



工程文件 制訂 / 變更 通知單

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|-------|-------------|
| 文件編號 | DLE-912-180 |
| ECN#: | |

| | |
|-------|-----------------------|
| 文件名稱: | 91-2163RC/s530-A4/TR1 |
| 版次 | 原10版變更為 |
| 版日期 | 1999年12月13日 |
| 頁數 | 共 5 頁 |

文件制訂/變更理由：(請詳細說明。)

增加 > MA 測試

*ECN編號由文件中心提供。

| | | | | | | | | | | | | |
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億光電子工業股份有限公司

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DEC 20 1999



EVERLIGHT ELECTRONICS CO.,LTD.

DEVICE NUMBER : DLE-912-180 REV : 1.0
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1.9mm Round Subminiature "Gull Wing" Lead (Square Base) LEDs

MODEL NO : 91-21USRC/S530-A4/TR7

Features :

- Package in 12mm tape on 7" diameter reels.
- Compatible with automatic placement equipment.
- Compatible with infrared and vapor phase reflow solder process.
- I.C. compatible.
- EIA std package.
- Mono-color type.

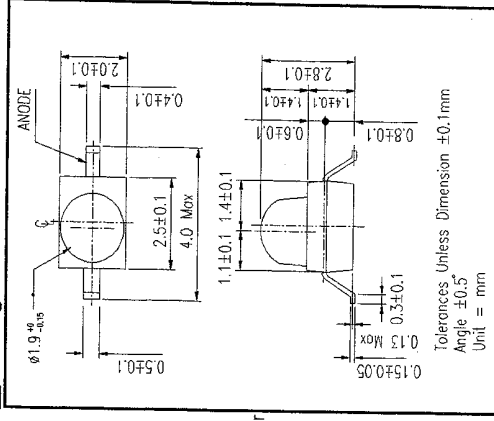
Description :

- The 91-21 SMD taping is much smaller than leaded components. Thusenable smaller board size Higher packing density. Reduced storage space and finally smaller equipment to be obtained.
- Besides, light weight makes them ideal for miniature application, ect.
- Furthermore by automation assembly machines the accuracy is anticipated.

Applications :

- Small indicator for outdoor applications.
- Flat backlight for LCD, switch and symbol.
- Indicator and backlight in offic equipment.
- Indicator and backlight for battery driven equipment.
- Indicator and backlight for audio and video equipment.
- Automotive : backlighting in dashboard and switch.
- Telecommunication : indicator and backlighting in telephone and fax.
- General use.

Package Dimension :



| PART NO. | CHIP | | Lens Color |
|-----------------------|----------|---------------|-------------|
| | Material | Emitted Color | |
| 91-21USRC/S530-A4/TR7 | AlGaN/P | Super Red | Water Clear |

| DESIGNER | CHECKER | APPROVER |
|----------|---------|----------|
| | | |

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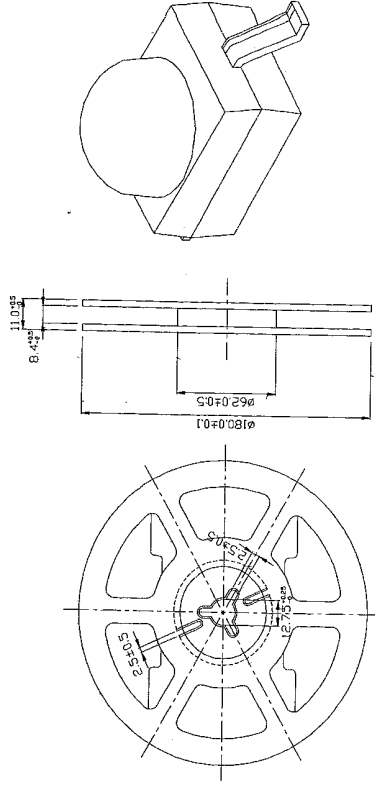
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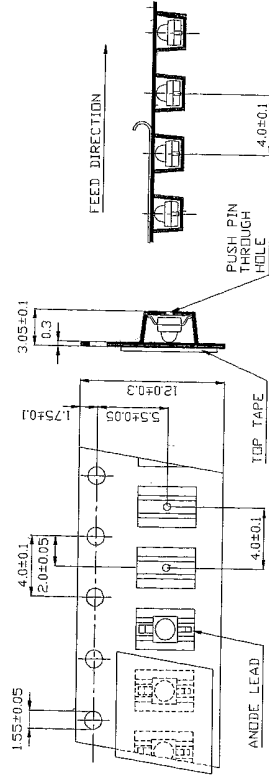
1.9mm Round Subminiature "Gull Wing" Lead (Square Base) LEDs

