



# PRODUCT SPECIFICATION

**Model No : CSM-16151M9/16161M9**

## Descriptions:

- 1.5 Inch 16X16 Dot-Matrix Display
- Dot Pitch 2.5mm
- CSM-16151: Column Anode, Row Cathode
- CSM-16161: Column Cathode, Row Anode
- Emitting Color: Super Bright Green



| CUSTOMER APPROVED<br>SIGNATURES | APPROVED BY | CHECKED BY | PREPARED BY |
|---------------------------------|-------------|------------|-------------|
|                                 |             |            |             |

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**Model No : CSM-16151/16161M9**

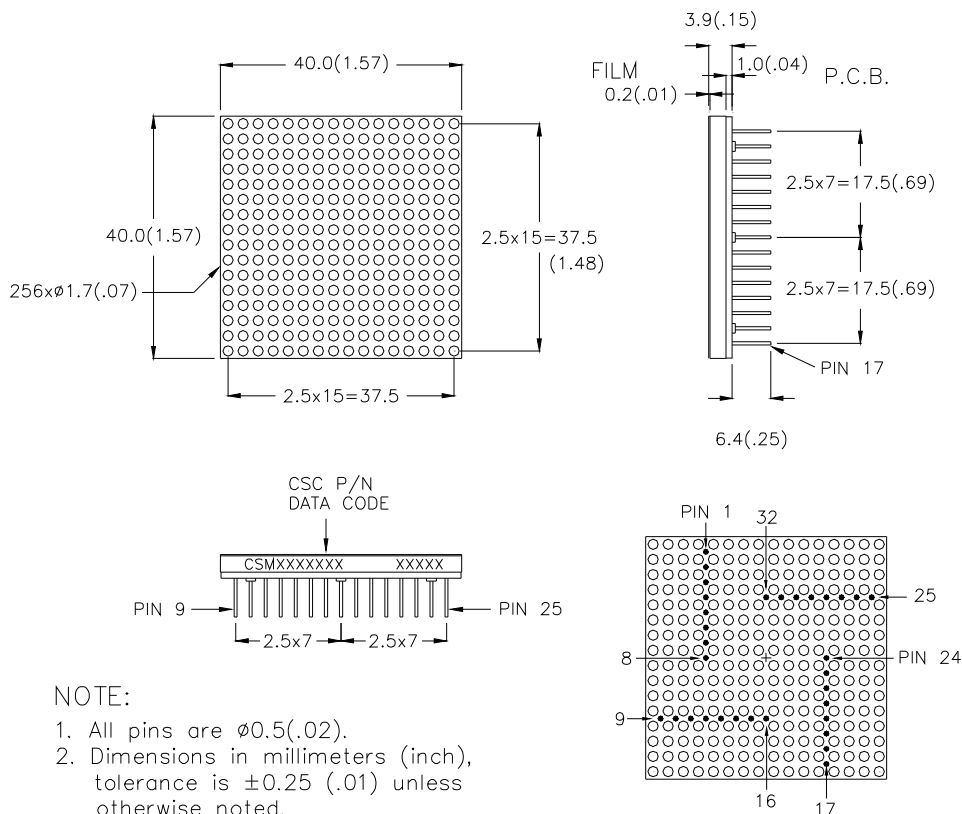
### ■ Features -

1. 1.5 inch (39.2mm) Matrix height.
2. Case mold type.
3. RoHs compliant.
4. Low power consumption.
5. Easy mounting on P.C. board or socket.

