## Technical Data Sheet 3.0mm Round Type LED Lamps

## 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
204-10SURC/S400-A8	AlGaInP	Hyper Red	Water Clear

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CG0408022,R0402353

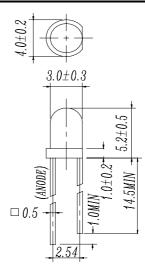
204-10SURC/S400-A8



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#### Package Dimensions

## 204-10SURC/S400-A8



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 ±0.25mm.

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

Parameter	Symbol	Rating	Unit
Forward Current	IF	50	mA
Operating Temperature	Topr	-40 to +85	°C
Storage Temperature	Tstg	-40 to +100	°C
Electrostatic Discharge	ESD	2000	V
Soldering Temperature	Tsol	260 ± 5	°C
Power Dissipation	Pd	120	mW
Reverse Voltage	VR	5	V

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

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#### Condition Parameter Min. Max. Unit Symbol Typ. Forward Voltage VF V I<sub>F</sub>= 20 / 2.0 2.4 mА Reverse Current V IR V<sub>R</sub>= 5 / / 10 μΑ Luminous Intensity Iv $I_F =$ 20 25 50 / mА mcd Viewing Angle $2\theta 1/2$ / 20 / I<sub>F</sub>= 20 mА deg Peak Wavelength λp $I_F =$ 20 mА / 632 / nm Dominant Wavelength / 624 λd $I_F =$ 20 / mА nm Spectrum Radiation / $\Delta \lambda$ I<sub>F</sub>= 20 mА 20 / nm Bandwidth

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

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#### 204-10SURC/S400-A8 Typical Electro-Optical Characteristic Curves: (SUR) Spectrum Distribution Forward Current vs. Voltage Relative luminous intensity (%) Forward Ta=25' 100 50 Forward Current I<sub>F</sub>(mA) 75 40 30 50 20 25 10 0 0.01 750 550 700 600 650 3.0 1.6 2.0 2.4 2.8 1.2 FORWARD VOLTAGE(Vp)-volts Wavelength xp(nm) Relative Luminous Intensity vs. Luminous Intensity vs S Ambient Temperature (IF=20mA) Forward Current Relative luminous intensity (%) Ta=25\* 400 1000 intensity f=1KHz Duty=1/10 200 100 100 Relative luminous 50 10 20 10 0 -20 20 40 60 80 100 10 10 10 10 Ambient temperature Ta (°c) Forward current IF (mA) Forward Current Derating Curve Radiation Diagram Ta=25° Τα=25° 35 Forward Current I<sub>F</sub>(mA) Relative Radiant Intensity 30' 30 1.0 25 0.9 20 0.8 60 70**°** 15 80\* 90 10 0.5 0.3 0.1 0.2 0.4 0.6 20 40 60 8085100 RADIATION DIAGRAM

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## 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: $260^{\circ}$ C ± 5 °C	10 SEC	76 PCS	Iv $\leq$ Ivt*0.5 or Vf $\geq$ U or Vf $\leq$ L	0/1
2	Temperature Cycle	H:+100°C 15min ∫ 5 min L:-40°C 15min	300 CYCLES	76 PCS		0/1
3	Thermal Shock	H : +100°C 5min ∫ 10 sec L : -10°C 5min	300 CYCLES	76 PCS		0/1
4	High Temperature Storage	TEMP : $100^{\circ}$ 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 IF = 20mA	1000 HRS	76 PCS		0/1
7	High Temperature / High Humidity	85℃ / 85% RH	1000 HRS	76 PCS		0/1

Note : Ivt : To test Iv value of the chip before the reliablility test

 $\operatorname{Iv}\,$  : The test value of the chip that has completed the reliablility test

U: Upper Specification Limit

L: Lower Specification Limit

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Packing Quantity Specification

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#### 1.1000PCS/1Bag , 4Bags/1Box 2.10Boxes/1Carton Label Form Specification **EVERLIGHT** CPN: P/N: -10SURC/S400-A8 204QTY: CAT: HUE:

REF:

## LOT NO: EL

CPN: Customer's Production Number P/N: Production Number QTY: Packing Quantity CAT: Ranks HUE: Dominant Wavelength **REF:** Reference LOT No: Lot Number MADE IN TAIWAN: Production Place

#### MADE IN TAIWAN

#### 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

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