



## 0.4" Single Digit Displays

PART NO. : ELS-401SRWB ECN :            Page: 1/5

### ■ Features :

- Industrial standard size.
- Low power consumption.
- Categorized for luminous intensity.

### ■ Applications:

- Audio equipment
- Instrument panels
- Digital read out display

### ■ Descriptions :

- The ELS-401 series is a large 10.16 mm (0.4")high seven segment display designed for viewing distances up to 7 meters.
- These displays provide excellent reliability in bright ambient light.
- These devices are made with white segments and black surface.

| PART NO.    | Chip     |               |
|-------------|----------|---------------|
|             | Material | Emitted Color |
| ELS-401SRWB | GaAlAs   | Super Red     |

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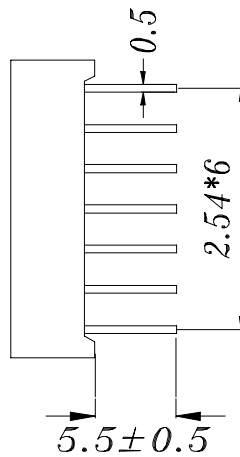
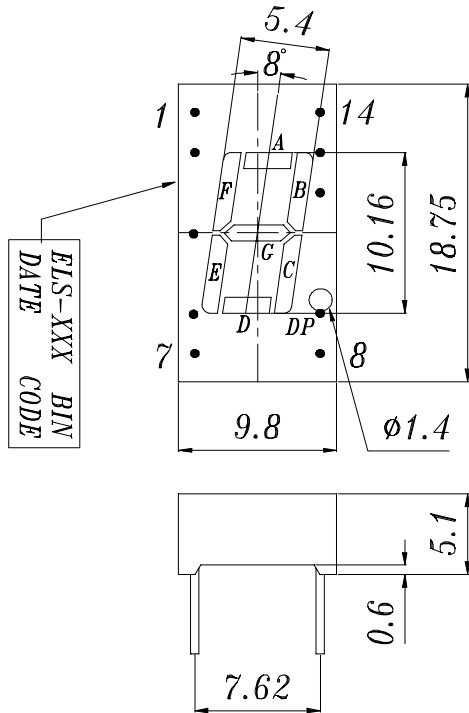
<http://www.everlight.com>



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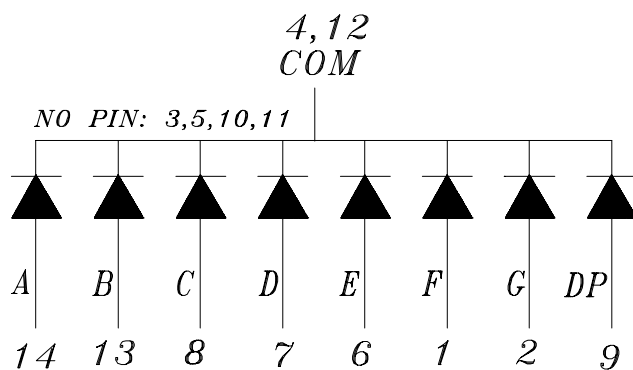
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■ Package Dimensions:



*COMMON CATHODE*

- 1 ANODE F
- 2 ANODE G
- 3 NO PIN
- 4 COMMON CATHODE
- 5 NO PIN
- 6 ANODE E
- 7 ANODE D
- 8 ANODE C
- 9 ANODE DP
- 10 NO PIN
- 11 NO PIN
- 12 COMMON CATHODE
- 13 ANODE B
- 14 ANODE A



■ Notes:

- 1.All dimensions are in millimeters , tolerance is 0.25mm unless otherwise noted.
  - 2.Above specification may be changed without notice.
- Supplier will reserve authority on material change for above specification.



EVERLIGHT ELECTRONICS CO.,LTD.

