

EVERLIGHT

LED DIGIT DISPLAYS

T-41-33

oh

| Display Size | Type No. and Remark (+) | New Model No. | Chip | | C. C. or C. A. | Peak Wave Length λ_p (nm) | Absolute Maximum Ratings | | | | Electro-Optical Characteristics | | | | | | Package Fig. | | | |
|--|-------------------------|---------------|------------|---------------|----------------|-----------------------------------|--------------------------|------------|------------|-----------------|---------------------------------|------|-------|-----------------|------------|-------|--------------|------|-----|----|
| | | | Material | Emitted Color | | | $\Delta\lambda$ (nm) | P_o (mW) | I_f (mA) | Peak I_f (mA) | V_f (V) | | | Rec. I_f (mA) | I_v (cd) | | | | | |
| | | | | | | | | | | Min. | Typ. | Max. | | | Min. | Typ. | | | | |
| 0.56 inch 1-1/2 Digit Polarity & Overflow | S514RDB * | ELS-514RDB | GaAsP | Red | - | 655 | 40 | 110 | 40 | 200 | 1.5 | 1.7 | 2.0 | 10-20 | 200 | 500 | 12 | | | |
| | S514HWB * | ELS-514HWB | GaP | Bright Red | | 697 | 90 | 45 | 15 | 50 | 1.7 | 2.1 | 2.8 | 5-10 | 350 | 800 | | | | |
| | S514IDR | ELS-514IDR | GaAsP/GaP | Hi-Eff. Red | | 635 | 45 | 100 | 30 | 160 | 1.7 | 2.0 | 2.8 | 10-20 | 900 | 2200 | | | | |
| | S514GWA | ELS-514GWA | GaP | Green | | 565 | 30 | 100 | 30 | 160 | 1.7 | 2.1 | 2.8 | 10-20 | 900 | 2200 | | | | |
| | S514YWB | ELS-514YWB | GaAsP/GaP | Yellow | | 585 | 35 | 85 | 20 | 160 | 1.7 | 2.0 | 2.8 | 10-20 | 650 | 1500 | | | | |
| | S514EDE | ELS-514EDE | GaAsP/GaP | Orange | | 635 | 45 | 100 | 30 | 160 | 1.7 | 2.0 | 2.8 | 10-20 | 900 | 2200 | | | | |
| 0.6 inch Single Digit | S605RWB | ELS-308R | GaAsP | Red | Common | 655 | 40 | 110 | 40 | 200 | 1.5 | 1.7 | 2.0 | 10-20 | 200 | 500 | 13 | | | |
| | S605HWB * | ELS-308P | GaP | Bright Red | | 697 | 90 | 45 | 15 | 50 | 1.7 | 2.1 | 2.8 | 5-10 | 300 | 700 | | | | |
| | S605IDR | ELS-308HR | GaAsP/GaP | Hi-Eff. Red | | 635 | 45 | 100 | 30 | 160 | 1.7 | 2.0 | 2.8 | 10-20 | 800 | 2000 | | | | |
| | S605GWA | ELS-308G | GaP | Green | | 565 | 30 | 100 | 30 | 160 | 1.7 | 2.1 | 2.8 | 10-20 | 800 | 2000 | | | | |
| | S605YWB | ELS-308Y | GaAsP/GaP | Yellow | | 585 | 35 | 85 | 20 | 160 | 1.7 | 2.0 | 2.8 | 10-20 | 650 | 1500 | | | | |
| | S605EDE | ELS-308E | GaAsP/GaP | Orange | | 635 | 45 | 100 | 30 | 160 | 1.7 | 2.0 | 2.8 | 10-20 | 800 | 2000 | | | | |
| | S606RWB | ELS-306R | GaAsP | Red | | Common | 655 | 40 | 110 | 40 | 200 | 1.5 | 1.7 | 2.0 | 10-20 | 200 | | 500 | 13 | |
| | S606HWB * | ELS-306P | GaP | Bright Red | | | 697 | 90 | 45 | 15 | 50 | 1.7 | 2.1 | 2.8 | 5-10 | 300 | | 700 | | |
