



LIGHTING FOREVER

## Technical Data Sheet

### 3.0mm Round Type LED Lamps

#### 204-10SURD/S530-A3

#### ■ Features :

- Choice of various viewing angles
- Available on tape and reel.
- Reliable and robust
- Pb free
- The product itself will remain within RoHS compliant version.



#### ■ Descriptions :

- The series is specially designed for applications requiring higher brightness
- The led lamps are available with different colors, intensities.

#### ■ Applications :

- TV set
- Monitor
- Telephone
- Computer

| PART NO.           | Material | Emitted Color | Lens Color   |
|--------------------|----------|---------------|--------------|
| 204-10SURD/S530-A3 | AlGaInP  | Brilliant Red | Red Diffused |



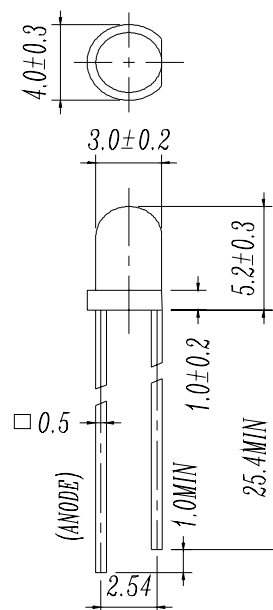
LIGHTING FOREVER

## Technical Data Sheet

### 3.0mm Round Type LED Lamps

204-10SURD/S530-A3

#### Package Dimensions



- Notes: 1. All dimensions are in millimetres  
2. The height of flange must be less than 1.5mm(0.059").  
3. Without special declared,the tolerance is  $\pm 0.25$ mm.

#### Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

| Parameter               | Symbol             | Rating      | Unit             |
|-------------------------|--------------------|-------------|------------------|
| Forward Current         | $I_F$              | 25          | mA               |
| Operating Temperature   | $T_{opr}$          | -40 to +85  | $^\circ\text{C}$ |
| Storage Temperature     | $T_{stg}$          | -40 to +100 | $^\circ\text{C}$ |
| Soldering Temperature   | $T_{sol}$          | $260 \pm 5$ | $^\circ\text{C}$ |
| Electrostatic Discharge | ESD                | 2000        | V                |
| Power Dissipation       | $P_d$              | 60          | mW               |
| Peak Forward Current    | $I_F(\text{Peak})$ | 60          | mA               |
| Reverse Voltage         | $V_R$              | 5           | V                |

Note: \*1:Soldering time  $\leq 5$  seconds.

\*2.Soldering Iron :Basic spec is  $\leq 5$  sec when  $350 \pm 5^\circ\text{C}$  .If temperature is higher, time should be shorter (+10 $^\circ\text{C}$ )



