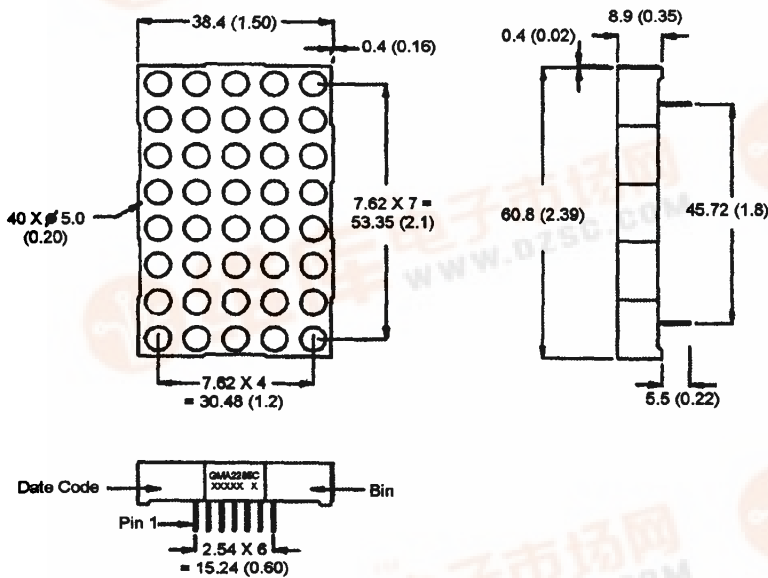


**FAIRCHILD**  
SEMICONDUCTOR™

**2.3 INCH (58.4 mm) 5 X 8  
DOT MATRIX STICK DISPLAY**

**AIGaAs Red GMA2285C  
AIGaAs Red GMC2285C**

**PACKAGE DIMENSIONS**



**DESCRIPTION**

The GMX2285C 5 X 8, Single Hetero Junction AIGaAs Red dot matrix display. It has a grey face with neutral segment color.

**FEATURES**

- 2.5" ( 58.4mm) character height.
- Low power requirement.
- Wide 130° viewing angle.
- High brightness and contrast
- 5 X 8 array with X-Y select.
- X-Y stackable.
- Easy mounting on P.C. board.

**NOTE:** Dimensions are in mm (inch).  
Tolerances are  $\pm 0.25$  (0.1) unless otherwise noted.  
All pins are 0.5 (.02).

**MODEL NUMBER**

<u>Part Number</u>	<u>Colour</u>	<u>Description</u>
GMA2285C	AIGaAs Red	Common anode row.
GMC2285C	AIGaAs Red	Common Cathode row.

(For other color options, contact your local area Sales Office)



**ABSOLUTE MAXIMUM RATING** ( $T_A = 25^\circ\text{C}$  unless otherwise specified)

	<b>AlGaAs Red</b>	<b>Units</b>
Peak forward current per segment (Duty cycle 1/10, 10KHz)	<b>200</b>	<b>mA</b>
Continuous $I_F$ per segment	<b>30</b>	<b>mA</b>
Power dissipation per segment	<b>100*</b>	<b>mW</b>
*Derate linearly from $25^\circ\text{C}$	<b>0.5</b>	<b>mW/°C</b>
Reverse voltage $V_R$ per segments	<b>5</b>	<b>Volts</b>
Operating and storage temperature range.....	<b><math>-25^\circ\text{C}</math> to <math>+85^\circ\text{C}</math></b>	
Soldering time at $260^\circ\text{C}$ ..... (1/16" below seating plane)	<b>3 sec</b>	

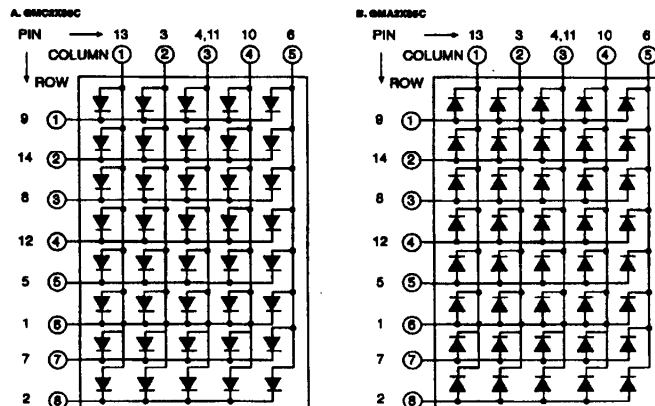
**ELECTRO - OPTICAL CHARACTERISTICS** ( $T_A = 25^\circ\text{C}$  unless otherwise specified)

