

EVERLIGHT

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工程文件 ☐ 制訂 ☒ 變更 通知單

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15-21SDRC/S530-XX/TR8

變更項目：

- ☐ 材料變更
☐ 製程變更
☐ 設備、治具
☐ 規格變更
☐ 新制定規格
☒ 格式變更

處理方式：

- ☐ 舊材料處理方式：
☐ WIP :
☐ 舊庫存 :

文件制定/變更理由：(請詳細說明。)

變更爲NEW FORM

*ECN編號由文件中心提供。

MAR 05 2002

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EVERLIGHT ELECTRONICS CO.,LTD.




DATA SHEET

PART NO. : 15-21SDRC/S530-XX/TR8

DATE : 2002/2/25

DEPARTMENT : R.D.1

REVISION : 1.1

| | | | |
|---|---|---|--|
| RECEIVED | | | |
| <input checked="" type="checkbox"/> MASS PRODUCTION | | | |
| <input type="checkbox"/> PRELIMINARY | | | |
| <input type="checkbox"/> CUSTOMER DESIGN | | | |
| DEVICE NUMBER : DSE-151-079 | | | |
| PAGE : 7 | | | |
| CUSTOMER | DESIGNER | CHECKER | APPROVER |
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|-----|-------------|--------------|
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| 1.1 | Update data | 2002/2/25 |
| REV | DESCRIPTION | RELEASE DATE |

OFFICE : NO 25, Lane 76, Chung Yang Rd, Sec.3 Tucheng, Taipei 236, Taiwan, R.O.C.

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EVERLIGHT EVERLIGHT ELECTRONICS CO.,LTD.

Technical Data Sheet

1206 Package Chip LED

15-21SDRC/S530-XX/TR8

Features

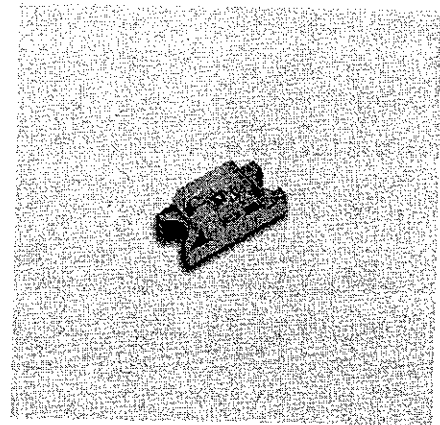
- Package in 8mm tape on 7" diameter reel.
- Compatible with automatic placement equipment.-
- Compatible with infrared and vapor phase reflow solder process.
- Mono-color type.

Descriptions

- The 15-21 SMD Taping is much smaller than lead frame type components, thus enable smaller board size, higher packing density, reduced storage space and finally smaller equipment to be obtained.
- Besides, lightweight makes them ideal for miniature applications. etc.

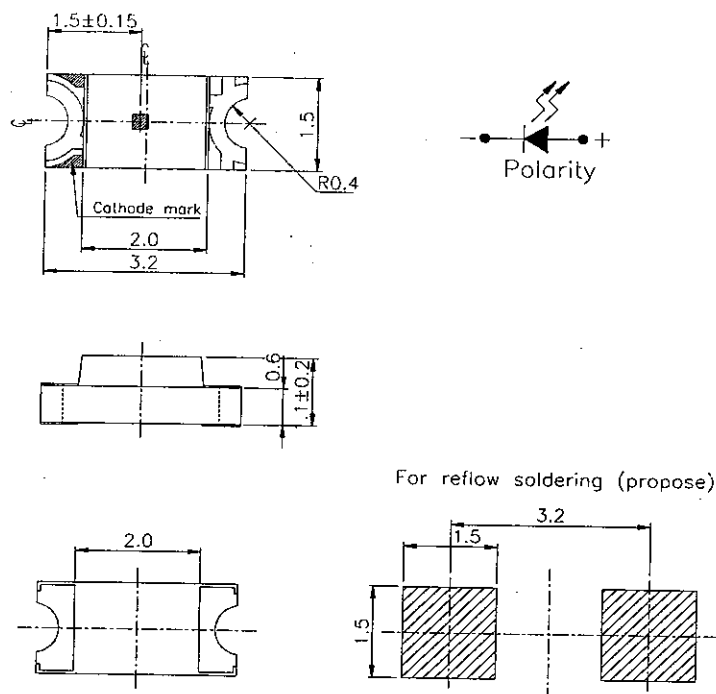
Applications

- Automotive: backlighting in dashboard and switch.
- Telecommunication: indicator and backlighting in telephone and fax.
- Flat backlight for LCD, switch and symbol.
- General use.