LIGHTING FOREVER

## Technical Data Sheet

### 3.0mm Round Type LED Lamps

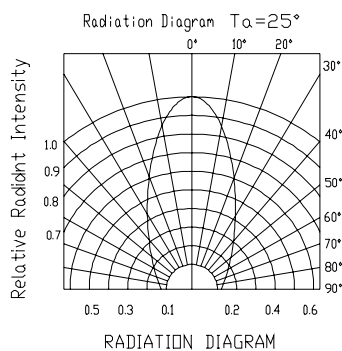
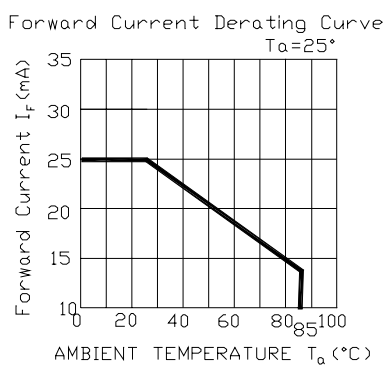
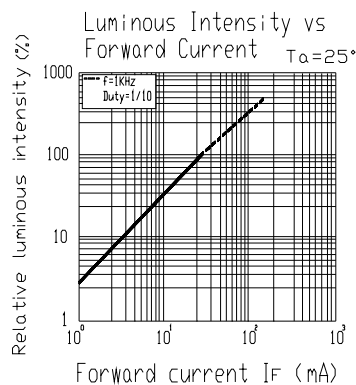
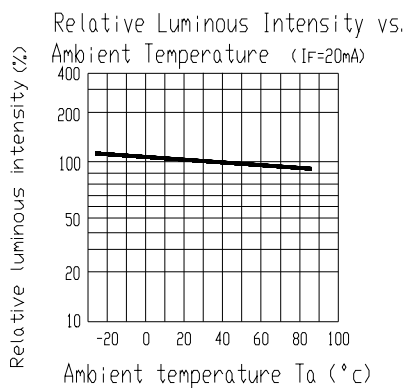
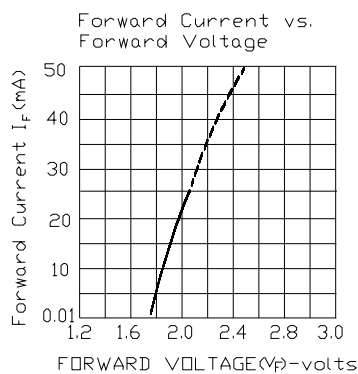
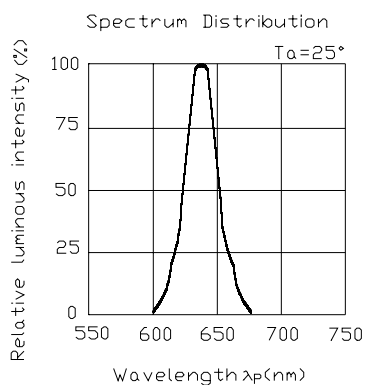
204-10SURD/S530-A3

#### Electro-Optical Characteristics (Ta=25°C)

| Parameter                    | Symbol         | Condition              | Min. | Typ. | Max. | Unit |
|------------------------------|----------------|------------------------|------|------|------|------|
| Forward Voltage              | V <sub>F</sub> | I <sub>F</sub> = 20 mA | /    | 2.0  | 2.4  | V    |
| Reverse Current              | I <sub>R</sub> | V <sub>R</sub> = 5 V   | /    | /    | 10   | μA   |
| Luminous Intensity           | I <sub>v</sub> | I <sub>F</sub> = 20 mA | 40   | 80   | /    | mcd  |
| Viewing Angle                | 2θ 1/2         | I <sub>F</sub> = 20 mA | /    | 45   | /    | deg  |
| Peak Wavelength              | λ <sub>p</sub> | I <sub>F</sub> = 20 mA | /    | 632  | /    | nm   |
| Dominant Wavelength          | λ <sub>d</sub> | I <sub>F</sub> = 20 mA | /    | 624  | /    | nm   |
| Spectrum Radiation Bandwidth | △λ             | I <sub>F</sub> = 20 mA | /    | 20   | /    | nm   |

■ Typical Electro-Optical Characteristic Curves:

< SUR >





LIGHTING FOREVER

## Technical Data Sheet

### 3.0mm Round Type LED Lamps

204-10SURD/S530-A3

#### ■ Reliability test items and conditions:

The reliability of products shall be satisfied with items listed below.

Confidence level : 97%

LTPD : 3%

| NO | Item                             | Test Conditions                                | Test Hours/Cycle | Sample Size | Failure Judgment Criteria                                     | Ac/Re |
|----|----------------------------------|------------------------------------------------|------------------|-------------|---------------------------------------------------------------|-------|
| 1  | Solder Heat                      | TEMP : 260°C ± 5 °C                            | 10 SEC           | 76 PCS      | $I_v \leq I_{vt} * 0.5$ or<br>$V_f \geq U$ or<br>$V_f \leq L$ | 0/1   |
| 2  | Temperature Cycle                | H : +100°C 15min<br>§ 5 min<br>L : -40°C 15min | 300 CYCLES       | 76 PCS      |                                                               | 0/1   |
| 3  | Thermal Shock                    | H : +100°C 5min<br>§ 10 sec<br>L : -10°C 5min  | 300 CYCLES       | 76 PCS      |                                                               | 0/1   |
| 4  | High Temperature Storage         | TEMP : 100°C                                   | 1000 HRS         | 76 PCS      |                                                               | 0/1   |
| 5  | Low Temperature Storage          | TEMP : -40°C                                   | 1000 HRS         | 76 PCS      |                                                               | 0/1   |
| 6  | DC Operating Life                | TEMP : 25°C<br>IF = 20mA                       | 1000 HRS         | 76 PCS      |                                                               | 0/1   |
| 7  | High Temperature / High Humidity | 85°C / 85% RH                                  | 1000 HRS         | 76 PCS      |                                                               | 0/1   |