| | S606IDR | ELS-306HR | GaAsP/GaP | Hi-Eff. Red | | | 635 | 45 | 100 | 30 | 160 | 1.7 | 2.0 | 2.8 | 10-20 | 800 | | 2000 | | |
| | S606GWA | ELS-306G | GaP | Green | | | 565 | 30 | 100 | 30 | 160 | 1.7 | 2.1 | 2.8 | 10-20 | 800 | | 2000 | | |
| | S606YWB | ELS-306Y | GaAsP/GaP | Yellow | | | 585 | 35 | 85 | 20 | 160 | 1.7 | 2.0 | 2.8 | 10-20 | 650 | | 1500 | | |
| | S606EDE | ELS-306E | GaAsP/GaP | Orange | | | 635 | 45 | 100 | 30 | 160 | 1.7 | 2.0 | 2.8 | 10-20 | 800 | | 2000 | | |
| 0.8 inch Single Digit | S805RWB | ELS-805RWB | GaAsP | Red | Common | 655 | 40 | 110 | 40 | 200 | 1.5 | 1.7 | 2.0 | 10-20 | 200 | 550 | 14 | | | |
| | S805HWB * | ELS-805HWB | GaP | Bright Red | | 697 | 90 | 45 | 15 | 50 | 1.7 | 2.1 | 2.8 | 5-10 | 300 | 800 | | | | |
| | S805IDR | ELS-805IDR | GaAsP/GaP | Hi-Eff. Red | | 635 | 45 | 100 | 30 | 160 | 1.7 | 2.0 | 2.8 | 10-20 | 900 | 2200 | | | | |
| | S805GWA | ELS-805GWA | GaP | Green | | 565 | 30 | 100 | 30 | 160 | 1.7 | 2.1 | 2.8 | 10-20 | 900 | 2200 | | | | |
| | S805YWB | ELS-805YWB | GaAsP/GaP | Yellow | | 585 | 35 | 85 | 20 | 160 | 1.7 | 2.0 | 2.8 | 10-20 | 700 | 1700 | | | | |
| | S805EDE | ELS-805EDE | GaAsP/GaP | Orange | | 635 | 45 | 100 | 30 | 160 | 1.7 | 2.0 | 2.8 | 10-20 | 900 | 2200 | | | | |
| | S806RWB | ELS-806RWB | GaAsP | Red | | Common | 655 | 40 | 110 | 40 | 200 | 1.5 | 1.7 | 2.0 | 10-20 | 200 | | 550 | 14 | |
| | S806HWB * | ELS-806HWB | GaP | Bright Red | | | 697 | 90 | 45 | 15 | 50 | 1.7 | 2.1 | 2.8 | 5-10 | 300 | | 800 | | |
| | S806IDR | ELS-806IDR | GaAsP/GaP | Hi-Eff. Red | | | 635 | 45 | 100 | 30 | 160 | 1.7 | 2.0 | 2.8 | 10-20 | 900 | | 2200 | | |
| | S806GWA | ELS-806GWA | GaP | Green | | | 565 | 30 | 100 | 30 | 160 | 1.7 | 2.1 | 2.8 | 10-20 | 900 | | 2200 | | |
| | S806YWB | ELS-806YWB | GaAsP/GaP | Yellow | | | 585 | 35 | 85 | 20 | 160 | 1.7 | 2.0 | 2.8 | 10-20 | 700 | | 1700 | | |
| | S806EDE | ELS-806EDE | GaAsP/GaP | Orange | | | 635 | 45 | 100 | 30 | 160 | 1.7 | 2.0 | 2.8 | 10-20 | 900 | | 2200 | | |
| 0.8 inch Single Digit LHDP & RHDP | S815RWB * | ELS-3403R | GaAsP | Red | Common | 655 | 40 | 110 | 40 | 200 | 1.5 | 1.7 | 2.0 | 10-20 | 200 | 550 | 15 | | | |
| | S815HWB * | ELS-3403P | GaP | Bright Red | | 697 | 90 | 45 | 15 | 50 | 1.7 | 2.1 | 2.8 | 5-10 | 300 | 800 | | | | |
| | S815IDR | ELS-3403HR | GaAsP/GaP | Hi-Eff. Red | | 635 | 45 | 100 | 30 | 160 | 1.7 | 2.0 | 2.8 | 10-20 | 900 | 2200 | | | | |
| | S815GWA | ELS-3403G | GaP | Green | | 565 | 30 | 100 | 30 | 160 | 1.7 | 2.1 | 2.8 | 10-20 | 900 | 2200 | | | | |
