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# SPECIFICATION

*PART NO. : LT4E11-43-UB93-S05*

**3.0mm ROUND LED LAMP**



Approved by

Checked by

Prepared by

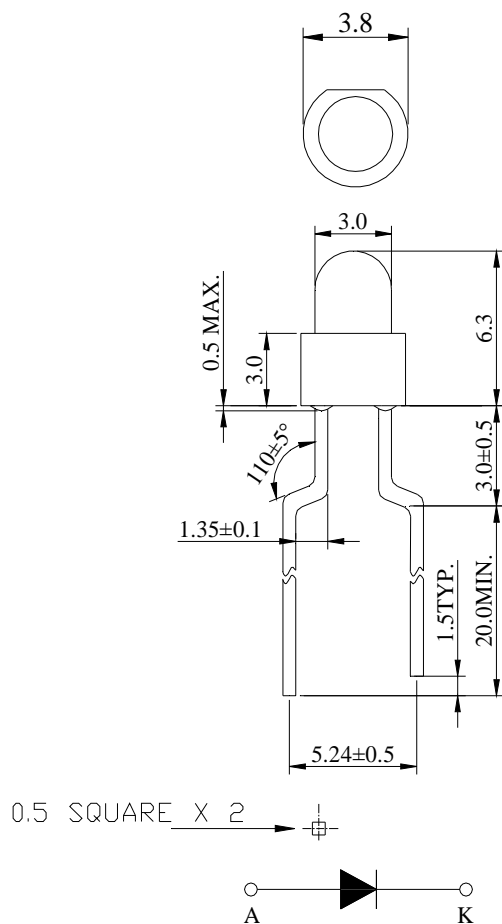
*Yang*

*Lian*

*Haibo*

**Description**

**This deep red lamp is made with AlGaInP/GaAs 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	
LT4E11-43-UB93-S05	AlGaInP/GaAs	Deep red	Red diffused

**Absolute Maximum Ratings at Ta=25°C**

Parameter	Symbol	Rating	Unit
Power Dissipation	P <sub>D</sub>	66	mW
Reverse Voltage	V <sub>R</sub>	5	V
D.C. Forward Current	I <sub>f</sub>	30	mA
Reverse (Leakage) Current	I <sub>r</sub>	10	μA
Peak Current(1/10Duty Cycle,0.1ms Pulse Width.)	I <sub>f</sub> (Peak)	100	mA
Operating Temperature Range	T <sub>opr.</sub>	-25 to +85	°C
Storage Temperature Range	T <sub>stg.</sub>	-40 to +100	°C
Soldering Temperature(1.6mm from body)	T <sub>sol</sub>	Dip Soldering : 260°C for 5 sec. Hand Soldering : 350°C for 3 sec.	

**Electrical and Optical Characteristics:**

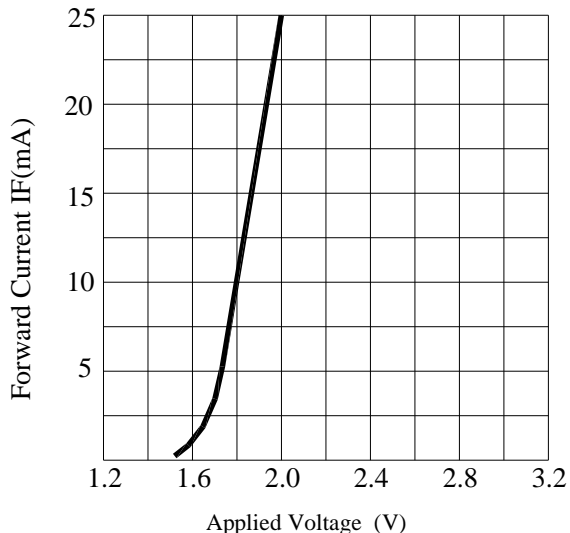
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Intensity	I <sub>v</sub>	I <sub>f</sub> =10mA	52	100	200	mcd
Forward Voltage	V <sub>f</sub>	I <sub>f</sub> =10mA	1.6	1.8	2.2	V
Peak Wavelength	λ <sub>p</sub>	I <sub>f</sub> =10mA		650		nm
Dominant Wavelength	λ <sub>d</sub>	I <sub>f</sub> =10mA	630	639	645	nm
Reverse (Leakage) Current	I <sub>r</sub>	V <sub>r</sub> =5V			10	μA
Viewing Angle	2θ 1/2	I <sub>f</sub> =10mA		60		deg
Spectrum Line Halfwidth	Δλ	I <sub>f</sub> =10mA		20		nm

Notes: 1.Tolerance of Luminous Intensity is ±15%.

