Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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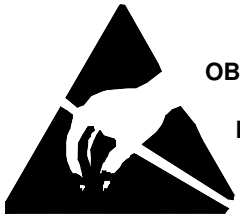
SPECIFICATION

PART NO. : MT5470E-UR

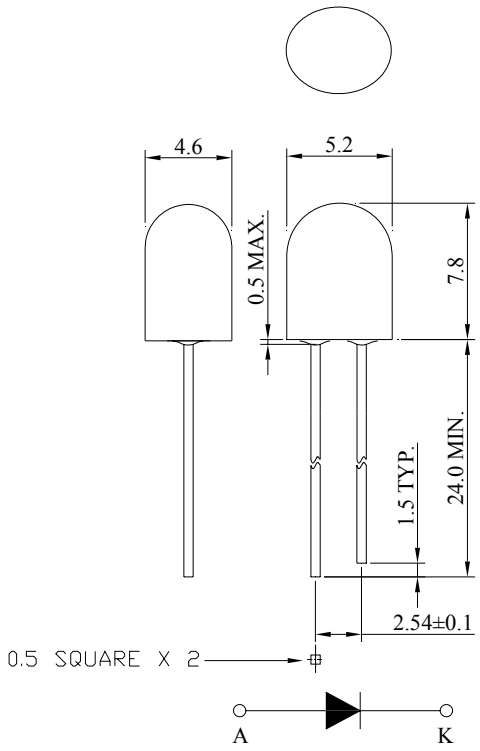
5.2×4.6mm OVAL LED LAMP

RoHS



Description

This hyper red lamp is made with AlGaInP/GaP chip and red diffused epoxy resin.



Notes:

1. All dimensions are in mm.
2. Tolerance is ± 0.25mm unless otherwise noted.

Description

Part No.	LED Chip		Lens Color
	Material	Emitting Color	
MT5470E-UR	AlGaInP/GaP	Hyper red	Red diffused

Absolute Maximum Ratings at Ta=25℃

Parameter	Symbol	Rating	Unit
Power Dissipation	PD	130	mW
Reverse Voltage	VR	5	V
D.C. Forward Current	If	50	mA
Reverse (Leakage) Current	Ir	100	μ A
Peak Current(1/10Duty Cycle,0.1ms Pulse Width.)	If(Peak)	200	mA
Operating Temperature Range	Topr	-40to +95	℃
Storage Temperature Range	Tstg	-40 to +100	℃
Soldering Temperature(1.6mm from body)	Tsol	Dip Soldering : 260℃ for 5 sec. Hand Soldering : 350℃ for 3 sec.	

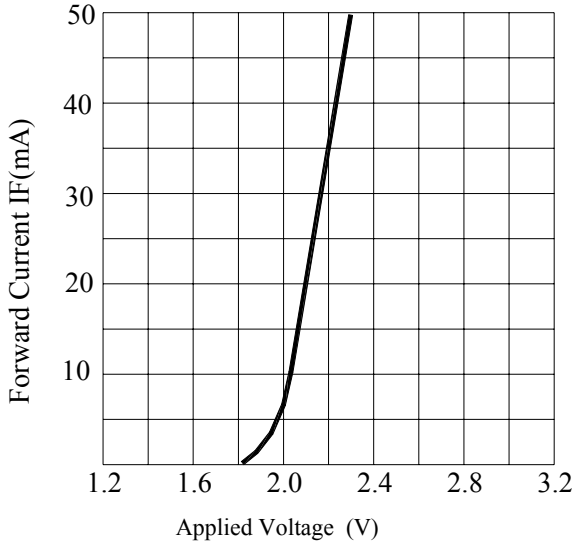
Electrical and Optical Characteristics:

Parameter		Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Intensity		Iv	If=20mA	2130	2300		mcd
Forward Voltage		Vf	If=20mA	1.8		2.4	V
Peak Wavelength		λp	If=20mA		632		nm
Dominant Wavelength		λd	If=20mA	618	625	630	nm
Reverse (Leakage) Current		Ir	Vr=5V			100	μA
Viewing Angle	Vertical	2θ 1/2	If=20mA		40		deg
	Horizontal	2θ 1/2	If=20mA		70		
Spectrum Line Halfwidth		Δλ	If=20mA		20		nm

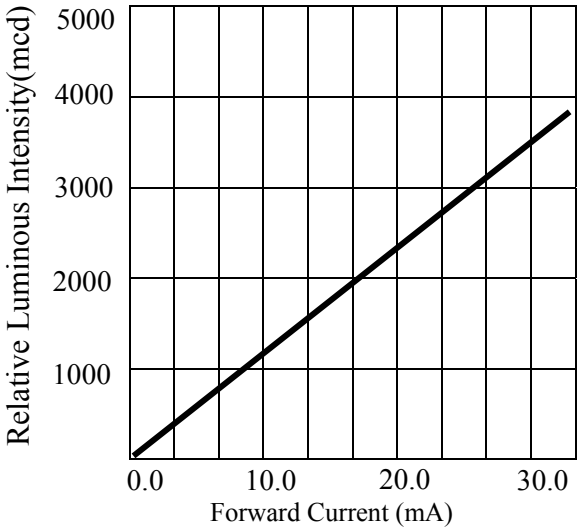
Notes:1. The datas tested by IS tester.

