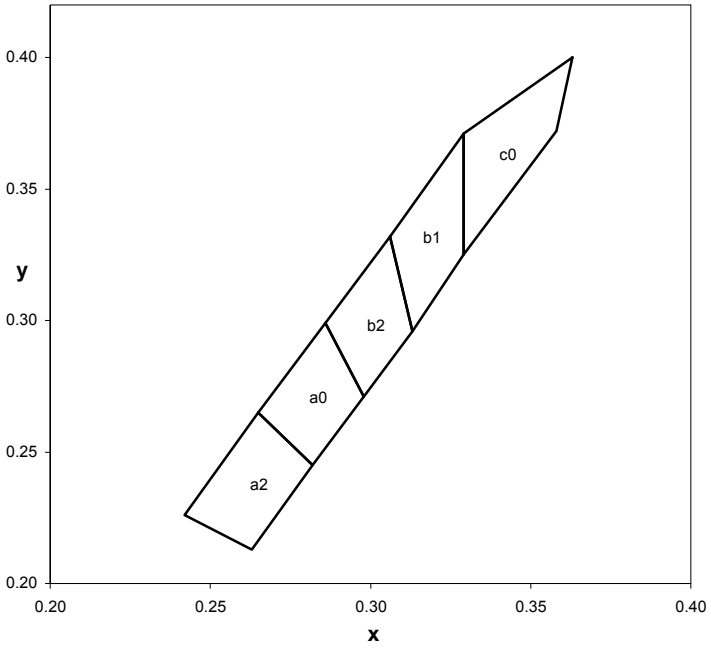
Luminous Intensity vs. Ambient Temperature



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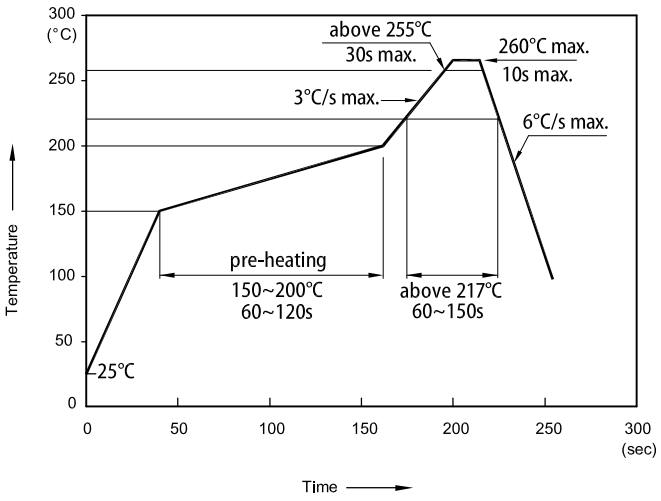
CIE CHROMATICITY DIAGRAM



	x	y		x	y
a2	0.263	0.213	a0	0.282	0.245
	0.282	0.245		0.298	0.271
	0.265	0.265		0.286	0.299
	0.242	0.226		0.265	0.265
b2	0.298	0.271	b1	0.313	0.296
	0.313	0.296		0.329	0.325
	0.306	0.332		0.329	0.371
	0.286	0.299		0.306	0.332
c0	0.329	0.325			
	0.358	0.372			
	0.363	0.400			
	0.329	0.371			

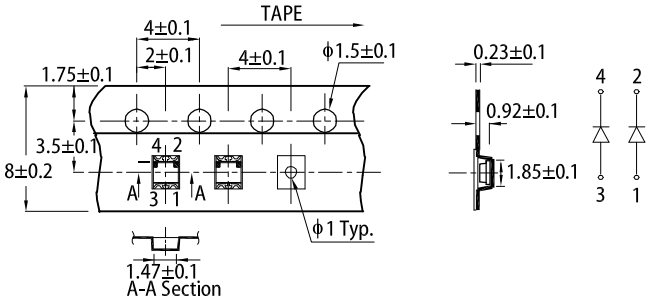
Notes:
Shipment may contain more than one chromaticity regions.
Orders for single chromaticity region are generally not accepted.
Measurement tolerance of the chromaticity coordinates is ±0.01.

REFLOW SOLDERING PROFILE for LEAD-FREE SMD PROCESS

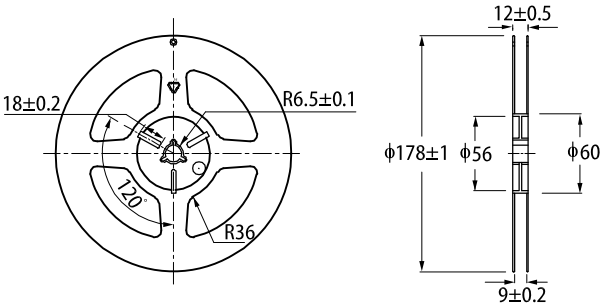


Notes:
1. Don't cause stress to the LEDs while it is exposed to high temperature.
2. The maximum number of reflow soldering passes is 2 times.
3. Reflow soldering is recommended. Other soldering methods are not recommended as they might cause damage to the product.

TAPE SPECIFICATIONS (units : mm)



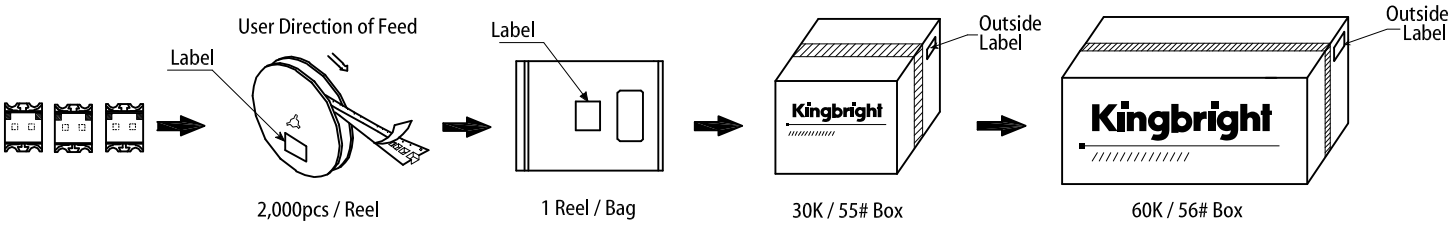
REEL DIMENSION (units : mm)

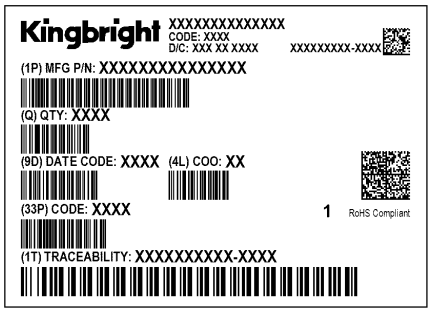


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PACKING & LABEL SPECIFICATIONS





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