FEATURES

✧ Φ3.0MM DOT SIZE
✧ 32.0MM × 32.0MM OUTLINE
✧ 8×8 FORMAT
✧ SINGLE COLOR DOT MATRIX
✧ LOW POWER REQUIREMENT
✧ EASY ASSEMBLY
✧ SOLID STATE RELIABILITY

DESCRIPTION

The REC-M1388ASR is a φ3.0 dot size, 32.0mm×32.0mm outline, 8×8 format, single color, row anode, LED dot matrix display. This display utilizes red LED chips fabricated from GaAlAs epiwafer on GaAs substrate grown by liquid phase epitaxy. The devices have black face and white dots.

DEVICE

<table>
<thead>
<tr>
<th>PART NO.</th>
<th>EMITTING COLOR</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>REC-M1388ASR</td>
<td>Super-Red</td>
<td>Row Anode, Black face, White dot</td>
</tr>
</tbody>
</table>

Part No. : REC-M1388ASR  Reference No. : SP200102  Date : 04-12-24  Page : 1 of 3
RAYCONN ELECTRONICS CO., LTD.

PACKAGE DIMENSION

<table>
<thead>
<tr>
<th>PIN NO.</th>
<th>CONNECTION</th>
<th>PIN NO.</th>
<th>CONNECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Anode Row 5</td>
<td>9</td>
<td>Anode Row 1</td>
</tr>
<tr>
<td>2</td>
<td>Anode Row 7</td>
<td>10</td>
<td>Cathode column 4</td>
</tr>
<tr>
<td>3</td>
<td>Cathode column 2</td>
<td>11</td>
<td>Cathode column 6</td>
</tr>
<tr>
<td>4</td>
<td>Cathode column 3</td>
<td>12</td>
<td>Anode Row 4</td>
</tr>
<tr>
<td>5</td>
<td>Anode Row 8</td>
<td>13</td>
<td>Cathode column 1</td>
</tr>
<tr>
<td>6</td>
<td>Cathode column 5</td>
<td>14</td>
<td>Anode Row 2</td>
</tr>
<tr>
<td>7</td>
<td>Anode Row 6</td>
<td>15</td>
<td>Cathode column 7</td>
</tr>
<tr>
<td>8</td>
<td>Anode Row 3</td>
<td>16</td>
<td>Cathode column 8</td>
</tr>
</tbody>
</table>

INTERNAL CIRCUIT DIAGRAM
ABSOLUTE MAXIMUM RATING AT $T_A=25^\circ C$

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>SYMBOL</th>
<th>MAXIMUM</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Dissipation per dot</td>
<td>$P_{AD}$</td>
<td>60</td>
<td>mW</td>
</tr>
<tr>
<td>Peak Forward Current per dot (1/10 duty cycle, 0.1ms pulse width)</td>
<td>$I_{PF}$</td>
<td>80</td>
<td>mA</td>
</tr>
<tr>
<td>Continuous Forward Current per dot</td>
<td>$I_{AF}$</td>
<td>20</td>
<td>mA</td>
</tr>
<tr>
<td>Reverse Voltage per dot</td>
<td>$V_R$</td>
<td>5</td>
<td>V</td>
</tr>
<tr>
<td>Operating Temperature Range, $T_{opr}$</td>
<td></td>
<td>-25°C to +60°C</td>
<td></td>
</tr>
<tr>
<td>Storage Temperature Range, $T_{stg}$</td>
<td></td>
<td>-30°C to +85°C</td>
<td></td>
</tr>
<tr>
<td>Solder Temperature : 1 / 16 inch below seating plane for 3 seconds at 260°C</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ELECTRO - OPTICAL CHARACTERISTICS AT $T_A=25^\circ C$

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>UNIT</th>
<th>MIN</th>
<th>TYPE</th>
<th>MAX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Luminous Intensity per chip, $I_V$ ($I_F=20mA$)</td>
<td>mcd</td>
<td>6</td>
<td>9</td>
<td>13</td>
</tr>
<tr>
<td>Peak Emission Wavelength, $\lambda_P$ ($I_F=20mA$)</td>
<td>nm</td>
<td>645</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special Line Half-Width, $\Delta\lambda$ ($I_F=20mA$)</td>
<td>nm</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forward Voltage per chip, $V_F$ ($I_F=20mA$)</td>
<td>V</td>
<td>1.6</td>
<td>1.8</td>
<td>2.1</td>
</tr>
<tr>
<td>Reverse Current per chip, $I_R$, ($V_R=5V$)</td>
<td>$\mu$A</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Luminous Intensity Matching Ratio, $I_{V,m}$ ($I_F=20mA$)</td>
<td></td>
<td>2 :1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>