Note : Ivt : To test I<sub>v</sub> value of the chip before the reliability test

I<sub>v</sub> : The test value of the chip that has completed the reliability test

U : Upper Specification Limit

L : Lower Specification Limit



LIGHTING FOREVER

## Technical Data Sheet

### 3.0mm Round Type LED Lamps

204-10SURD/S530-A3

#### Packing Quantity Specification

1.1000PCS/1Bag · 4Bags/1Box

2.10Boxes/1Carton

#### Label Form Specification

|                    |                  |  |
|--------------------|------------------|--|
|                    | <b>EVERLIGHT</b> |  |
| CPN:<br>P/N:       |                  |  |
|                    |                  |  |
| 204-10SURD/S530-A3 |                  |  |
| QTY:               | CAT:             |  |
|                    | HUE:             |  |
| LOT NO:            | REF:             |  |
|                    |                  |  |
| Reference:         |                  |  |
|                    |                  |  |

CPN: Customer's Production Number

P/N : Production Number

QTY: Packing Quantity

CAT: Ranks

HUE: Dominant Wavelength

REF: Reference

LOT No: Lot Number

#### Notes

1. Above specification may be changed without notice. EVERLIGHT will reserve authority on material change for above specification.
2. When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. EVERLIGHT assumes no responsibility for any damage resulting from use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
3. These specification sheets include materials protected under copyright of EVERLIGHT corporation. Please don't reproduce or cause anyone to reproduce them without EVERLIGHT's consent.

EVERLIGHT ELECTRONICS CO., LTD.

Office: No 25, Lane 76, Sec 3, Chung Yang Rd,

Tucheng, Taipei 236, Taiwan, R.O.C

Tel: 886-2-2267-2000, 2267-9936

Fax: 886-2267-6244, 2267-6189, 2267-6306

<http://www.everlight.com>

# HandsOn Technology

<http://www.handsontec.com>

creativity for tomorrow's better living...

*HandsOn Tech provides a multimedia and interactive platform for everyone interested in electronics. From beginner to diehard, from student to lecturer... Information, education, inspiration and entertainment. Analog and digital; practical and theoretical; software and hardware...*



HandsOn Technology support Open Source Hardware(OSHW) Development Platform.

***Learn : Design : Share***

[www.handsontec.com](http://www.handsontec.com)



[www.handsontec.com](http://www.handsontec.com)



[www.handsontec.com](http://www.handsontec.com)

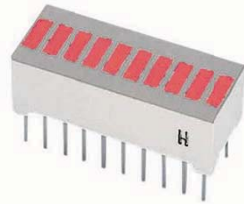


[www.handsontec.com](http://www.handsontec.com)

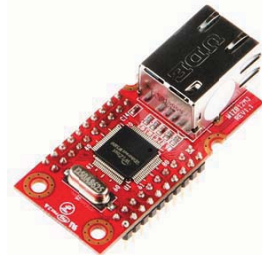
## Welcome to Handsontec Store



LCD+Keyboard Shield



10-Segments LED Bar Display



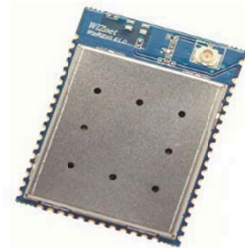
Ethernet Module



Arduino Uno



MicroSD Breakout Board



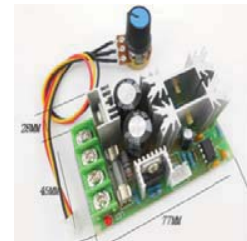
WiFi Module



20x4 LCD Display Module



Stepper Motor Driver



PWM Motor Speed Controller



[www.handsontec.com](http://www.handsontec.com)  
Breakout Board & Modules



[www.handsontec.com](http://www.handsontec.com)  
Integrated Circuits



[www.handsontec.com](http://www.handsontec.com)  
Discrete Parts



[www.handsontec.com](http://www.handsontec.com)  
Assembled Kits



[www.handsontec.com](http://www.handsontec.com)  
Connectors