Kingbright

Doc. Type：PCN
Version：V1

Process/Engineering Change Notification Form

Please address your comments, if any, to your sales contact or quality assurance manager at Kingbright.

Notification Number:S202609001	**Issue Date:2026-09-01**
Author:Ziven Ni	**Issued By: SMD Technical Dept**

Product Types:	**Old P/N**	**New P/N**
	APTD1608-MTS73	**APTD1608-MTS73**
Change Category:	**Bin code**	
Change Description:	**Bin code**	
Reason for Change:	**The ZC bin code will be added after this period.**	
Anticipated impact of change:	**The X bin code will be removed, and the ZC bin code will be added after this period.**	
Disposition of Old Product:	**N/A**	
Identification of Changed Product:	**N/A**	
Proposed First Ship Date:	**October 1, 2026**	

Before			After		
Code.	Min.	Max.	Code.	Min.	Max.
X	1900	2300	Y	2300	2700
Y	2300	2700	Z	2700	3100
Z	2700	3100	ZA	3100	3600
ZA	3100	3600	ZB	3600	4200
ZB	3600	4200	ZC	4200	5000

Approved By: Benson Huang **Title:**Sr Quality manager **Date:2026/9/01**

Notification Number:S202609001

Acknowledgement of Receipt of Notice

Company Name: _____

Name(please print): _____ **Title:** _____

Signature: _____ **Date:** _____

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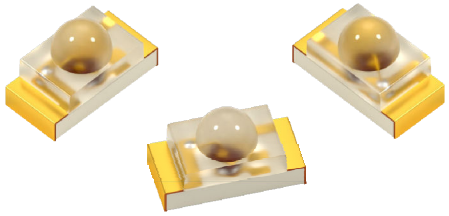


APTD1608-MTS73

1.6 x 0.8 mm SMD Chip LED Lamp

DESCRIPTIONS

- The Hyper Red device is based on light emitting diode chip made from AlGaInP
- 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 0.8 mm SMD LED, 0.95 mm thickness
- Low power consumption
- Ideal for backlight and indicator
- Package: 2000 pcs / reel
- Moisture sensitivity level: 3
- Halogen-free
- RoHS compliant

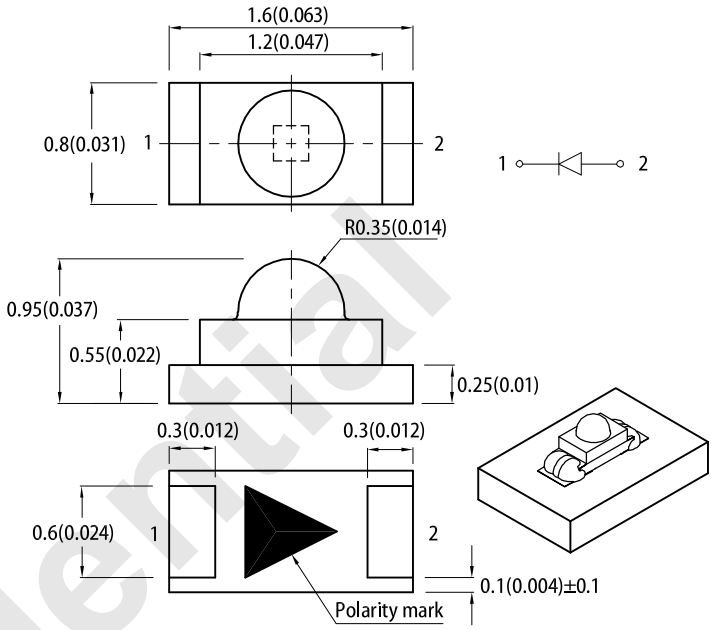
APPLICATIONS

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

ATTENTION

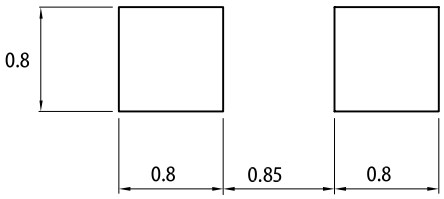
Observe precautions for handling electrostatic discharge sensitive devices

PACKAGE DIMENSIONS



RECOMMENDED SOLDERING PATTERN

(units : mm; tolerance : ± 0.1)



Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±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]
			Code.	Min.	Max.	2θ1/2
APTD1608-MTS73	Hyper Red (AlGaInP)	Water Clear	Y	2300	2700	60°
			Z	2700	3100	
			ZA	3100	3600	
			ZB	3600	4200	
			ZC	4200	5000	

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%.
3. LEDs will be provided from the listed bin codes. The bins delivered to the customer will be at Kingbright's discretion.