### ■ Device Selection Guide -

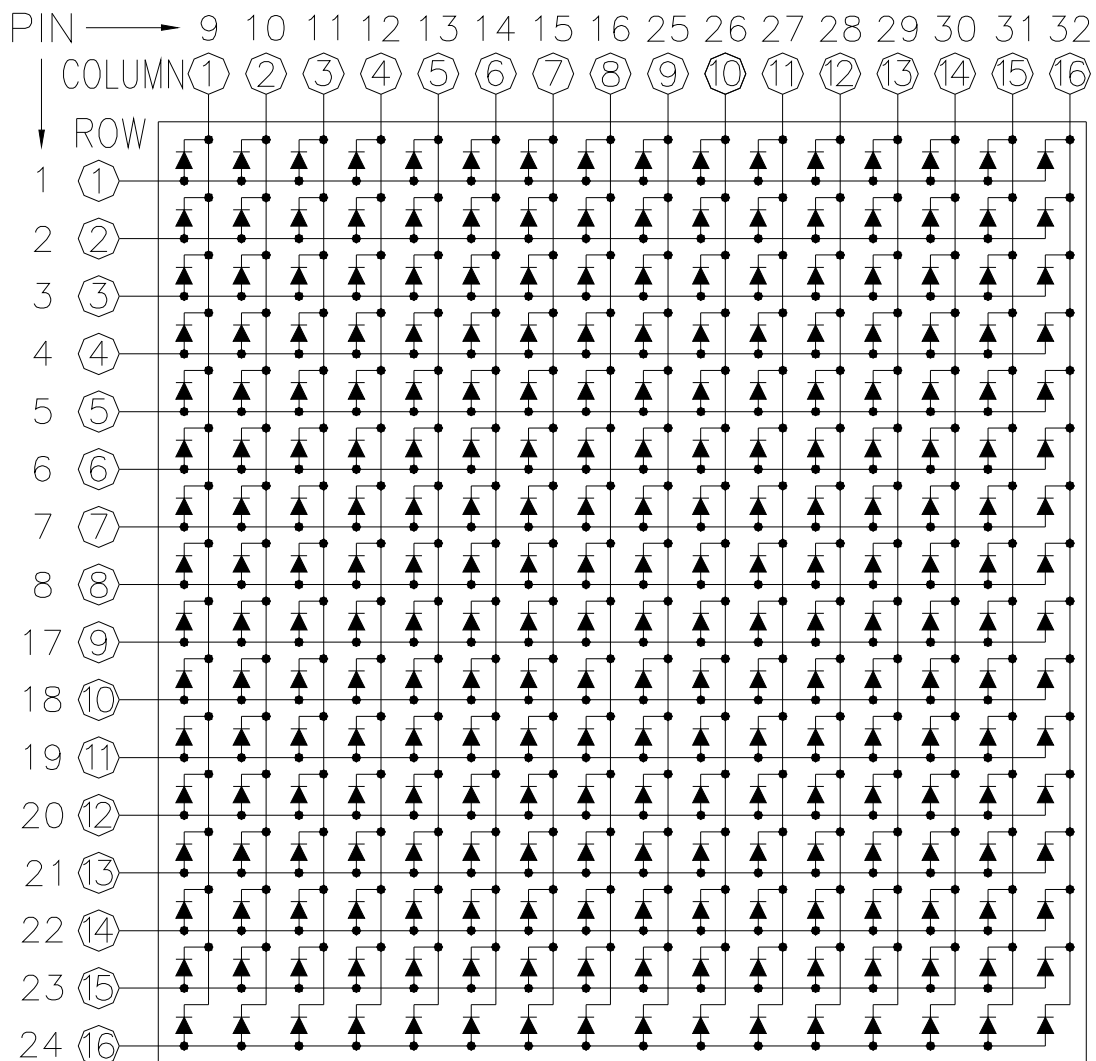
| Part No.    | Chip     |                    | Column  | Row     |
|-------------|----------|--------------------|---------|---------|
|             | Material | Emitted Color      |         |         |
| CSM-16151M9 | AlGaInP  | Super Bright Green | Anode   | Cathode |
| CSM-16161M9 | AlGaInP  | Super Bright Green | Cathode | Anode   |

### ■ Package Dimensions -



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Internal Circuit Diagrams -



CSM-16151 Column Anode, Row Cathode.  
(CSM-16161 Column Cathode, Row Anode.)


**Model No : CSM-16151/16161M9**
**■ Absolute Maximum Rating -**

(Ta=25°C)

| Parameter                                                               | Symbol      | Rating    | Unit  |
|-------------------------------------------------------------------------|-------------|-----------|-------|
| Power Dissipation Per Dice                                              | <b>Pd</b>   | 75        | mW    |
| Continuous Forward Current Per Dice                                     | <b>IAF</b>  | 25        | mA    |
| Peak Current Per Dice(duty cycle 1/10, 1kHz)                            | <b>IPF</b>  | 90        | mA    |
| Derating Linear From 25°C Per Dice                                      | -           | 0.33      | mA/°C |
| Reverse Voltage Per Dice                                                | <b>VR</b>   | 5         | V     |
| Operating Temp.                                                         | <b>Topr</b> | -35 ~ +85 | °C    |
| Storage Temp.                                                           | <b>Tstg</b> | -35 ~ +85 | °C    |
| Solder temperature 1/16 inch below seating plane for 3 seconds at 260°C |             |           |       |

