

**DESCRIPTION:**

The KW1-2301 series is large single digit display in 2.30 inch (58.90mm) height with right DP designed for accurate readable displays need to be viewed over a distance.

This series is suitable for use in instruments, digital readout displays.  
All devices are available as either common anode or common cathode.

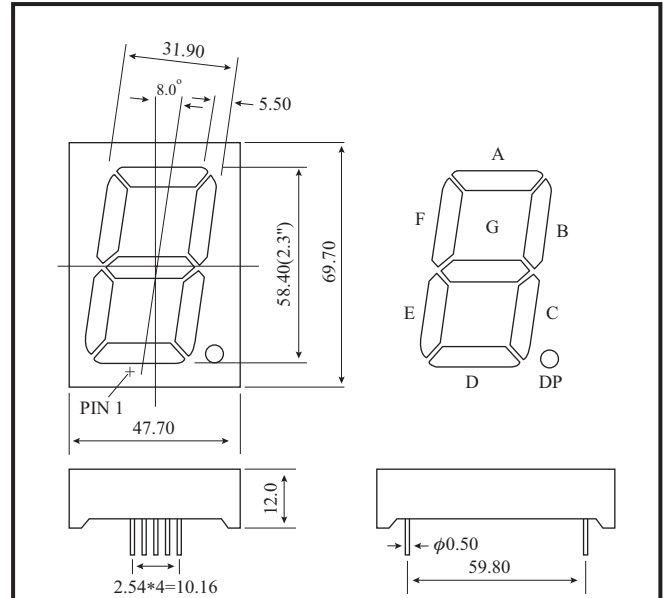
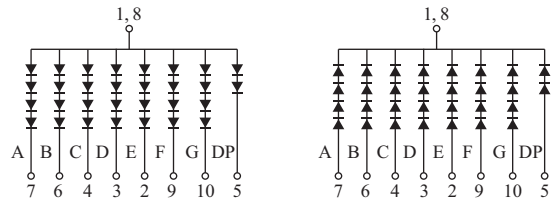
**ABSOLUTE MAXIMUM RATINGS: (Ta=25°C)**

| Parameter  | Max            |
|--|----------------|
| Reverse Voltage per segment                                      | 5 V            |
| Reverse Current per segment (Vr = 5V)                            | 100μA          |
| Derating Linear from 25°C per segment                            | 0.4mA/°C       |
| Operating Temperature Range                                      | -40°C To 85°C  |
| Storage Temperature Range  | -40°C To 100°C |
| Soldering Temperature 1.6mm(1/16") from body for 5 sec. at 260°C |                |

- NOTES : 1. All dimensions are in millimeters (inches).  
2. Tolerance is ±0.25mm(0.010) unless otherwise specified.  
3. Specifications are subject to change without notice.  
4. NP: No Pin.  
5. NC: No Connect.

**TESTING CONDITION FOR EACH PARAMETER :**

| Parameter                  | Symbol | Unit | Test Condition |
|----------------------------|--------|------|----------------|
| Forward Voltage            | Vf     | V    | If=20mA        |
| Peak Emission Wave Length  | λp     | nm   | If=20mA        |
| Spectral Line Half-Width   | Δλ     | nm   | If=20mA        |
| Reverse Current            | Ir     | μA   | Vr=5V          |
| Average Luminous Intensity | Iv     | μ cd | If=10mA        |

**PACKAGE DIMENSIONS**

**INTERNAL CIRCUIT DIAGRAM**

**PART NO. SELECTION AND APPLICATION INFORMATION (RATINGS AT 25°C AMBIENT)**

| Part No.   | Chip         |               | C.C or C.A     | Wave Length λp (nm) | Absolute Maximum Ratings |         |         |                | Electro-optical Data(at 10mA) |      |      |               |                      |       |
|------------|--------------|---------------|----------------|---------------------|--------------------------|---------|---------|----------------|-------------------------------|------|------|---------------|----------------------|-------|
|            | Raw Material | Emitted Color |                |                     | Δλ (nm)                  | Pd (mW) | If (mA) | If (Peak) (mA) | Vf (V) Per Segment            |      |      | If (Rec) (mA) | Iv (μcd) Per Segment |       |
|            |              |               |                |                     |                          |         |         |                | Min.                          | Typ. | Max. |               | Min.                 | Typ.  |
| KW1-2301A3 | GaAsP/GaP    | Hi-Eff. Red   | Common Anode   | 635                 | 45                       | 100     | 50      | 100            | 6.8                           | 8.0  | 10   | 10-20         | 2000                 | 6000  |
| KW1-2301AS | GaAlAs       | Super Red     |                | 660                 | 20                       | 100     | 50      | 100            | 6.4                           | 7.5  | 8.0  | 10-20         | 12000                | 42000 |
| KW1-2301A2 | GaP          | Green         |                | 565                 | 30                       | 100     | 50      | 100            | 6.8                           | 8.4  | 10   | 10-20         | 1800                 | 5400  |
| KW1-2301AG | GaP          | Super Green   |                | 570                 | 30                       | 100     | 50      | 100            | 6.8                           | 8.4  | 10   | 10-20         | 2000                 | 5700  |
| KW1-2301A6 | GaAsP/GaP    | Yellow        |                | 585                 | 30                       | 100     | 50      | 100            | 6.8                           | 8.4  | 10   | 10-20         | 1800                 | 5400  |
| KW1-2301C3 | GaAsP/GaP    | Hi-Eff Red    | Common Cathode | 635                 | 45                       | 100     | 50      | 100            | 6.8                           | 8.0  | 10   | 10-20         | 2000                 | 6000  |
| KW1-2301CS | GaAlAs       | Super Red     |                | 660                 | 20                       | 100     | 50      | 100            | 6.4                           | 7.5  | 8.0  | 10-20         | 12000                | 42000 |
| KW1-2301C2 | GaP          | Green         |                | 565                 | 30                       | 100     | 50      | 100            | 6.8                           | 8.4  | 10   | 10-20         | 1800                 | 5400  |
| KW1-2301CG | GaP          | Super Green   |                | 570                 | 30                       | 100     | 50      | 100            | 6.8                           | 8.4  | 10   | 10-20         | 2000                 | 5700  |
| KW1-2301C6 | GaAsP/GaP    | Yellow        |                | 585                 | 30                       | 100     | 50      | 100            | 6.8                           | 8.4  | 10   | 10-20         | 1800                 | 5400  |

- REMARKS : 1. The average luminous intensity is obtained by summing the luminous intensity of each segment and dividing by the total number of segments.  
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 by pure water, isopropanol, ethanol, Freon TF (or equivalent).