| | S815YWB | ELS-3403Y | GaAsP/GaP | Yellow | | 585 | 35 | 85 | 20 | 160 | 1.7 | 2.0 | 2.8 | 10-20 | 700 | 1700 | | | | |
| | S815EDE | ELS-3403E | GaAsP/GaP | Orange | | 635 | 45 | 100 | 30 | 160 | 1.7 | 2.0 | 2.8 | 10-20 | 900 | 2200 | | | | |
| | S816RWB * | ELS-3401R | GaAsP | Red | | Common | 655 | 40 | 110 | 40 | 200 | 1.5 | 1.7 | 2.0 | 10-20 | 200 | | 550 | 15 | |
| | S816HWB * | ELS-3401P | GaP | Bright Red | | | 697 | 90 | 45 | 15 | 50 | 1.7 | 2.1 | 2.8 | 5-10 | 300 | | 800 | | |
| | S816IDR | ELS-3401HR | GaAsP/GaP | Hi-Eff. Red | | | 635 | 45 | 100 | 30 | 160 | 1.7 | 2.0 | 2.8 | 10-20 | 900 | | 2200 | | |
| | S816GWA | ELS-3401G | GaP | Green | | | 565 | 30 | 100 | 30 | 160 | 1.7 | 2.1 | 2.8 | 10-20 | 900 | | 2200 | | |
| | S816YWB | ELS-3401Y | GaAsP/GaP | Yellow | | | 585 | 35 | 85 | 20 | 160 | 1.7 | 2.0 | 2.8 | 10-20 | 700 | | 1700 | | |
| | S816EDE | ELS-3401E | GaAsP/GaP | Orange | | | 635 | 45 | 100 | 30 | 160 | 1.7 | 2.0 | 2.8 | 10-20 | 900 | | 2200 | | |
| 0.8 inch 16-Segment Alpha Numeric | S825RWB | ELS-825RWB | GaAsP | Red | Common | 655 | 40 | 110 | 40 | 200 | 1.5 | 1.7 | 2.0 | 10-20 | 200 | 550 | 16 | | | |
| | S825HWB | ELS-825HWB | GaP | Bright Red | | 697 | 90 | 45 | 15 | 50 | 1.7 | 2.1 | 2.8 | 5-10 | 300 | 650 | | | | |
| | S825GWA | ELS-825GWA | GaP | Green | | 565 | 30 | 100 | 30 | 160 | 1.7 | 2.1 | 2.8 | 10-20 | 650 | 1600 | | | | |
| | S825YWB | ELS-825YWB | GaAsP/GaP | Yellow | | 585 | 35 | 85 | 20 | 160 | 1.7 | 2.0 | 2.8 | 10-20 | 600 | 1300 | | | | |
| | S825EWA | ELS-825EWA | GaAsP/GaP | Orange | | 635 | 45 | 100 | 30 | 160 | 1.7 | 2.0 | 2.8 | 10-20 | 750 | 1900 | | | | |
| | S826RWB | ELS-826RWB | GaAsP | Red | | Common | 655 | 40 | 110 | 40 | 200 | 1.5 | 1.7 | 2.0 | 10-20 | 200 | | 500 | | 16 |
| | S826HWB | ELS-826HWB | GaP | Bright Red | | | 697 | 90 | 45 | 15 | 50 | 1.7 | 2.1 | 2.8 | 5-10 | 300 | | 650 | | |
| | S826GWA | ELS-826GWA | GaP | Green | | | 565 | 30 | 100 | 30 | 160 | 1.7 | 2.1 | 2.8 | 10-20 | 650 | | 1600 | | |
| | S826YWB | ELS-826YWB | GaAsP/GaP | Yellow | | | 585 | 35 | 85 | 20 | 160 | 1.7 | 2.0 | 2.8 | 10-20 | 600 | | 1300 | | |
| | S826EWA | ELS-826EWA | GaAsP/GaP | Orange | | | 635 | 45 | 100 | 30 | 160 | 1.7 | 2.0 | 2.8 | 10-20 | 750 | | 1900 | | |
| | S826RWB | ELS-826RWB | GaAsP | Red | | | Common | 655 | 40 | 110 | 40 | 200 | 1.5 | 1.7 | 2.0 | 10-20 | | 200 | 500 | |
| | S826HWB | ELS-826HWB | GaP | Bright Red | | 697 | | 90 | 45 | 15 | 50 | 1.7 | 2.1 | 2.8 | 5-10 | 300 | | 650 | | |
| S826GWA | ELS-826GWA | GaP | Green | 565 | 30 | 100 | | 30 | 160 | 1.7 | 2.1 | 2.8 | 10-20 | 650 | 1600 | | | | | |