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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}	Hyper Red	640	-	nm
Dominant Wavelength I_F = 20mA	λ_{dom} [1]	Hyper Red	625	-	nm
Spectral Bandwidth at 50% Φ REL MAX I_F = 20mA	Δλ	Hyper Red	20	-	nm
Forward Voltage I_F = 20mA	V_F [2]	Hyper Red	2.2	2.8	V
Reverse Current (V_R = 5V)	I_R	Hyper Red	-	10	μA
Temperature Coefficient of λ_{peak} I_F = 20mA, -10°C ≤ T ≤ 85°C	$TC_{\lambda peak}$	Hyper Red	0.13	-	nm/°C
Temperature Coefficient of λ_{dom} I_F = 20mA, -10°C ≤ T ≤ 85°C	$TC_{\lambda dom}$	Hyper Red	0.06	-	nm/°C
Temperature Coefficient of V_F I_F = 20mA, -10°C ≤ T ≤ 85°C	TC_V	Hyper Red	-2.0	-	mV/°C

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

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ABSOLUTE MAXIMUM RATINGS at T_A=25°C

Parameter	Symbol	Value	Unit
Power Dissipation	P_D	84	mW
Reverse Voltage	V_R	5	V
Junction Temperature	T_j	115	°C
Operating Temperature	T_{op}	-40 to +85	°C
Storage Temperature	T_{stg}	-40 to +85	°C
DC Forward Current	I_F	30	mA
Peak Forward Current	I_{FP} [1]	150	mA
Electrostatic Discharge Threshold (HBM)	-	3000	V
Thermal Resistance (Junction / Ambient)	$R_{th\ JA}$ [2]	470	°C/W
Thermal Resistance (Junction / Solder point)	$R_{th\ JS}$ [2]	360	°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 mm^2 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.

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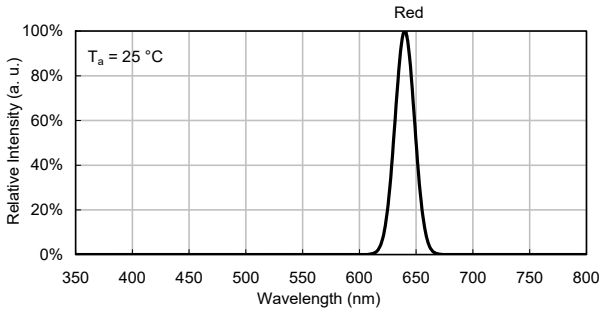
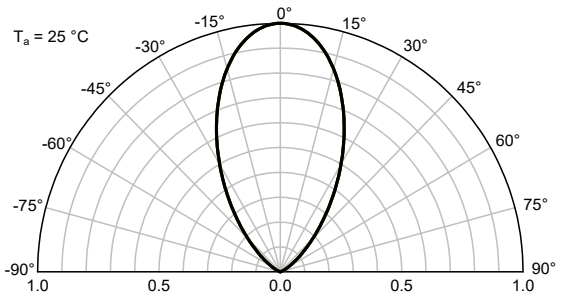
TECHNICAL DATA

