

#### ZHONSHAN SILSMART OPTOELECTRONICS CO., LTD.

Device Number: JMM-150-006 REV: 1.0

1.90mm 8\*8 Dot Matrix Displays

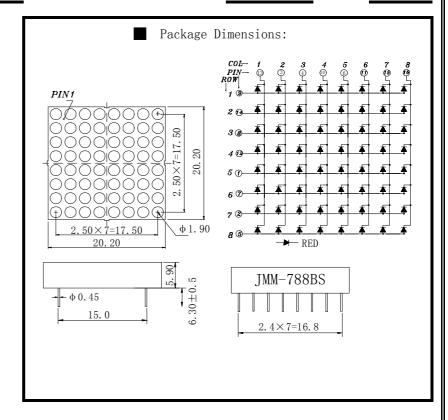
Model No.: **JMM-788BS** ECN: Page: 1/4

#### Features:

- Large emitting dot 1.90mm diameter.
- Low power/high brightness.

## Descriptions :

- The 788 series is a large emitting area(1.90mm diameter)LED sources configured in a 64 dots 8\*8 matrix array.
- These devices are made with water clear dots and Black surface.
- Applications:
- Instrument panels
- Digital read out display



**Notes:** 1.All dimensions are in millimetres

- 2. An epoxy meniscus may extend about 1.5mm(0.059") down to the lead.
- 3. Tolerances unless Dimension  $\pm 0.25$ mm.

| PART NO.  | Chip     |                  |  |
|-----------|----------|------------------|--|
|           | Material | Emitted Color    |  |
| JMM-788BS | GaAlAs   | Super Bright Red |  |

Addree: 4/F., Bld. C1, Fuwan Industrial Zone, Shiqi, Zhongshan, Guangdong, P. R. China

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### Absolute Maximum Ratings at Ta = 25℃

| Parameter             | Symbol     | Rating      | Unit       |
|-----------------------|------------|-------------|------------|
| Forward Current       | ${f I}$ F  | 30          | mA         |
| Power Dissipation     | Pd         | 120         | mW         |
| Peak Forward Current  | IF (Peak)  | 180         | mA         |
| Operating Temperature | Topr       | -40 to +85  | $^{\circ}$ |
| Storage Temperature   | Tstg       | -40 to +100 | $^{\circ}$ |
| Soldering Temperature | Tsol       | $260~\pm~5$ | $^{\circ}$ |
| Reverse Voltage       | <b>V</b> R | 5           | V          |

Note: \*1:IFP Conditions --Pulse Width  $\leq$  1msec and Duty  $\leq$  1/10. \*2:Soldering time  $\leq$  5 seconds.

## **Electro-Optical Characteristics (Ta=25°C)**

| Parameter                       | Symbol           | Min. | Typ. | Max. | Unit | Condition            |
|---------------------------------|------------------|------|------|------|------|----------------------|
| Peak Wavelength                 | λp               | /    | 660  | /    | nm   | IF= 20 mA            |
| Dominant Wavelength             | λd               | /    | 643  | /    | nm   | IF= 20 mA            |
| Spectrum Radiation<br>Bandwidth | Δλ               | /    | 20   | /    | nm   | IF= 20 mA            |
| Forward Voltage                 | $V_{\mathbf{F}}$ | /    | 1.8  | /    | V    | IF= 20 mA            |
| Luminous Intensity              | IV               | 200  | /    | /    | mcd  | IF= 20 mA            |
| Reverse Current                 | Ir               | /    | /    | 10   | μА   | V <sub>R</sub> = 5 V |

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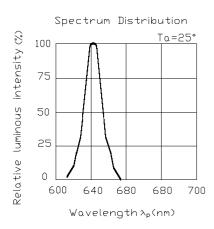
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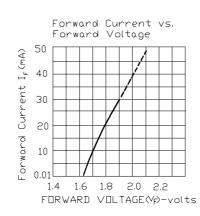
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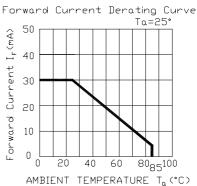
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■ Typical Electro-Optical Characteristic Curves:







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## Reliability test items and conditions:

| NO | Item                               | Test Conditions                               | Test<br>Hours/Cycle | Sample size | Ac/Re |
|----|------------------------------------|---|---------------------|-------------|-------|
| 1  | Solder Heat                        | TEMP : 260°C ± 5 °C                           | 10 SEC              |             | 0/1   |
| 2  | Temperature Cycle                  | H : +100℃ 15min<br>∫ 5 min<br>L : -40℃ 15min  | 300 CYCLES          | 76 PCS      | 0/1   |
| 3  | Thermal Shock                      | H : +100°C 5min<br>∫ 10 sec<br>L : -10°C 5min | 300 CYCLES          | 76 PCS      | 0/1   |
| 4  | High Temperature<br>Storage        | TEMP : 100℃                                   | 1000 HRS            | 76 PCS      | 0/1   |
| 5  | Low Temperature<br>Storage         | TEMP : −40°C                                  | 1000 HRS            | 76 PCS      | 0/1   |
| 6  | DC Operating Life                  | TEMP : 25℃<br>I <sub>F</sub> = 20mA           | 1000 HRS            | 76 PCS      | 0/1   |
| 7  | High Temperature/<br>High Humidity | 85℃ / 85% RH                                  | 1000 HRS            | 76 PCS      | 0/1   |

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