MODEL NO : 91-21USRC/S530-A4/TR7

■ Package Dimensions



■ Loaded Quantity Per Reel 1000 Pcs/Reel



1. ALL DIMENSIONS ARE IN MILLIMETERS.

2. LEAD SPACING IS MEASURED WHERE THE LEAD EMERGE FROM THE PACKAGE

3. PROTRUDED RESIN UNDER FLANGE 1.5 mm (0.59") MAX.



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MODEL NO : 91-21USRC/S530-A4/TR7

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

| Parameter | Symbol | Rating | Unit |
|---|--------------------|-----------------------|------------------|
| Reverse Voltage | V_r | 5 | V |
| Forward Current | I_f | 25 | mA |
| Operating Temperature | T_{opr} | $-40 \sim +85$ | $^\circ\text{C}$ |
| Storage Temperature | T_{stg} | $-40 \sim +100$ | $^\circ\text{C}$ |
| Soldering Temperature | T_{sol} | 260 ± 5 for 5 sec | $^\circ\text{C}$ |
| Electrostatic Discharge | ESD | 2000 | V |
| Power Dissipation | P_d | 60 | mW |
| Peak Forward Current (Duty 1/10 @ 1KHZ) | $I_f(\text{Peak})$ | 160 | mA |

Electronic Optical Characteristics :

| Parameter | Symbol | MIN. | TYP. | MAX. | Unit | Condition |
|------------------------------|-----------------|------|------|------|---------------|---------------------|
| Luminous intensity | I_v | ---- | 40 | ---- | mcd | $I_f = 2\text{mA}$ |
| Luminous intensity | I_v | 396 | 661 | ---- | mcd | $I_f = 20\text{mA}$ |
| Viewing Angle | $2\theta_{1/2}$ | ---- | 25 | ---- | deg | |
| Peak Wavelength | λ_p | ---- | 639 | ---- | nm | |
| Dominant Wavelength | λ_d | ---- | 631 | ---- | nm | |
| Spectrum Radiation Bandwidth | $\Delta\lambda$ | ---- | 20 | ---- | nm | |
| Forward Voltage | V_f | ---- | 2.0 | 2.4 | V | |
| Reverse Current | I_r | ---- | ---- | 10 | μA | $V_r = 5\text{V}$ |



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MODEL NO : 91-21USRC/S530-A4/TR7

■ Reliability Test Item And Condition

| NO. | Item | Test Conditions | Test Hours/ Cycle | Sample Size | Ac/Re |
|-----|----------------------------------|--|----------------------|----------------|-------|
| 1 | Solder Heat | TEMP : 260°C ± 5 °C | 5 sec | 76 pcs | 0/1 |
| 2 | Temperature Cycle | H : +85°C 30 min ↕ 5 min ↕ L : -55°C 30 min | 50 cycle | 76 pcs | 0/1 |
| 3 | Thermal Shock | H : +100°C 5 min ↕ 10 sec ↕ L : -10°C 30 min | 50 cycle | 76 pcs | 0/1 |
| 4 | High Temperature Storage | TEMP. : +100°C | 1000 hrs | 76 pcs | 0/1 |
| 5 | Low Temperature Storage | TEMP. : -55°C | 1000 hrs | 76 pcs | 0/1 |
| 6 | DC Operating Life | If = 20 mA | 1000 hrs | 76 pcs | 0/1 |
| 7 | High Temperature / High Humidity | 85°C / 85% R.H. | 1000 hrs | 76 pcs | 0/1 |



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Typical Electro-Optical Characteristic Curves