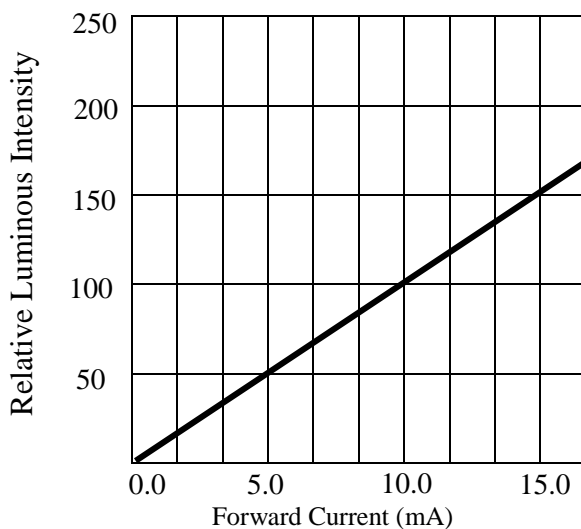
2.Tolerance of Forward Voltage is ±0.1V.

3.Tolerance of Dominant Wavelength is ±1nm.

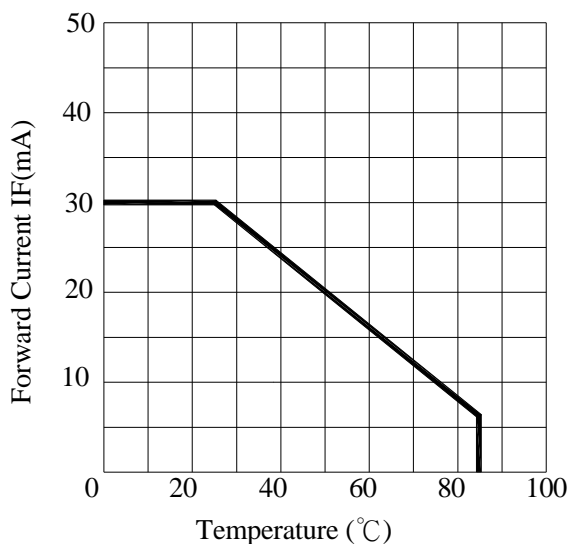
**Typical Electrical / Optical Characteristics Curves :**



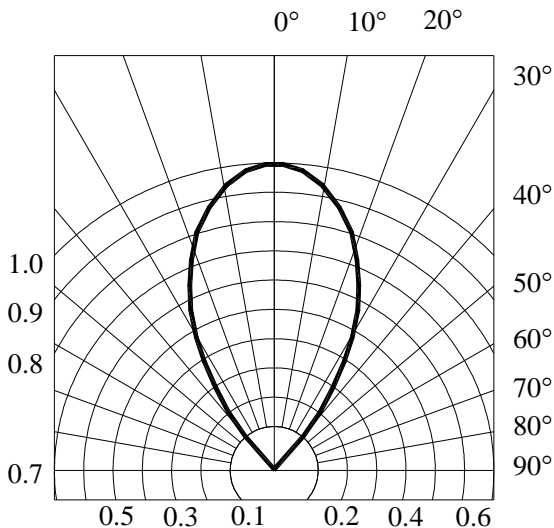
**FORWARD CURRENT VS.APPLIED VOLTAGE**



**FORWARD CURRENT VS. LUMINOUS INTENSITY**



**FORWARD CURRENT VS. AMBIENT TEMPERATURE**



**RADIATION DIAGRAM**

## 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°C. At a temperature exceeding this limit, the coefficient of linear 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°C max. (Backside of PCB), Within 60 seconds.

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

#### (3) Hand soldering: 350°C 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°C 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.

### 5. This LED is designed to be wave solder and dip soldered on to a PCB. If reflow soldered, Ledtech cannot guarantee its reliability.

## Disclaimer

1. Our department reserves the right(s) on the adjustment of product material mix for the specification.
2. The product meets our department published specification for a period of twelve (12) months from date of shipment.
3. The graphs shown in this datasheet are representing typical data only and do not show guaranteed values.
4. When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. Our department assumes no responsibility for any damage resulting from the use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
5. These specification sheets include materials protected under copyright of our department. Reproduction in any form is prohibited without obtaining our department's prior consent.

This product is not intended to be used for military, aircraft, automotive, medical, life sustaining or life saving applications or any other application which can result in human injury or death. Please contact authorized our department sales agent for special application request.