| S826YWB | ELS-826YWB | GaAsP/GaP | Yellow | 585 | 35 | 85 | | 20 | 160 | 1.7 | 2.0 | 2.8 | 10-20 | 600 | 1300 | | | | | |
| S826EWA | ELS-826EWA | GaAsP/GaP | Orange | 635 | 45 | 100 | | 30 | 160 | 1.7 | 2.0 | 2.8 | 10-20 | 750 | 1900 | | | | | |
| S826RWB | ELS-826RWB | GaAsP | Red | Common | 655 | 40 | | 110 | 40 | 200 | 1.5 | 1.7 | 2.0 | 10-20 | 200 | 500 | 16 | | | |
| S826HWB | ELS-826HWB | GaP | Bright Red | | 697 | 90 | 45 | 15 | 50 | 1.7 | 2.1 | 2.8 | 5-10 | 300 | 650 | | | | | |
| S826GWA | ELS-826GWA | GaP | Green | | 565 | 30 | 100 | 30 | 160 | 1.7 | 2.1 | 2.8 | 10-20 | 650 | 1600 | | | | | |
| S826YWB | ELS-826YWB | GaAsP/GaP | Yellow | | 585 | 35 | 85 | 20 | 160 | 1.7 | 2.0 | 2.8 | 10-20 | 600 | 1300 | | | | | |
| S826EWA | ELS-826EWA | GaAsP/GaP | Orange | | 635 | 45 | 100 | 30 | 160 | 1.7 | 2.0 | 2.8 | 10-20 | 750 | 1900 | | | | | |
| S826RWB | ELS-826RWB | GaAsP | Red | | Common | 655 | 40 | 110 | 40 | 200 | 1.5 | 1.7 | 2.0 | 10-20 | 200 | 500 | | 16 | | |
| S826HWB | ELS-826HWB | GaP | Bright Red | 697 | | 90 | 45 | 15 | 50 | 1.7 | 2.1 | 2.8 | 5-10 | 300 | 650 | | | | | |
| S826GWA | ELS-826GWA | GaP | Green | 565 | | 30 | 100 | 30 | 160 | 1.7 | 2.1 | 2.8 | 10-20 | 650 | 1600 | | | | | |
| S826YWB | ELS-826YWB | GaAsP/GaP | Yellow | 585 | | 35 | 85 | 20 | 160 | 1.7 | 2.0 | 2.8 | 10-20 | 600 | 1300 | | | | | |
| S826EWA | ELS-826EWA | GaAsP/GaP | Orange | 635 | | 45 | 100 | 30 | 160 | 1.7 | 2.0 | 2.8 | 10-20 | 750 | 1900 | | | | | |
| S826RWB | ELS-826RWB | GaAsP | Red | Common | | 655 | 40 | 110 | 40 | 200 | 1.5 | 1.7 | 2.0 | 10-20 | 200 | 500 | | | 16 | |
| S826HWB | ELS-826HWB | GaP | Bright Red | | 697 | 90 | 45 | 15 | 50 | 1.7 | 2.1 | 2.8 | 5-10 | 300 | 650 | | | | | |
| S826GWA | ELS-826GWA | GaP | Green | | 565 | 30 | 100 | 30 | 160 | 1.7 | 2.1 | 2.8 | 10-20 | 650 | 1600 | | | | | |
| S826YWB | ELS-826YWB | GaAsP/GaP | Yellow | | 585 | 35 | 85 | 20 | 160 | 1.7 | 2.0 | 2.8 | 10-20 | 600 | 1300 | | | | | |
| S826EWA | ELS-826EWA | GaAsP/GaP | Orange | | 635 | 45 | 100 | 30 | 160 | 1.7 | 2.0 | 2.8 | 10-20 | 750 | 1900 | | | | | |
| S826RWB | ELS-826RWB | GaAsP | Red | | Common | 655 | 40 | 110 | 40 | 200 | 1.5 | 1.7 | 2.0 | 10-20 | 200 | 500 | 16 | | | |
| S826HWB | ELS-826HWB | GaP | Bright Red | 697 | | 90 | 45 | 15 | 50 | 1.7 | 2.1 | 2.8 | 5-10 | 300 | 650 | | | | | |
| S826GWA | ELS-826GWA | GaP | Green | 565 | | 30 | 100 | 30 | 160 | 1.7 | 2.1 | 2.8 | 10-20 | 650 | 1600 | | | | | |
| S826YWB | ELS-826YWB | GaAsP/GaP | Yellow | 585 | | 35 | 85 | 20 | 160 | 1.7 | 2.0 | 2.8 | 10-20 | 600 | 1300 | | | | | |
| S826 | | | | | | | | | | | | | | | | | | | | |

