56.9mm (2.3INCH) SINGLE DIGIT NUMERIC DISPLAY

Part Number: SA23-11SRWA  Super Bright Red

Features
- 2.3 INCH DIGIT HEIGHT.
- LOW CURRENT OPERATION.
- EXCELLENT CHARACTER APPEARANCE.
- HIGH LIGHT OUTPUT.
- EASY MOUNTING ON P.C. BOARDS OR SOCKETS.
- MULTICOLOR AVAILABLE.
- MECHANICALLY RUGGED.
- STANDARD : GRAY FACE, WHITE SEGMENT.
- RoHS COMPLIANT.

Description
The Super Bright Red source color devices are made with Gallium Aluminum Arsenide Red Light Emitting Diode.

Package Dimensions & Internal Circuit Diagram

Notes:
1. All dimensions are in millimeters (inches). Tolerance is ±0.25(0.01") unless otherwise noted.
2. Specifications are subject to change without notice.
### Selection Guide

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Dice</th>
<th>Lens Type</th>
<th>$I_v$ (ucd) $[1]$ @ $10\text{mA}$</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SA23-11SRWA</td>
<td>Super Bright Red (GaAlAs)</td>
<td>WHITE DIFFUSED</td>
<td>Min. 18000 Typ. 75000</td>
<td>Common Anode, Rt. Hand Decimal</td>
</tr>
</tbody>
</table>

Note:
1. Luminous intensity/ luminous Flux: +/-15%.

### Electrical / Optical Characteristics at $TA=25°C$

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Parameter</th>
<th>Device</th>
<th>Typ.</th>
<th>Max.</th>
<th>Units</th>
<th>Test Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\lambda_{\text{peak}}$</td>
<td>Peak Wavelength</td>
<td>Super Bright Red</td>
<td>660</td>
<td>nm</td>
<td>$I_r=20\text{mA}$</td>
<td></td>
</tr>
<tr>
<td>$\lambda_{D}$ $[1]$</td>
<td>Dominant Wavelength</td>
<td>Super Bright Red</td>
<td>640</td>
<td>nm</td>
<td>$I_r=20\text{mA}$</td>
<td></td>
</tr>
<tr>
<td>$\Delta\lambda_{1/2}$</td>
<td>Spectral Line Half-width</td>
<td>Super Bright Red</td>
<td>20</td>
<td>nm</td>
<td>$I_r=20\text{mA}$</td>
<td></td>
</tr>
<tr>
<td>$C$</td>
<td>Capacitance</td>
<td>Super Bright Red</td>
<td>45</td>
<td>pF</td>
<td>$V_F=0\text{V}; f=1\text{MHz}$</td>
<td></td>
</tr>
<tr>
<td>$V_F$ $[2]$</td>
<td>Forward Voltage Per Segment Or (DP)</td>
<td>Super Bright Red</td>
<td>7.4 (3.7)</td>
<td>10.0 (5.0)</td>
<td>V</td>
<td>$I_r=20\text{mA}$</td>
</tr>
<tr>
<td>$I_r$</td>
<td>Reverse Current Per Segment Or (DP)</td>
<td>Super Bright Red</td>
<td>10 (10)</td>
<td>uA</td>
<td>$V_{F_r}=20\text{V}$ ($V_{r_c}=10\text{V}$)</td>
<td></td>
</tr>
</tbody>
</table>

Notes:
1. Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.

### Absolute Maximum Ratings at $TA=25°C$

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Super Bright Red</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power dissipation Per Segment Or (DP)</td>
<td>300 (150)</td>
<td>mW</td>
</tr>
<tr>
<td>DC Forward Current Per Segment Or (DP)</td>
<td>30 (30)</td>
<td>mA</td>
</tr>
<tr>
<td>Peak Forward Current $[1]$ Per Segment Or (DP)</td>
<td>155 (155)</td>
<td>mA</td>
</tr>
<tr>
<td>Reverse Voltage Per Segment Or (DP)</td>
<td>20 (10)</td>
<td>V</td>
</tr>
<tr>
<td>Operating / Storage Temperature</td>
<td>-40°C To +85°C</td>
<td></td>
</tr>
<tr>
<td>Lead Solder Temperature$[2]$</td>
<td>260°C For 3-5 Seconds</td>
<td></td>
</tr>
</tbody>
</table>

Notes:
1. 1/10 Duty Cycle, 0.1ms Pulse Width.
2. 2mm below package base.
Super Bright Red  SA23-11SRWA

- Relative Radiant Intensity vs. Wavelength
  - Wavelength (nm): 450 to 750
  - Relative Intensity: 0 to 1.0
  - Temperature: T=25°C

- Forward Voltage (V) vs. Forward Current (mA)
  - Voltage: 7.2 to 7.7
  - Current: 0 to 50

- Luminous Intensity (mcd) vs. Forward Current (mA)
  - Current: 0 to 50
  - Intensity: 0 to 5.0

- Relative Luminous Intensity vs. Ambient Temperature (°C)
  - Temperature: -40 to 80
  - Intensity: 0 to 2.5

SPEC NO: DSAD2321  REV NO: V.8  DATE: JUN/04/2007  PAGE: 3 OF 5
APPROVED: WYNEC  CHECKED: Joe Lee  DRAWN: Y.L.LI  ERP: 1301000233
PACKING & LABEL SPECIFICATIONS

Outside LABEL Paste On The Box

Inside LABEL Paste On The IC-tube

OUTSIDE LABEL

210 PCS/BOX

21 TUBE/10# BOX

10 PCS/TUBE

RoHS Compliant

PASSED

40 QA

PASSED

RoHS Compliant

210

QTY=10 PCS CODE: xx

LOT NO.

Number OF QA

Date

Number OF FQC

Date

RoHS Compliant

TYPE: SX23-11XXX

RoHS Compliant