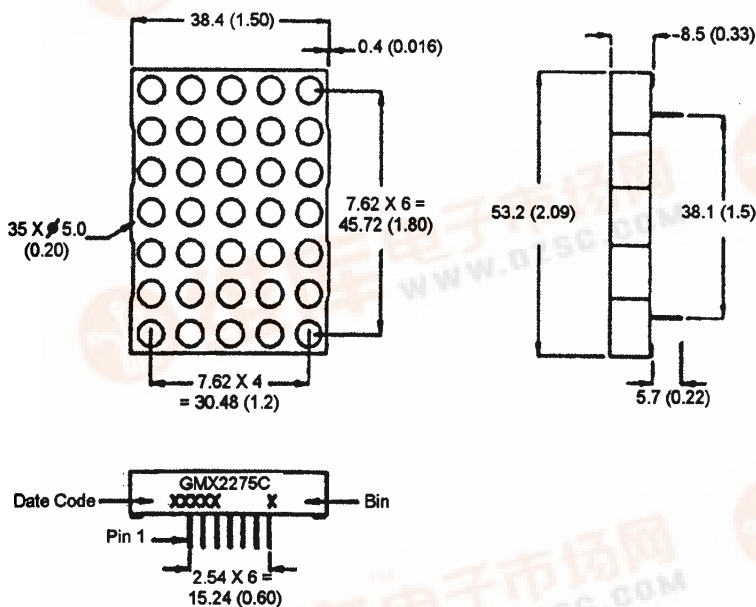


**FAIRCHILD**  
SEMICONDUCTOR™

## 2.0 INCH (50.8 mm) 5 X 7 DOT MATRIX STICK DISPLAY

**AlGaAs Red GMA2275C**  
**AlGaAs Red GMC2275C**

### PACKAGE DIMENSIONS



### DESCRIPTION

The GMX2275C 5 X 7, Single Hetero Junction AlGaAs Red dotmatrix display. It has a grey face with neutral segment color.

### FEATURES

- 2.0" ( 50.8mm) character height.
- Low power requirement.
- Wide 130° viewing angle.
- High brightness and contrast
- 5 X 7 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 0.6 (.02).

### MODEL NUMBER

Part Number	Colour	Description
GMA2275C	AlGaAs Red	Common anode row.
GMC2275C	AlGaAs 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)

---

	AlGaAs Red	Units
Peak forward current per segment (Duty cycle 1/10, 10KHz)	200	mA
Continuous IF per segment	30	mA
Power dissipation per segment	100*	mW
*Derate linearly from 25°C	0.5	mW/°C
Reverse voltage VR per segments	5	Volts
Operating and storage temperature range.....	-25°C to +85°C	
Soldering time at 260°C..... (1/16" below seating plane)	3 sec	

---

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

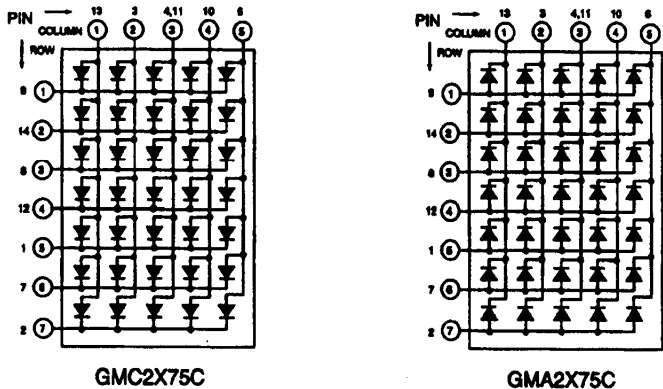
---

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

PIN CONNECTION:

GMA2275C		GMC2275C	
Pin Number	Function	Pin Number	Function
1	Anode Row 5	1	Cathode Row 5
2	Anode Row 7	2	Cathode Row 7
3	Cathode Column 2	3	Anode Column 2
4	Cathode Column 3	4	Anode Column 3
5	Anode Row 4	5	Cathode Row 4
6	Cathode Column 5	6	Anode Column 5
7	Anode Row 6	7	Cathode Row 6
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)

