

### DESCRIPTION:

The KWM-19881 series is 20.00mm (0.79") height 8 x 8 dot matrix display. This series is suitable for use in single/multi-line message display, large area graphics display and electronic games. All devices are available as either common row anode or common row cathode.

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

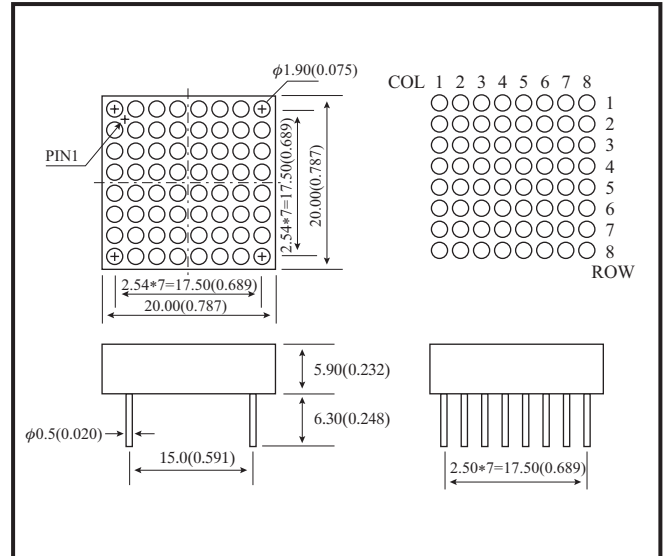
| Parameter  | Max            |
|--|----------------|
| Reverse Voltage per segment                                      | 5 V            |
| Reverse Current per segment (Vr = 5V)                            | 100μA          |
| Derating Linear from 25°C per segment                            | 0.4mA/°C       |
| 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.

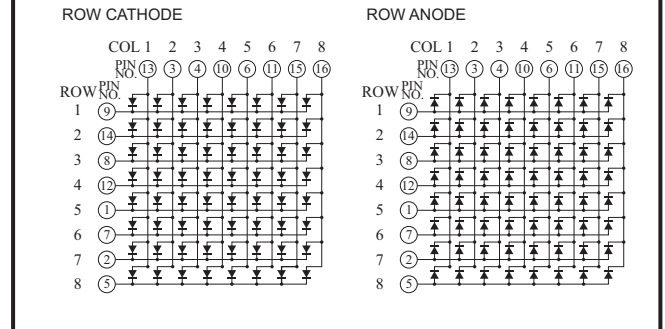
### TESTING CONDITION FOR EACH PARAMETER :

| 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 Characteristic |      |      |               |                  |      |
|-------------|--------------|---------------|----------------|---------------------|--------------------------|---------|---------|----------------|--------------------------------|------|------|---------------|------------------|------|
|             | Raw Material | Emitted Color |                |                     | Δλ (nm)                  | Pd (mW) | If (mA) | If (Peak) (mA) | Vf (V) Per Dot                 |      |      | If (Rec) (mA) | Iv (μcd) Per Dot |      |
|             |              |               |                |                     |                          |         |         |                | Min.                           | Typ. | Max. |               | Min.             | Typ. |
| KWM-19881A5 | GaP          | Bright Red    | Common Anode   | 700                 | 90                       | 100     | 50      | 100            | 1.7                            | 2.4  | 2.8  | 10-20         | 400              | 600  |
| KWM-19881A3 | GaAsP/GaP    | Hi-Eff Red    |                | 635                 | 45                       | 100     | 50      | 100            | 1.7                            | 1.9  | 2.6  | 10-20         | 850              | 1500 |
| KWM-19881AS | GaAlAs       | Super Red     |                | 660                 | 20                       | 100     | 50      | 100            | 1.5                            | 1.9  | 2.6  | 10-20         | 1500             | 2800 |
| KWM-19881A2 | GaP          | Green         |                | 565                 | 30                       | 100     | 50      | 100            | 1.7                            | 2.2  | 2.6  | 10-20         | 750              | 1400 |
| KWM-19881AG | GaP          | Super Green   |                | 570                 | 30                       | 100     | 50      | 100            | 1.7                            | 2.2  | 2.6  | 10-20         | 800              | 1600 |
| KWM-19881A6 | GaAsP/GaP    | Yellow        |                | 585                 | 30                       | 100     | 50      | 100            | 1.7                            | 1.9  | 2.6  | 10-20         | 750              | 1400 |
| KWM-19881C5 | GaP          | Bright Red    | Common Cathode | 700                 | 90                       | 100     | 50      | 100            | 1.7                            | 2.4  | 2.8  | 10-20         | 400              | 600  |
| KWM-19881C3 | GaAsP/GaP    | Hi-Eff Red    |                | 635                 | 45                       | 100     | 50      | 100            | 1.7                            | 1.9  | 2.6  | 10-20         | 850              | 1500 |
| KWM-19881CS | GaAlAs       | Super Red     |                | 660                 | 20                       | 100     | 50      | 100            | 1.5                            | 1.9  | 2.6  | 10-20         | 1500             | 2800 |
| KWM-19881C2 | GaP          | Green         |                | 565                 | 30                       | 100     | 50      | 100            | 1.7                            | 2.2  | 2.6  | 10-20         | 750              | 1400 |
| KWM-19881CG | GaP          | Super Green   |                | 570                 | 30                       | 100     | 50      | 100            | 1.7                            | 2.2  | 2.6  | 10-20         | 800              | 1600 |
| KWM-19881C6 | GaAsP/GaP    | Yellow        |                | 585                 | 30                       | 100     | 50      | 100            | 1.7                            | 1.9  | 2.6  | 10-20         | 750              | 1400 |

- 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).