Device Number : CDDS-401-003 REV: 2

0.4" Single Digit Displays

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■ Absolute maximum ratings at Ta = 25°C :

| Parameter                              | Symbol   | Rating      | Unit |
|--|----------|-------------|------|
| Reverse Voltage                        | VR       | 5           | V    |
| Forward Current                        | IF       | 40          | mA   |
| Operating Temperature                  | Topr     | -40 to +85  | °C   |
| Storage Temperature                    | Tstg     | -40 to +100 | °C   |
| Soldering Temperature                  | Tsol     | 260 ± 5     | °C   |
| Power Dissipation                      | Pd       | 110         | mW   |
| Peak Forward Current(Duty 1/10 @ 1KHZ) | IF(Peak) | 180         | mA   |

■ Electronic optical characteristics :

| Parameter           |                   | Symbol | Min. | Typ. | Max. | Unit | Condition |
|---------------------|-------------------|--------|------|------|------|------|-----------|
| Luminous Intensity  | Per segment       | Iv     | 2.8  | 4.0  | ---- | mcd  | IF=10mA   |
|                     | Per decimal point |        | 1.00 | 1.5  | ---- |      |           |
| Peak Wavelength     |                   | λ p    | ---- | 660  | ---- | nm   | IF=20mA   |
| Dominant Wavelength |                   | λ d    | ---- | 643  | ---- | nm   | IF=20mA   |
| Spectrum Radiation  | Bandwidth         | △ λ    | ---- | 20   | ---- | nm   | IF=20mA   |
| Forward Voltage     |                   | VF     | 1.5  | 1.7  | 2.4  | V    | IF=20mA   |
| Reverse Current     |                   | IR     | ---- | ---- | 10   | μ A  | VR=5V     |



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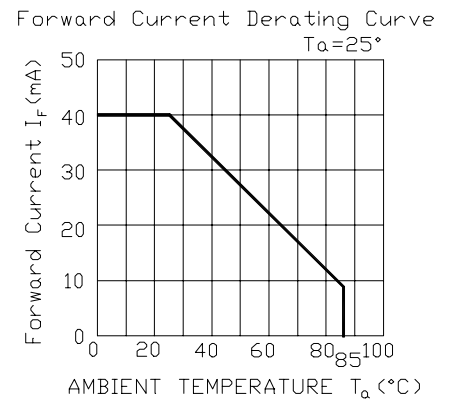
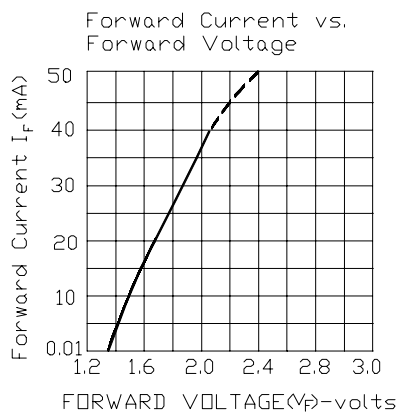
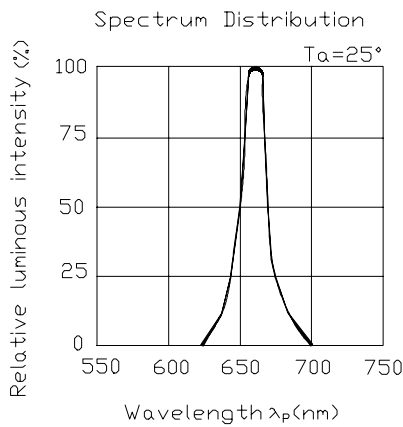
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■ Typical Electro-Optical Characteristic Curves:

SR





# EVERLIGHT ELECTRONICS CO.,LTD.

Device Number : CDDS-401-003

REV: 2

0.4" Single Digit Displays

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## Reliability test items and conditions:

| 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 30min<br>└ 5 min<br>L : -55°C 30min | 50 CYCLE         | 76 PCS      | 0/1   |
| 3  | Thermal Shock                    | H : +100°C 5min<br>└ 10 sec<br>L : -10°C 5min | 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 = 10 mA                                    | 1000 HRS         | 76 PCS      | 0/1   |
| 7  | High Temperature / High Humidity | 85°C/85% RH                                   | 1000 HRS         | 76 PCS      | 0/1   |