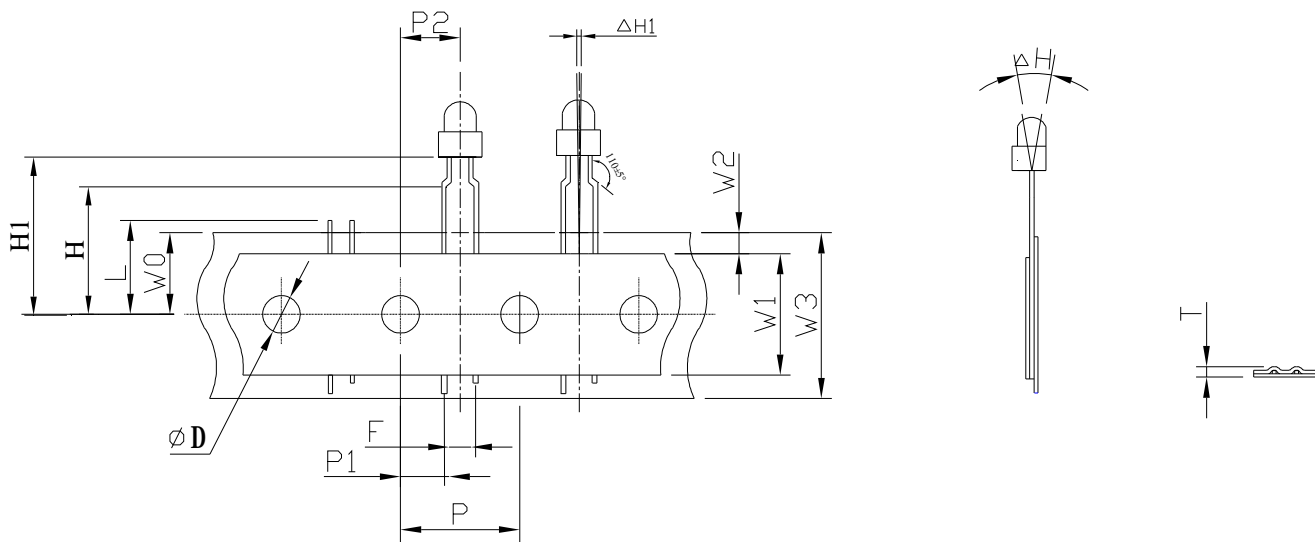
**Features**

- \*COMPATIBLE WITH RADIAL LEAD AUTO INSERTION EQUIPMENT
- \*3mm ROUND LAMP AVAILABLE PACKAGED ON TAPE AND BOX

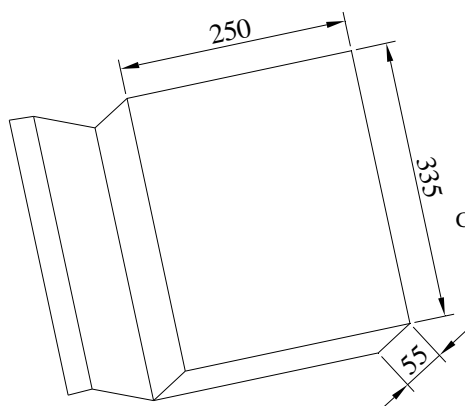
**Description**

THE ABSOLUTE MAXIMUM RATINGS, ELECTRICAL/OPTICAL CHARACTERISTICS AND PACKAGE DIMENSIONS FOR LAMPS PACKAGED ON T/R ARE IDENTICAL TO THE BASIC DEVICE. 3mm ROUND LAMPS ARE PACKAGED 3000 PER BOX RESPECTIVELY.

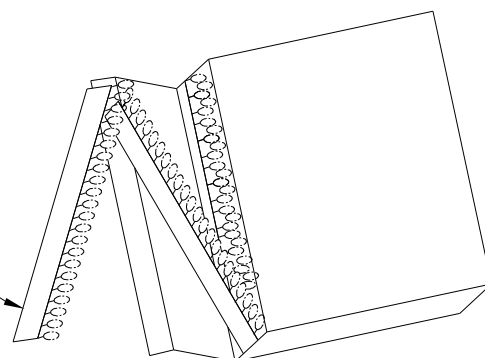
Dimensions for Tape



SYMBOL	SPECIFICATION		SYMBOL	SPECIFICATION	
	MINIMUM (mm)	MAXIMUM (mm)		MINIMUM (mm)	MAXIMUM (mm)
D	3.80	4.20	P1	3.0	4.4
F	4.74	5.74	P2	5.05	7.65
ΔH	----	2.00	T	----	1.42
H	18.5	19.5	W0	8.75	9.5
L	W0	11.0	W1	14.5	15.5
ΔH1	----	2.00	W2	0.00	4.00
H1	21.0	23.0	W3	17.5	19.0
P	12.4	13.0			