Device Selection Guide

| Chip | | Lens Color |
|----------|----------------|-------------|
| Material | Emitted Color | |
| AlGaInP | Super Deep Red | Water Clear |

Package Outline Dimensions


Notes: Tolerances Unless Dimension $\pm 0.1\text{mm}$, Angle $\pm 0.5^\circ$, Unit = mm

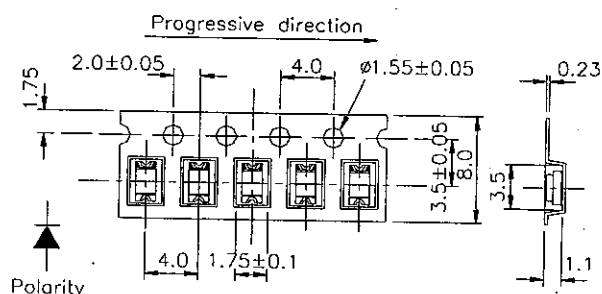
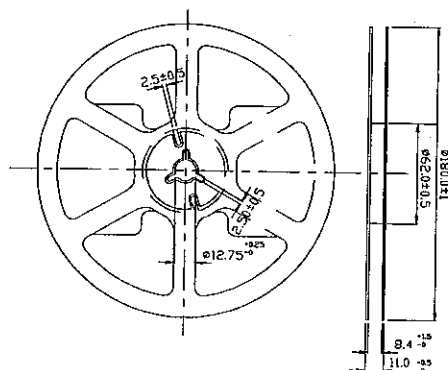
Absolute Maximum Ratings (Ta=25°C)

| Parameter | Symbol | Rating | Unit |
|---|-----------|--------------------|------|
| Reverse Voltage | V_R | 5 | V |
| Forward Current | I_F | 25 | mA |
| Operating Temperature | T_{opr} | -40 ~ +85 | °C |
| Storage Temperature | T_{stg} | -40 ~ +90 | °C |
| Soldering Temperature | T_{sol} | 260 (for 5 second) | °C |
| Electrostatic Discharge | ESD | 2000 | V |
| Power Dissipation | P_d | 60 | mW |
| Peak Forward Current (Duty 1/10 @1KHz) | I_F | 160 | mA |

