



# EVERLIGHT ELECTRONICS CO.,LTD.

Device Number : DDS-315-023 REV: 1.0

## 0.36" Single Digit Displays

MODEL NO : ELS-315HWA 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-315 series is a large 9.14mm (0.36")high seven segment display design for viewing distances up to 7 meters.
- These displays provide excellent reliability in bright ambient light .
- These device is made with white segments and gray surface.

| PART NO    | CHIP     |               | C.C. or C.A. |
|------------|----------|---------------|--------------|
|            | Material | Emitted Color |              |
| ELS-315HWA | GaP      | Bright Red    | C.C.         |

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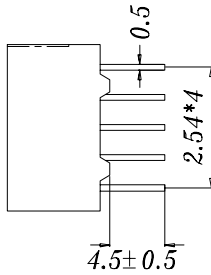
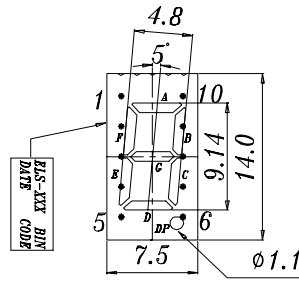
FAX : 886-2-2267-6244,22676189,22676306

<http://www.everlight.com>

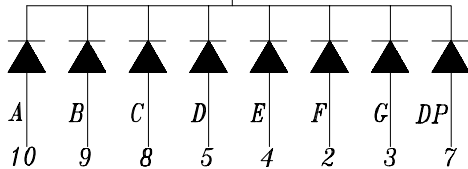
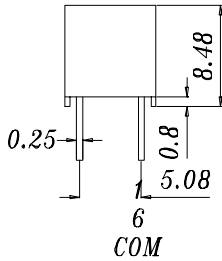


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■ Package Dimension:



- COMMON CATHODE
- 1 COMMON CATHODE
- 2 ANODE F
- 3 ANODE G
- 4 ANODE E
- 5 ANODE D
- 6 COMMON CATHODE
- 7 ANODE DP
- 8 ANODE C
- 9 ANODE B
- 10 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.

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### ■ Absolute maximum ratings at Ta = 25°C :

| Parameter                              | Symbol   | Rating      | Unit |
|--|----------|-------------|------|
| Reverse Voltage                        | Vr       | 5           | V    |
| Forward Current                        | If       | 15          | mA   |
| Operating Temperature                  | Topr     | -40 to +85  | °C   |
| Storage Temperature                    | Tstg     | -40 to +100 | °C   |
| Soldering Temperature                  | Tsol     | 260 ± 5     | °C   |
| Power Dissipation                      | Pd       | 45          | mW   |
| Peak Forward Current(Duty 1/10 @ 1KHZ) | If(Peak) | 50          | mA   |

### ■ Electronic optical characteristics :

| Parameter                    |                   | Symbol           | MIN. | TYP. | MAX. | Unit    | Condition |
|------------------------------|-------------------|------------------|------|------|------|---------|-----------|
| Luminous Intensity           | Per segment       | Iv               | 0.11 | 0.25 | ---- | mcd     | If=10mA   |
|                              | Per decimal point |                  | 0.05 | 0.10 | ---- |         | If=10mA   |
| Peak Wavelength              |                   | $\lambda p$      | ---- | 697  | ---- | nm      | If=20mA   |
| Dominant Wavelength          |                   | $\lambda d$      | ---- | 650  | ---- | nm      | If=20mA   |
| Spectrum Radiation Bandwidth |                   | $\Delta \lambda$ | ---- | 90   | ---- | nm      | If=20mA   |
| Forward Voltage              |                   | Vf               | 1.5  | 2.0  | 2.4  | V       | If=20mA   |
| Reverse Current              |                   | Ir               | ---- | ---- | 10   | $\mu A$ | Vr=5V     |



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■ 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 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   |



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## Typical Electro-Optical Characteristic Curves:

