



# EVERLIGHT ELECTRONICS CO.,LTD.

Device Number : DDS-321-004 REV: 1.2

## 0.3" Single Digit Displays

MODEL NO ELS-321GWA 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-321series is a large 7.62mm (0.3")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.

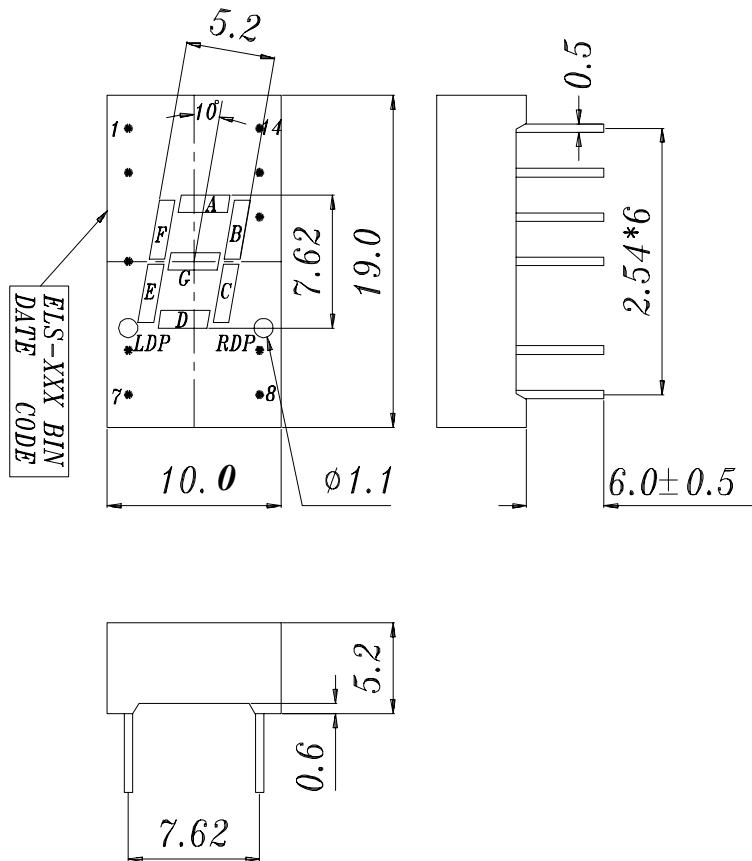
| PART NO    | CHIP     |               | C.C. or C.A. |
|------------|----------|---------------|--------------|
|            | Material | Emitted Color |              |
| ELS-321GWA | GaP      | Green         | C.C.         |

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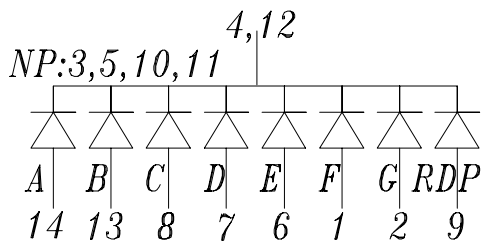


0.3" Single Digit Displays

■ Package Dimensions:



|                       |                |
|-----------------------|----------------|
| <i>COMMON CATHODE</i> |                |
| 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               | RDP            |
| 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.



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■ Absolute maximum ratings at Ta = 25°C :

| Parameter                              | Symbol   | Rating      | Unit |
|--|----------|-------------|------|
| Reverse Voltage                        | Vr       | 5           | V    |
| Forward Current                        | If       | 30          | mA   |
| Operating Temperature                  | Topr     | -40 to +85  | °C   |
| Storage Temperature                    | Tstg     | -40 to +100 | °C   |
| Soldering Temperature                  | Tsol     | 260 ± 5     | °C   |
| Power Dissipation                      | Pd       | 100         | mW   |
| Peak Forward Current(Duty 1/10 @ 1KHZ) | If(Peak) | 160         | mA   |

■ Electronic optical characteristics :

| Parameter                    |                   | Symbol           | MIN. | TYP. | MAX. | Unit    | Condition |
|------------------------------|-------------------|------------------|------|------|------|---------|-----------|
| Luminous Intensity           | Per segment       | Iv               | 1.05 | 2.0  | ---- | mcd     | If=10mA   |
|                              | Per decimal point |                  | 0.45 | 0.8  | ---- | mcd     | If=10mA   |
| Peak Wavelength              |                   | $\lambda p$      | ---- | 565  | ---- | nm      | If=20mA   |
| Dominant Wavelength          |                   | $\lambda d$      | ---- | 570  | ---- | nm      | If=20mA   |
| Spectrum Radiation Bandwidth |                   | $\Delta \lambda$ | ---- | 30   | ---- | nm      | If=20mA   |
| Forward Voltage              |                   | Vf               | 1.7  | 2.1  | 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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