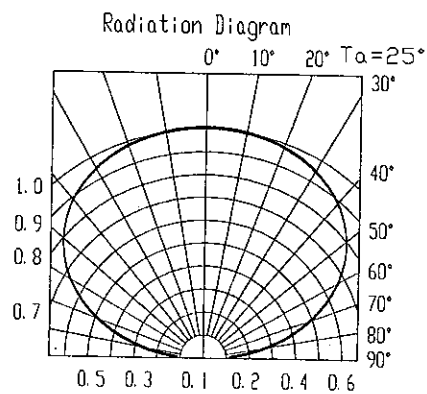
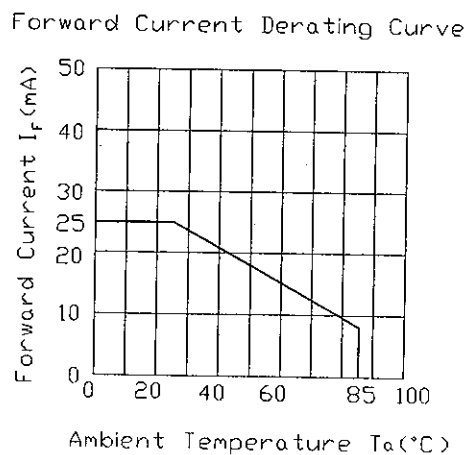
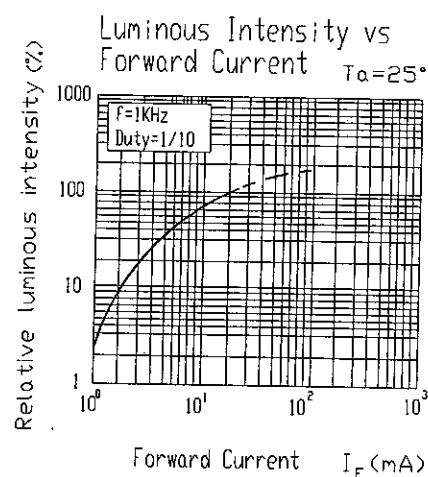
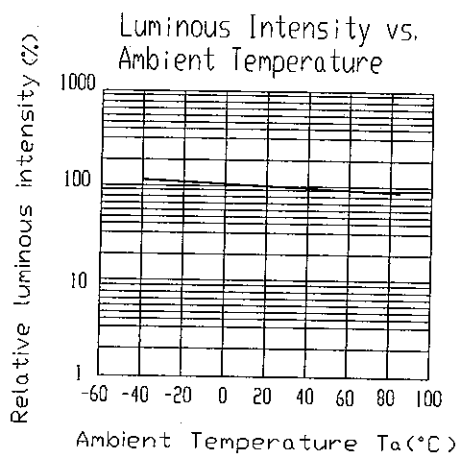
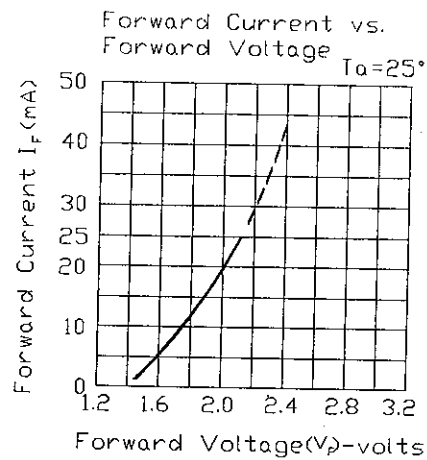
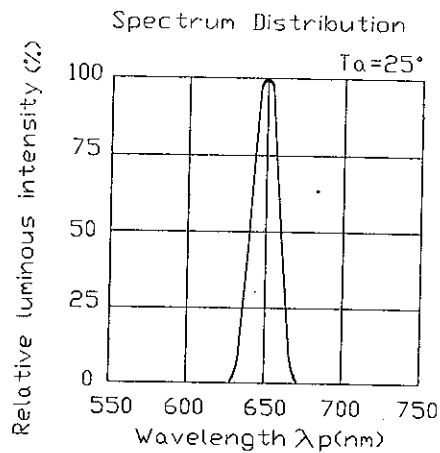
15-21SDRC/S530-XX/TR8
Electro-Optical Characteristics (Ta=25°C)

| Parameter | Symbol | *Chip Rank | Min. | Typ. | Max. | Unit | Condition |
|------------------------------|----------------|------------|-------|-------|-------|------|-----------------------|
| Luminous Intensity | I _v | A2 | 16 | 23 | ----- | mcd | I _F =20 mA |
| | | A3 | 26 | 33 | ----- | | |
| | | A4 | 31 | 40 | ----- | | |
| | | A5 | 42 | 52 | ----- | | |
| | | A6 | 52 | 65 | ----- | | |
| Viewing Angle | 2θ 1/2 | ----- | ----- | 140 | ----- | deg | I _F =20mA |
| Peak Wavelength | λ _p | ----- | ----- | 650 | ----- | nm | I _F =20mA |
| Dominant Wavelength | λ _d | ----- | ----- | 639 | ----- | nm | I _F =20mA |
| Spectrum Radiation Bandwidth | Δλ | ----- | ----- | 20 | ----- | nm | I _F =20mA |
| Forward Voltage | V _F | ----- | ----- | 2.0 | 2.4 | V | I _F =20mA |
| Reverse Current | I _R | ----- | ----- | ----- | 10 | μA | V _R =5V |

