



LEDTECH ELECTRONICS CORP.

# SPECIFICATION

*PART NO. : UT9C13-86-UDC2*

*5.0MM ROUND LED LAMP*

|             |             |                |
|-------------|-------------|----------------|
| Approved by | Checked by  | Prepared by    |
| <i>Jack</i> | <i>Jang</i> | <i>Bao Min</i> |



# 5.0MM ROUND LED LAMP PART NO. :UT9C13-86-UDC2

Page : 1/5

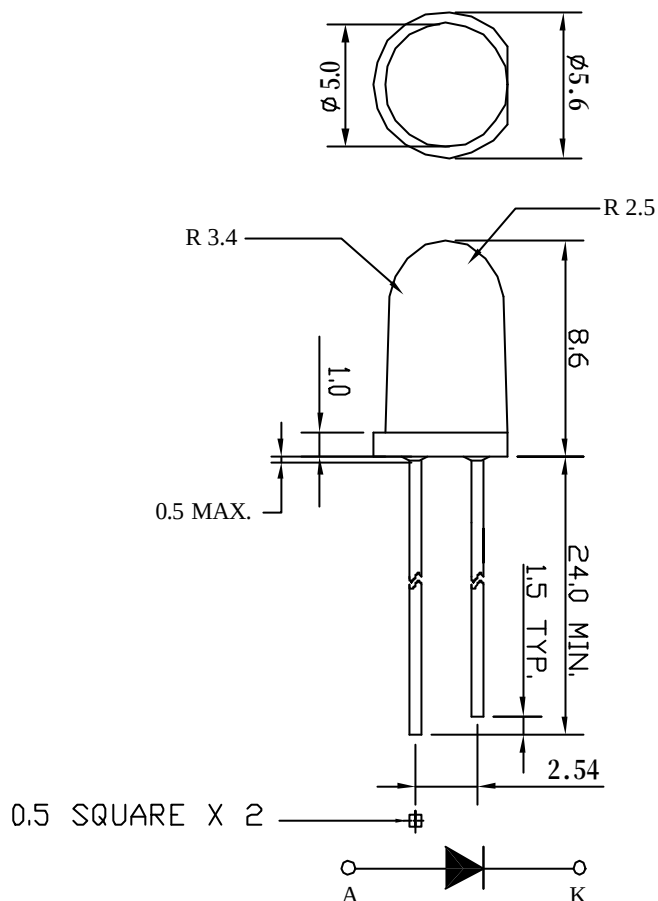
## Features

- \* High intensity
- \* Reliable and rugged
- \* Low current requirement
- \* IC compatible

## Description

The Super red lamp are made with AlGaInP/GaAs chip and water clear epoxy resin.

## Package Dimensions



Notes:

- 1.All dimensions are in millimeters.
- 2.Tolerance is  $\pm 0.25$ mm unless otherwise noted.

| Part No.       | Led Chip     |                | Lens Color  |
|----------------|--------------|----------------|-------------|
|                | Material     | Emitting Color |             |
| UT9C13-86-UDC2 | AlGaInP/GaAs | Super red      | Water clear |



**5.0MM ROUND LED LAMP**  
**PART NO. :UT9C13-86-UDC2**

**Page : 2/5**

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

| Parameter                                           | Symbol   | Rating      | Unit |
|-----------------------------------------------------|----------|-------------|------|
| Power Dissipation                                   | Pd       | 72          | mW   |
| Reverse Voltage                                     | Vr       | 4           | V    |
| D.C. Forward Current                                | If       | 30          | mA   |
| Peak Current (1/10 Duty Cycle , 0.1 ms Pulse Width) | If(Peak) | 100         | mA   |
| Operating Temperature Range                         | Topr     | -25 to +85  | °C   |
| Storage Temperature Range                           | Tstg     | -40 to +100 | °C   |
| Lead Soldering Temp.(1.6mm from body) for 5 seconds |          | 260         | °C   |

**Electrical and Optical Characteristics :**

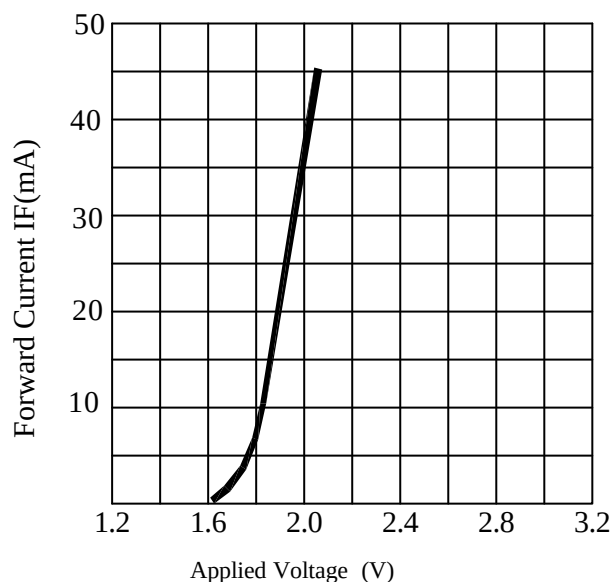
| Parameter               | Symbol           | Condition | Min. | Typ. | Max. | Unit    |
|-------------------------|------------------|-----------|------|------|------|---------|
| Luminous Intensity      | Iv               | If=20mA   | 1600 | 2700 |      | mcd     |
| Forward Voltage         | Vf               | If=20mA   |      | 1.9  | 2.4  | V       |
| Peak Wavelength         | $\lambda$ P      | If=20mA   |      | 639  |      | nm      |
| Dominant Wavelength     | $\lambda$ D      | If=20mA   |      | 630  |      | nm      |
| Reverse Current         | Ir               | Vr=4V     |      |      | 100  | $\mu$ A |
| Viewing Angle           | 2 $\theta$ 1/2   | If=20mA   |      | 18   |      | deg     |
| Spectrum Line Halfwidth | $\Delta \lambda$ | If=20mA   |      | 20   |      | nm      |



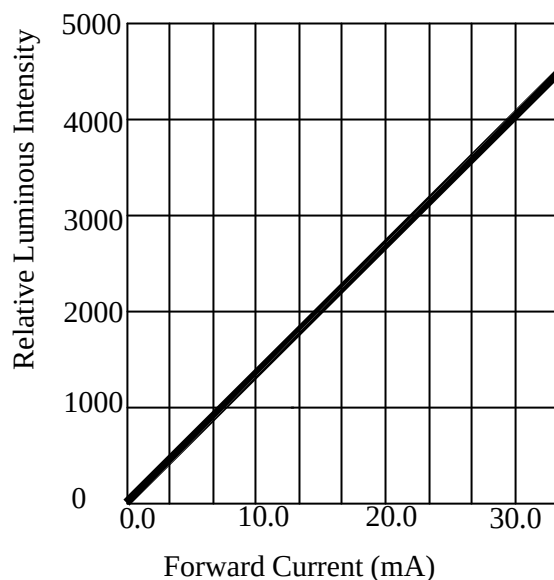
**5.0MM ROUND LED LAMP**  
**PART NO. :UT9C13-86-UDC2**

Page : 3/5

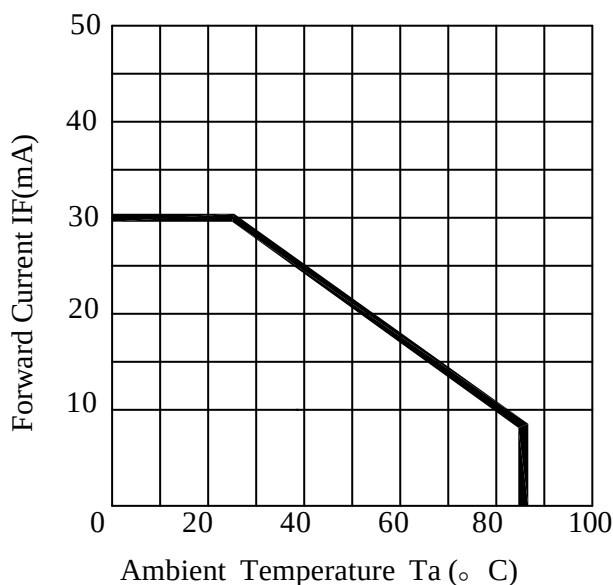
**Typical Electrical / Optical Characteristics Curves :**