**■ Electro-optical Characteristics -**

(Ta=25°C)

| Parameter                         | Symbol           | Min. | Typ. | Max. | Unit    | Condition |
|-----------------------------------|------------------|------|------|------|---------|-----------|
| Forward Voltage Per Segment       | <b>VF</b>        | -    | 2.1  | 2.8  | V       | IF=20mA   |
| Luminous Intensity Per Segment    | <b>Iv</b>        | -    | 7    | -    | mcd     | IF=10mA   |
| Peak Emission Wavelength          | $\lambda_p$      | -    | 568  | -    | nm      | IF=20mA   |
| Dominant Wavelength               | $\lambda_d$      | -    | 572  | -    | nm      | IF=20mA   |
| Spectrum Radiation Bandwidth      | $\Delta \lambda$ | -    | 20   | -    | nm      | IF=20mA   |
| Reverse Current                   | <b>IR</b>        | -    | -    | 100  | $\mu A$ | VR=5V     |
| Luminous Intensity Matching Ratio | <b>IV-m</b>      | -    | -    | 2:1  | -       | IF=10mA   |

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## Typical Electrical / Optical Characteristics Curves -

(Ta = 25°C Unless Otherwise Noted)

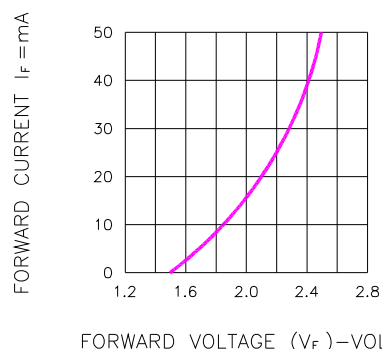


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

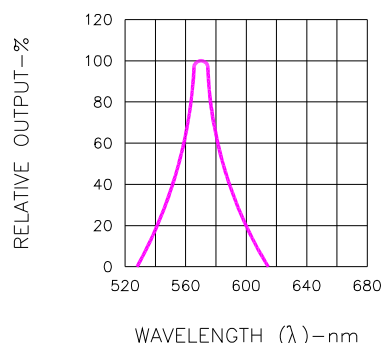


Fig.2 SPECTRAL RESPONSE

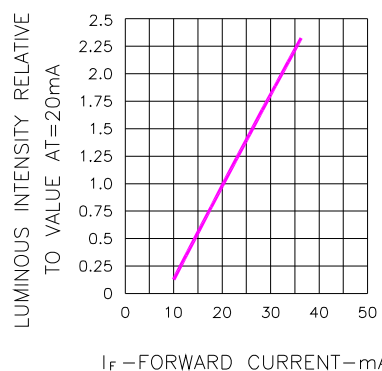


Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

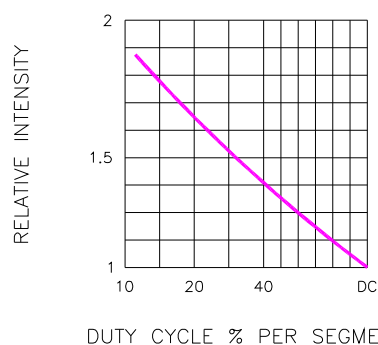


Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE

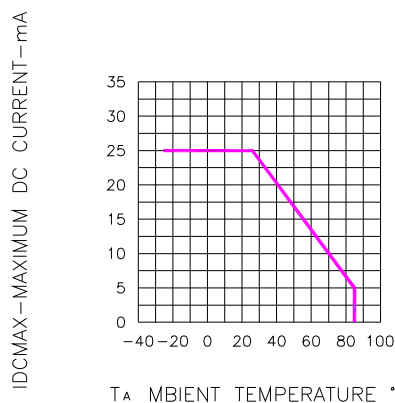


Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT VS. A FUNCTION OF AMBIENT TEMPERATURE

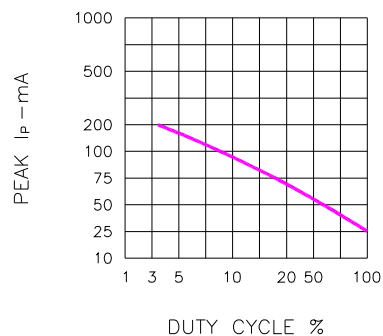


Fig.6 MAX PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE f=1 KHz)