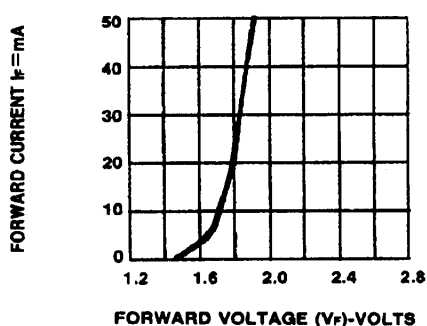


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

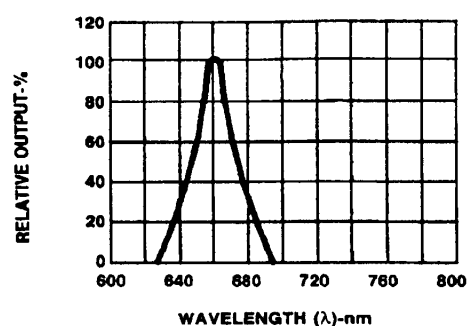


Fig.2 SPECTRAL RESPONSE

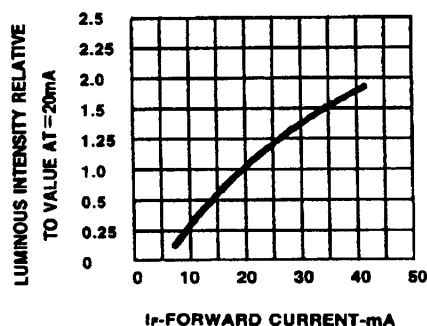


Fig.3 RELATIVE LUMINOUS INTENSITY  
VS. FORWARD CURRENT

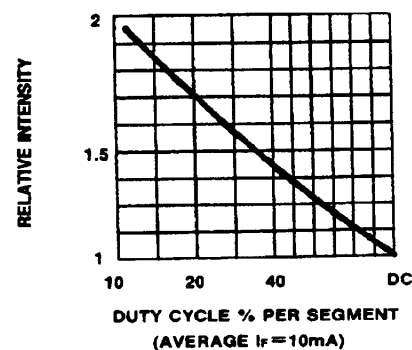


Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE

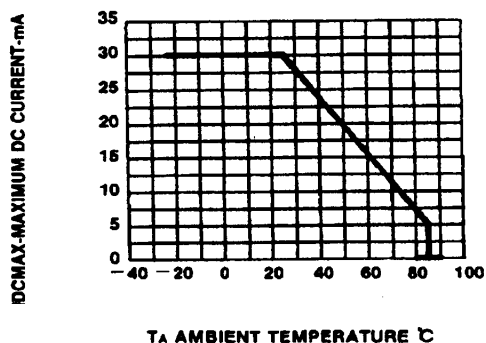


Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER  
SEGMENT VS. A FUNCTION OF AMBIENT  
TEMPERATURE.

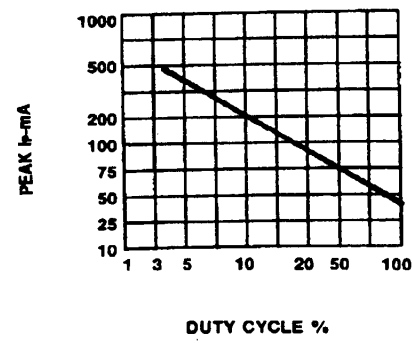


Fig. 6 MAX PEAK CURRENT VS. DUTY CYCLE %  
(REFRESH RATE  $f = 1 \text{ KHz}$ )

**DISCLAIMER**

FAIRCHILD SEMICONDUCTOR RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION OR DESIGN. FAIRCHILD DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN; NEITHER DOES IT CONVEY ANY LICENSE UNDER ITS PATENT RIGHTS, NOR THE RIGHTS OF OTHERS.

**LIFE SUPPORT POLICY**

FAIRCHILD'S PRODUCTS ARE NOT AUTHORIZED FOR USE AS CRITICAL COMPONENTS IN LIFE SUPPORT DEVICES OR SYSTEMS WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE PRESIDENT OF FAIRCHILD SEMICONDUCTOR CORPORATION. As used herein:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, and (c) whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury of the user.
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.