***15-21SDRC/S530-XX/TR8**

Chip Rank
Reel & Carrier Tape Dimensions
Loaded quantity per reel 2000 PCS/reel

Notes: Tolerances Unless Dimension ± 0.1mm , Angle± 0.5° ,Unit = mm

Typical Electro-Optical Characteristics Curves



15-21SDRC/S530-XX/TR8**Reliability Test Items And Conditions**

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

Confidence level : 90 %

LTPD : 10 %

| No. | Items | Test Condition | Test Hours/Cycles | Sample Size | Ac/Rc |
|-----|----------------------------------|--|-------------------|-------------|-------|
| 1 | Reflow | Temp. : $240^{\circ}\text{C} \pm 5^{\circ}\text{C}$ Min. 5 sec. | 6 min. | 22 Pcs. | 0/1 |
| 2 | Temperature Cycle | H : $+85^{\circ}\text{C}$ 30min. § 5 min. L : -55°C 30min. | 50 Cycles | 22 Pcs. | 0/1 |
| 3 | Thermal Shock | H : $+100^{\circ}\text{C}$ 5min. § 10 sec. L : -10°C 5min. | 50 Cycles | 22 Pcs. | 0/1 |
| 4 | High Temperature Storage | Temp. : 100°C | 1000 Hrs. | 22 Pcs. | 0/1 |
| 5 | Low Temperature Storage | Temp. : -55°C | 1000 Hrs. | 22 Pcs. | 0/1 |
| 6 | DC Operating Life | $I_F = 20 \text{ mA}$ | 1000 Hrs. | 22 Pcs. | 0/1 |
| 7 | High Temperature / High Humidity | $85^{\circ}\text{C}/\text{R.H}85\%$ | 1000 Hrs. | 22 Pcs. | 0/1 |

15-21SDRC/S530-XX/TR8**Precautions For Use****1. Over-current-proof**

Customer must apply resistors for protection , otherwise slight voltage shift will cause big current change (Burn out will happen).

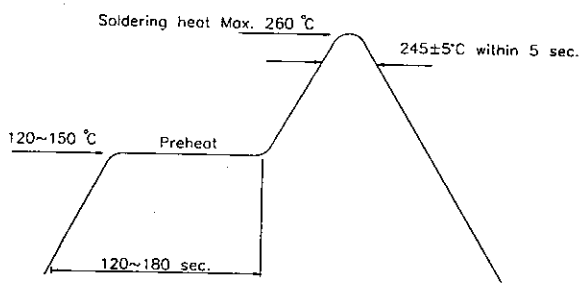
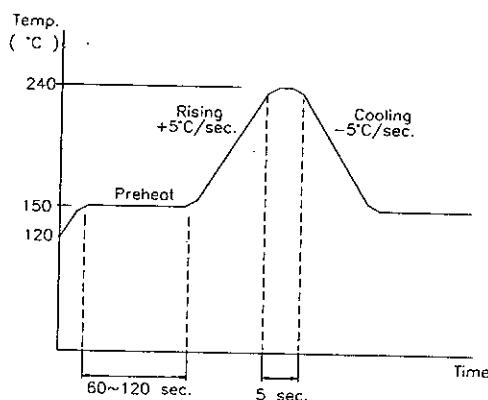
2. Storage time

2.1 The operation of Temperature and RH are : $5^{\circ}\text{C}\sim 35^{\circ}\text{C}$, RH60%.

2.2 Once the package is opened, the products should be used within a week. Otherwise, they should be kept in a damp proof box with desiccating agent. Considering the tape life , we suggest our customers to use our products within a year(from production date).

2.3 If opened more than one week in an atmosphere $5^{\circ}\text{C}\sim 35^{\circ}\text{C}$, RH 60%, they should be treated at $60^{\circ}\text{C}\pm 5^{\circ}\text{C}$ for 15hrs.

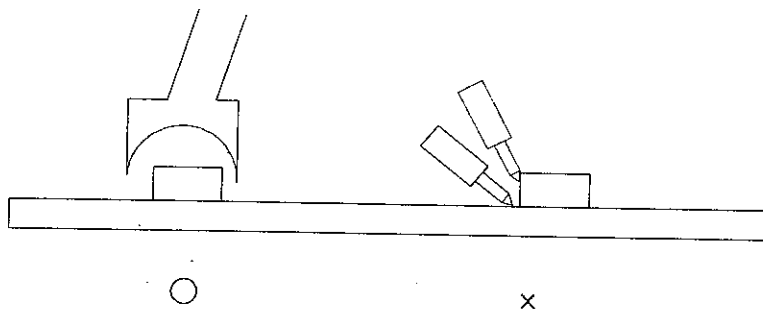
2.4 When you discover that the desiccant in the package has a pink color (Normal = blue) , you should treat them in the same conditions as 2.3.

Soldering heat**Reflow Temp / Time****Soldering Iron**

Basic spec is ≤ 5 sec when 260°C . If temperature is higher, time should be shorter ($+10^{\circ}\text{C} \rightarrow -1$ sec). Power dissipation of Iron should be smaller than 15 W , and temperature should be controllable. Surface temperature of the device should be under 230°C .

Rework

1. Customer must finish rework within 5 sec under 245°C.
2. The head of iron can not touch copper foil.
3. Twin-head type is preferred.

**EVERLIGHT ELECTRONICS CO., LTD.**

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