	<b>AlGaAs Red</b>	<b>Test Condition</b>
Luminous Intensity/Dot Digit average (Typical)	<b>5000ucd</b>	<b><math>I_F = 20\text{mA}</math></b>
Forward voltage ( $V_F$ ) typical	<b>1.8V</b>	<b><math>I_F = 20\text{ mA}</math></b>
maximum	<b>2.5V</b>	<b><math>I_F = 20\text{ mA}</math></b>
Peak wavelength (nm)	<b>660nm</b>	<b><math>I_F = 20\text{ mA}</math></b>
Spectral line half width (nm)	<b>20nm</b>	<b><math>I_F = 20\text{mA}</math></b>
Reverse breakdown voltage $V_R$	<b>5V</b>	<b><math>I_R = 100\text{uA}</math></b>

**PIN CONNECTION:**

<b>GMA2285C</b>		<b>GMC2285C</b>	
Pin Number	Function	Pin Number	Function
1	Anode Row 6	1	Cathode Row 6
2	Anode Row 8	2	Cathode Row 8
3	Cathode Column 2	3	Anode Column 2
4	Cathode Column 3	4	Anode Column 3
5	Anode Row 5	5	Cathode Row 5
6	Cathode Column 5	6	Anode Column 5
7	Anode Row 7	7	Cathode Row 7
8	Anode Row 3	8	Cathode Row 3
9	Anode Row 1	9	Cathode Row 1
10	Cathode Column 4	10	Anode Column 4
11	Cathode Column 3	11	Anode Column 3
12	Anode Row 4	12	Cathode Row 4
13	Cathode Column 1	13	Anode Column 1
14	Anode Row 2	14	Cathode Row 2

**SCHEMATIC:**



**GRAPHICAL DETAIL: AlGaAs Red** ( $T_A = 25^\circ\text{C}$  unless otherwise specified)

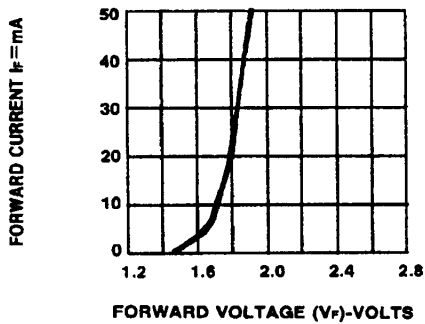


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

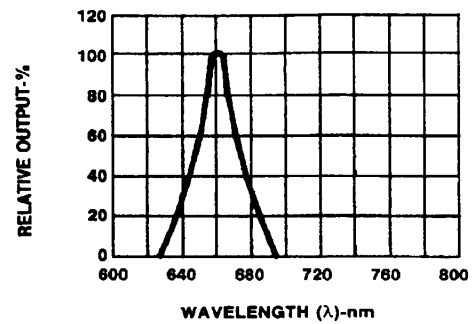


Fig.2 SPECTRAL RESPONSE

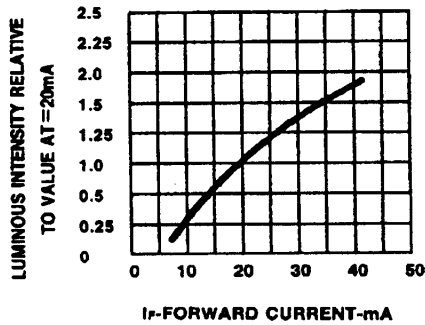


Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

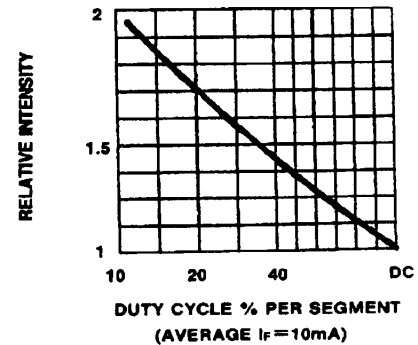


Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE

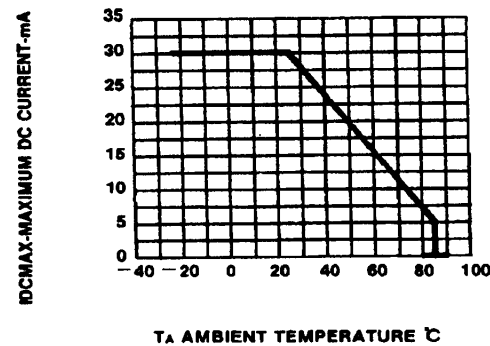


Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT VS. A FUNCTION OF AMBIENT TEMPERATURE.

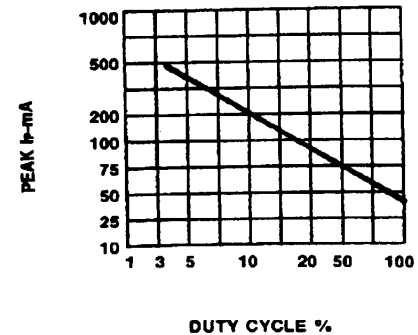


Fig. 6 MAX PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE  $f=1\text{ KHz}$ )

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2. A critical component in any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.