RELATIVE INTENSITY vs. WAVELENGTH

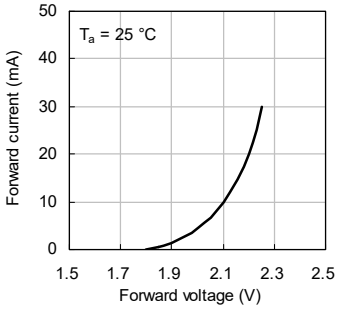


SPATIAL DISTRIBUTION

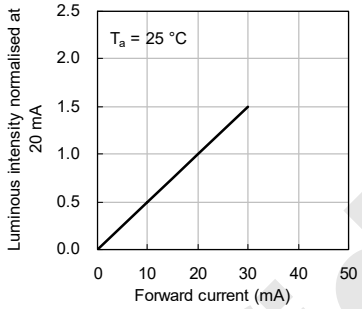


HYPER RED

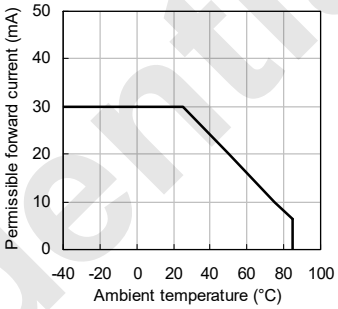
Forward Current vs. Forward Voltage



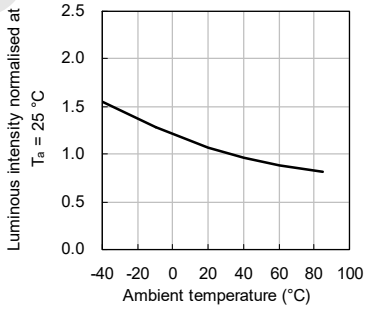
Luminous Intensity vs. Forward Current



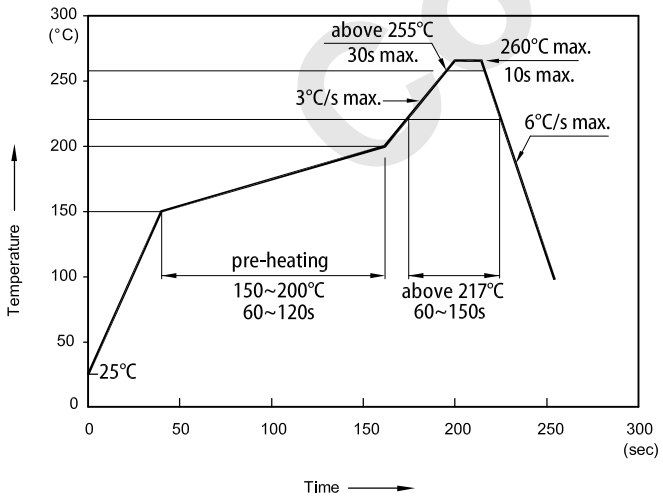
Forward Current Derating Curve



Luminous Intensity vs. Ambient Temperature

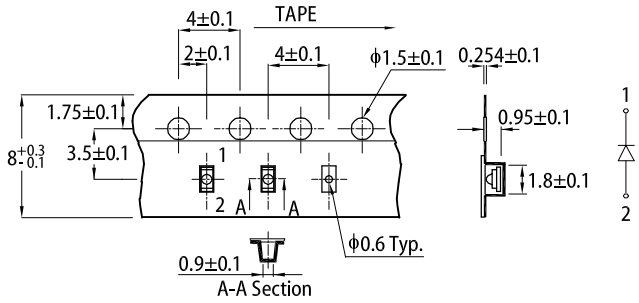


REFLOW SOLDERING PROFILE for LEAD-FREE SMD PROCESS

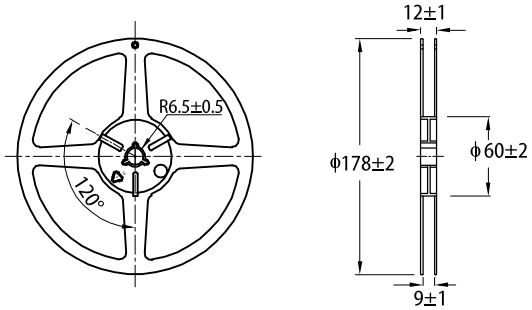


Notes:
1. Don't cause stress to the LEDs while it is exposed to high temperature.
2. The maximum number of reflow soldering passes is 2 times.
3. Reflow soldering is recommended. Other soldering methods are not recommended as they might cause damage to the product.

TAPE SPECIFICATIONS (units : mm)



REEL DIMENSION (units : mm)



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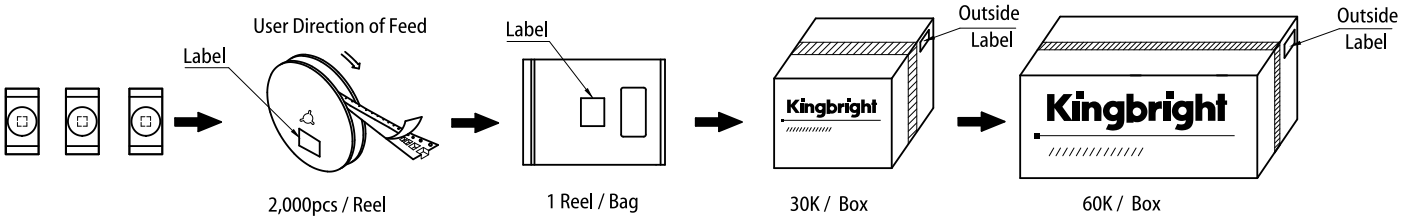
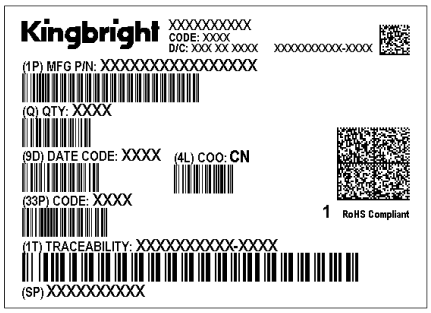
PACKING & LABEL SPECIFICATIONS





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PRECAUTIONARY NOTES

1. The information included in this document reflects representative usage scenarios and is intended for technical reference only.
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.
3. When using the products referenced in this document, please make sure the product is being operated within the environmental and electrical limits specified in the datasheet. If customer usage exceeds the specified limits, Kingbright will not be responsible for any subsequent issues.
4. The information in this document applies to typical usage in consumer electronics applications. If customer's application has special reliability requirements or have life-threatening liabilities, such as automotive or medical usage, please consult with Kingbright representative for further assistance.
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