LED DIGIT DISPLAYS



TEST CONDITION FOR EACH PARAMETER:

| Parameter: | Symbol | Unit | Test Condition |
|---------------------------------------|-----------------|----------|------------------|
| Reverse Voltage | V_R | VOLT | $V_R = 5.0$ Volt |
| Reverse Current | I_R | μ A | $I_F = 20$ mA |
| Forward Voltage | V_F | VOLT | $I_F = 10$ mA |
| Luminous Intensity | I_v | μ CD | $I_F = 20$ mA |
| Luminous Intensity Matching Ratio | $I_v - m$ | | |
| Spectral Line Half-Width | $\Delta\lambda$ | nm | |
| Power Dissipation | P_D | mW | |
| Peak Forward Current (Duty 1/10 1KHz) | I_F (Peak) | mA | |
| Recommended Operating Current | I_F (Rec) | mA | |

ABSOLUTE MAXIMUM RATINGS: ($T_a = 25^\circ\text{C}$)

| | |
|--|---------------------|
| Reverse Voltage | 5 Volt |
| Reverse Current ($V_R = 5V$) | 10 μ A |
| Operating Temperature Range: | -40°C To 85°C |
| Storage Temperature Range: | -40°C To 100°C |
| Lead Soldering Temperature (1.6mm (1/16 inch) From Body) | 260°C For 5 Seconds |

REMARKS:

- $I_V - m = 2:1$
- The most popular Types • Common Types The rest are special Types
- Hi-Eff. Red → High Efficiency Red

PACKAGE DIMENSIONS:

Fig-12

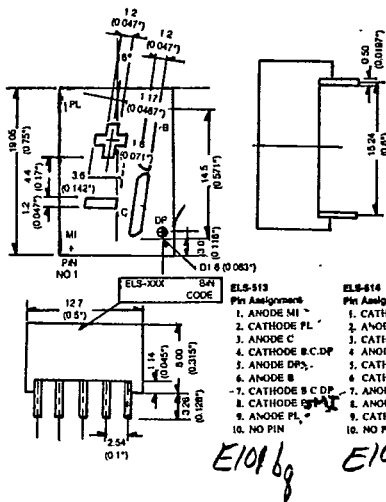


Fig-13

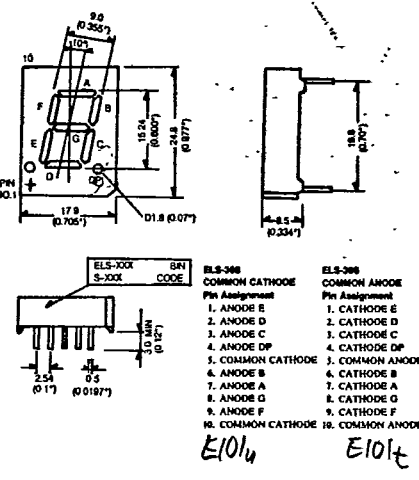


Fig-14

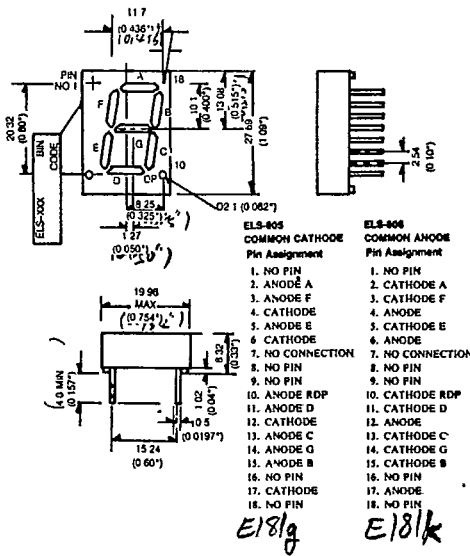


Fig-15

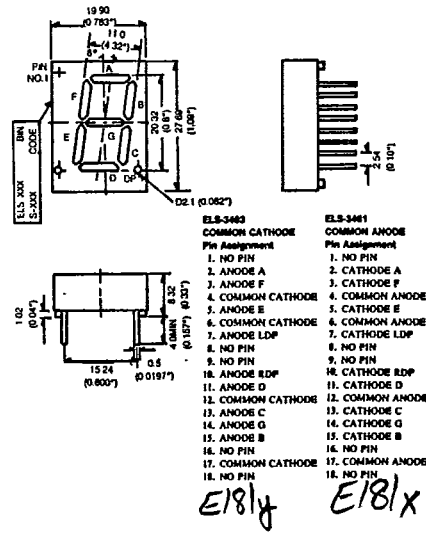
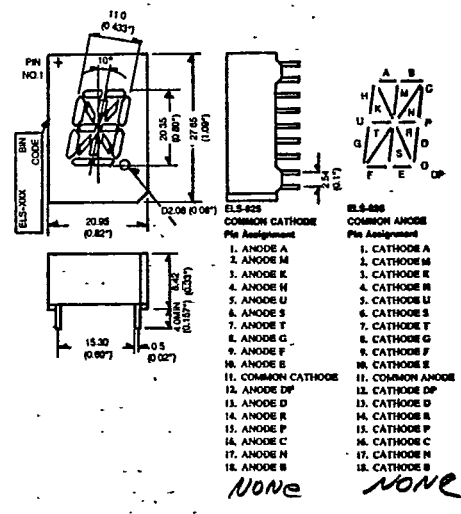


Fig-16



NOTE:

1. The average luminous intensity is obtained by summing the luminous intensity of each segment and divided by the total number of segments. The displays are categorized for luminous intensity with the intensity category designed by a letter located on the side of the package.
2. Luminous intensity is measured with a light sensor and filter, combination that approximates the CIE (International Commission, on Illumination) eye-response curve.
3. Clean only in water, isopropanol, ethanel, Freon TF or TF (or equivalent)
4. All dimensions are in millimeters/inches. Tolerance = $\pm 0.25\text{mm} / \pm 0.1\text{inch}$