Red GaAsP 0.3-Inch 7-Segment Digit
Optoelectronic Products

MAN71A, MAN72A
MAN73A, MAN74A

General Description
The MAN71A, MAN72A, MAN73A and MAN74A are red GaAsP 7-segment LED displays with 0.3-inch character height. They can be mounted in arrays with 0.400-inch center-to-center spacing.

Low Power Consumption
Solid State Reliability—Long Operation Life
Impact Resistant Plastic Case
Standard 14-Pin DIP Configuration
Wide Viewing Angle
Intensity Coding for Uniform Display
MAN71A—Common Anode Digit, Right-Hand Decimal Point
MAN72A—Common Anode Digit, Left-Hand Decimal Point
MAN73A—Common Anode Overflow ± Digit, Left-Hand Decimal Point
MAN74A—Common Cathode Digit, Right-Hand Decimal Point

Absolute Maximum Ratings

Maximum Temperature and Humidity
Storage Temperature $-40^\circ\text{C} \text{ to } +85^\circ\text{C}$
Operating Temperature $-40^\circ\text{C} \text{ to } +85^\circ\text{C}$
Pin Temperature (Soldering, 5 s) 260°C
Relative Humidity at 65°C 98%

Maximum Voltage and Currents

$V_R$ Reverse Voltage 5.0 V
$I_F$ Average Forward dc Current/Segment or Decimal Point 30 mA
Derate from 25°C
Ambient Temperature 0.5 mA/°C

$I_{pk}$ Peak Forward Current/Segment or Decimal Point (100 μs pulse)
1000 pps, $T_A = 25^\circ\text{C}$ 200 mA

Electrical and Radiant Characteristics $T_A = 25^\circ\text{C}$

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Characteristic</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Units</th>
<th>Test Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>$V_F$</td>
<td>Forward Voltage, Each Segment</td>
<td>1.7</td>
<td>2.0</td>
<td>V</td>
<td>$I_F = 20$ mA</td>
<td></td>
</tr>
<tr>
<td>$I_R$</td>
<td>Reverse Current, Each Segment</td>
<td>125</td>
<td>250</td>
<td>$\mu$A</td>
<td>$V_R = 5.0$ V</td>
<td></td>
</tr>
<tr>
<td>$I_O$</td>
<td>Axial Luminous Intensity, Each Segment</td>
<td>$\pm 33$</td>
<td>%</td>
<td>$I_F = 10$ mA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$\Delta I_O$</td>
<td>Intensity Matching, Segment-to-Segment</td>
<td>$\pm 20$</td>
<td>%</td>
<td>$I_F = 20$ mA</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Intensity Matching Within One Intensity Class</td>
<td></td>
<td></td>
<td>$I_F = 20$ mA, all segments at once</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$\lambda_{pk}$</td>
<td>Peak Wavelength</td>
<td>660</td>
<td>nm</td>
<td>$I_F = 20$ mA</td>
<td></td>
<td></td>
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</table>
Connection Diagrams

MAN71A, MAN72A
MAN73A, MAN74A

Pin MAN71A
1 Cathode A
2 Cathode F
3 Common Anode
4 No Pin
5 No Pin
6 NC
7 Cathode E
8 Cathode D
9 Cathode DP
10 Cathode C
11 Cathode G
12 No Pin
13 Cathode B
14 Common Anode

Pin MAN72A
1 Cathode A
2 Cathode F
3 Common Anode
4 No Pin
5 No Pin
6 Cathode DP
7 Cathode E
8 Cathode D
9 NC
10 Cathode C
11 Cathode G
12 No Pin
13 Cathode B
14 Common Anode

Pin MAN73A
1 Anode C, D
2 No Pin
3 Anode C, D
4 No Pin
5 No Pin
6 No Pin
7 Cathode D
8 Cathode C
9 NC
10 Cathode B
11 Cathode A
12 No Pin
13 No Pin
14 Anode A, B

Pin MAN74A
1 Anode F
2 Anode G
3 No Pin
4 Common Cathode
5 No Pin
6 Anode E
7 Anode D
8 Anode C
9 Anode DP
10 No Pin
11 No Pin
12 Common Cathode
13 Anode B
14 Anode A
Typical Electrical Characteristic Curves

**Luminous Intensity vs Forward Current**

- **Graph 1:**
  - X-axis: Ip (per segment) - mA
  - Y-axis: Luminous Intensity - µm

**Luminous Intensity vs Temperature**

- **Graph 2:**
  - X-axis: Ambient Temperature - °C
  - Y-axis: Relative Brightness - %

**Forward Current vs Forward Voltage**

- **Graph 3:**
  - X-axis: Vf - Forward Voltage - V
  - Y-axis: Ip - Forward Current - mA
Package Outlines

MAN71A, MAN72A
MAN73A, MAN74A

Notes
All dimensions in inches bold and millimeters (parentheses)
Tolerance unless specified = ±.015 (±.381)