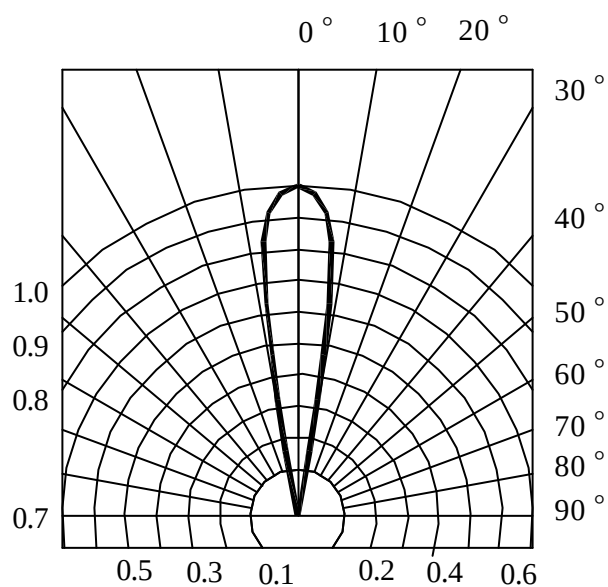
**FORWARD CURRENT VS. APPLIED VOLTAGE**



**FORWARD CURRENT VS. LUMINOUS INTENSITY**



**AMBIENT TEMPERATURE VS. FORWARD CURRENT**



**RADIATION DIAGRAM**



**5.0MM ROUND LED LAMP**  
**PART NO. :UT9C13-86-UDC2**

Page : 4/5

**Reliability Test Method :**

| Test Item                                 | Test Condition                    | Duration Time |
|-------------------------------------------|-----------------------------------|---------------|
| Operation Life                            | If=20mA / Ta=25°C                 | 168hrs        |
| Storage at High Temperature               | Ta=100°C                          | 168hrs        |
| Storage at Low Temperature                | Ta=-40 °C                         | 168hrs        |
| Storage at High Temperature/High Humidity | Ta=85 °C /RH=85 %                 | 168hrs        |
| Operating at High Temperature             | Ta=85 °C / If=20mA                | 168hrs        |
| Operating at Low Temperature              | Ta=-25 °C / If=20mA               | 168hrs        |
| Thermal Shock                             | Ta/T=100°C/30min~<br>-40 °C/30min | 10 cycles     |
| Solderability                             | Tsol=230 °C                       | 5 sec         |

**Criteria for Judging The Damage:**

| Item               | Symbol | Test Condition | Criteria for Judgment |                   |
|--------------------|--------|----------------|-----------------------|-------------------|
|                    |        |                | Min.                  | Max.              |
| Forward Voltage    | Vf     | If=20mA        | -----                 | Initial Data x1.1 |
| Reverse Current    | Ir     | Vr=4V          | -----                 | 100 μ A           |
| Luminous Intensity | Iv     | If=20mA        | Initial Data x0.8     | -----             |



# 5.0MM ROUND LED LAMP

## PART NO. :UT9C13-86-UDC2

Page : 5/5

### ENCASED TYPE

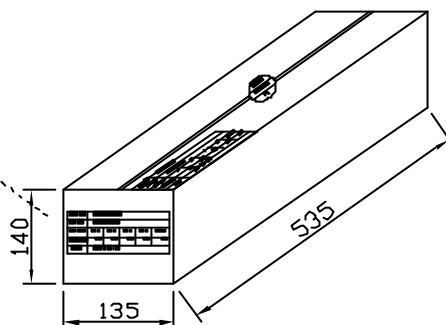
PLASTIC PACKAGE  
QUANTITY: 1,000 PCS

LEDTECH ELECTRONICS CORP.  
PART NO :LTXXXX-XX  
QTY : PCS  
LOT NO :XXXXXXXXXX  
DATE :  
BIN CODE:



INNER BOX  
QUANTITY: 10 PACKETS  
TOTAL: 10,000 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 |      |      |      |       |



OUTER CARTON  
QUANTITY: 4 BOX  
TOTAL: 40,000 PCS

|                 |              |
|-----------------|--------------|
| C/T NO.<br>箱 號  | XX           |
| PART NO.<br>料 號 | LXXXXX-XX-XX |
| QUANTITY<br>數 量 | PCS          |
| N.W.<br>淨 重     | KGS          |
| G.W.<br>毛 重     | KGS          |
| REMARK<br>備 註   |              |