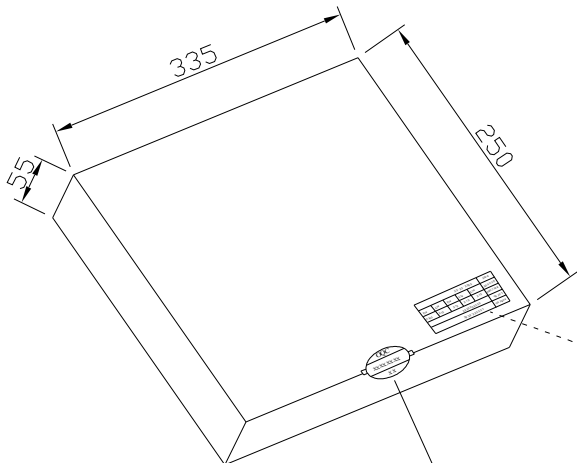
CATHODE LEAD LEAVES BOX FIRST



NOTE:  
 1. ALL DIMENSIONS ARE IN mm, TOLERANCE IS ±2.0mm UNLESS OTHERWISE NOTED.  
 2. SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

**ENCASED TYPE**

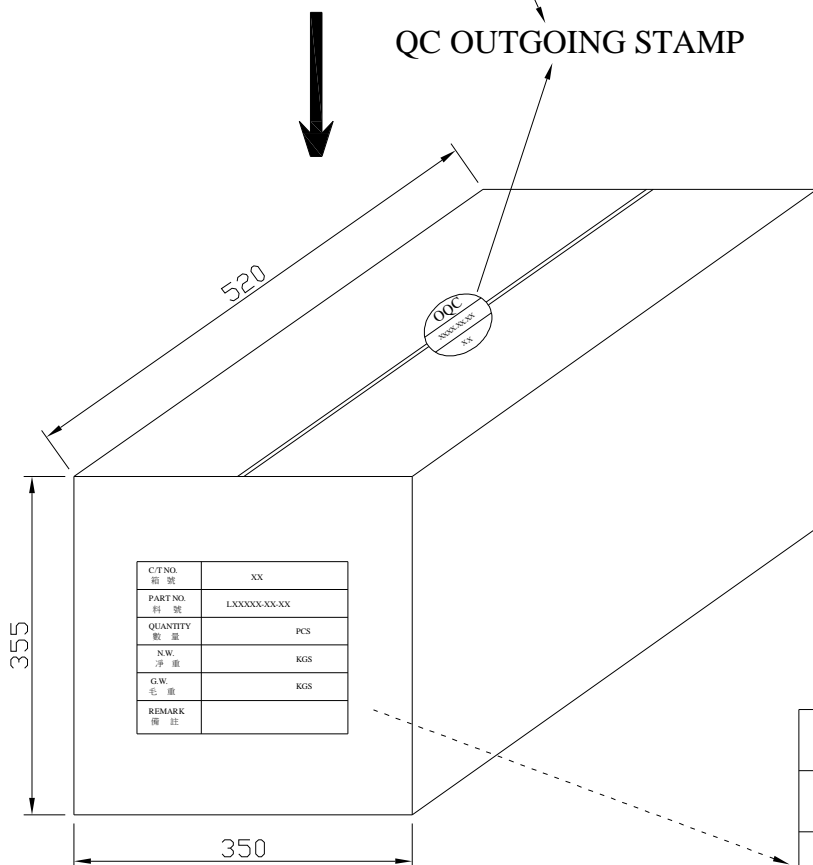
**SMALL CARTON  
QUANTITY: 3000 PCS**



PART NO.	LXXXXX-XX-XX				
LOT NO.	XXXXXXXXXX				
BIN CODE	Xx X	Xx X	Xx X	Xx X	TOTAL
QUANTITY	PCS	PCS	PCS	PCS	PCS
DATE	XXXX, XX, XX				

**QC OUTGOING STAMP**

**SMALL CARTON  
QUANTITY: 36,000 PCS**



C/T NO. 箱號	XX
PART NO. 料號	LXXXXX-XX-XX
QUANTITY 數量	PCS
N.W. 淨重	KGS
G.W. 毛重	KGS
REMARK 備註	

C/T NO. 箱號	XX
PART NO. 料號	LXXXXX-XX-XX
QUANTITY 數量	PCS
N.W. 淨重	KGS
G.W. 毛重	KGS
REMARK 備註	