2. Customer's special requirements are also welcome.

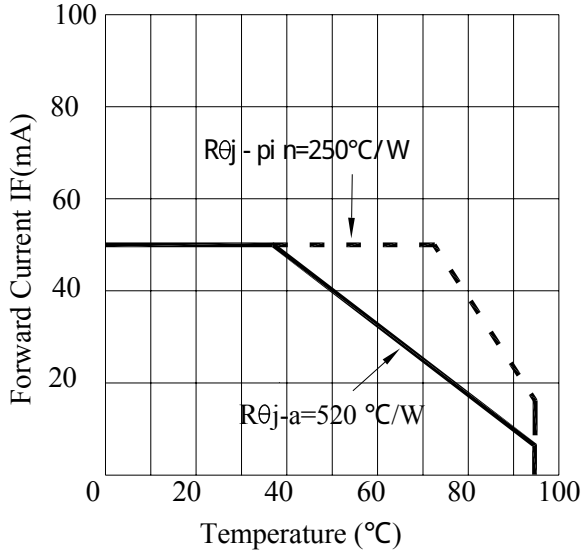
Typical Electrical / Optical Characteristics Curves :



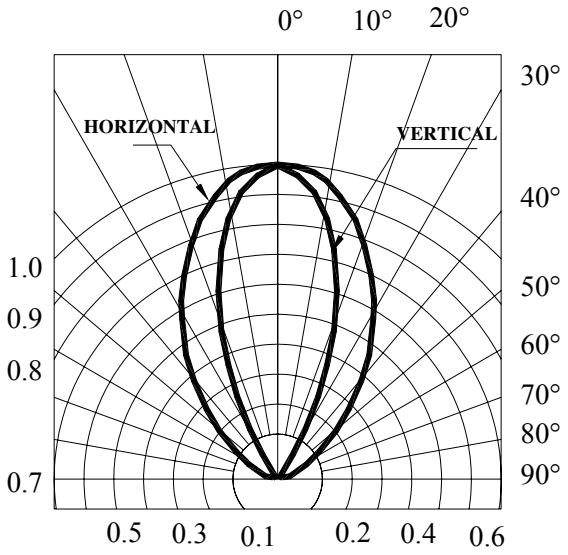
FORWARD CURRENT VS.APPLIED VOLTAGE



FORWARD CURRENT VS. LUMINOUS INTENSITY



FORWARD CURRENT VS. AMBIENT TEMPERATURE



RADIATION DIAGRAM

Specifications for Bin Grading:

Iv(mcd)		
BIN	**MIN.**	**MAX.**
V	**2130**	**3000**
W	**3000**	**4180**

Specifications for Vf Group:

Vf(V)		
Group	**MIN.**	**MAX.**
V2	**1.8**	**2.0**
V3	**2.0**	**2.2**
V4	**2.2**	**2.4**

Precautions:

TAKE NOTE OF THE FOLLOWING IN USE OF LED

1. Temperature in use

Since the light generated inside the LED needs to be emitted to outside efficiently, a resin with high light transparency is used; therefore, additives to improve the heat resistance or moisture resistance (silica gel , etc) which are used for semiconductor products such as transistors cannot be added to the resin.

Consequently, the heat resistant ability of the resin used for LED is usually low; therefore, please be careful on the following during use.

Avoid applying external force, stress, and excessive vibration to the resins and terminals at high temperature. The glass transition temperature of epoxy resin used for the LED is approximately 120-130℃.

At a temperature exceeding this limit, the coefficient of liner expansion of the resin doubles or more compared to that at normal temperature and the resin is softened.

If external force or stress is applied at that time, it may cause a wire rupture.

2. Soldering

Please be careful on the following at soldering.

After soldering, avoided applying external force, stress, and excessive vibration until the products go to cooling process (normal temperature), <Same for products with terminal leads>

(1) Soldering measurements:

Distance between melted solder side to bottom of resin shall be 1.6mm or longer.

(2) Dip soldering :

Pre-heat: 90℃ max. (Backside of PCB), Within 60 seconds.

Solder bath: 260±5℃ (Solder temperature), Within 5 seconds.

(3) Hand soldering: 350℃ max. (Temperature of soldering iron tip), Within 3 seconds.

3. Insertion

Pitch of the LED leads and pitch of mounting holes need to be same.

4. Others

Since the heat resistant ability of the LED resin is low, SMD components are used on the same PCB, please mount the LED after adhesive baking process for SMD components. In case adhesive baking is done after LED lamp insertion due to a production process reason, make sure not to apply external force, stress, and excessive vibration to the LED and follow the conditions below.

Baking temperature: 120℃ max. Baking time: Within 60 seconds.

If soldering is done sequentially after the adhesive baking, please perform the soldering after cooling down the LED to normal temperature.