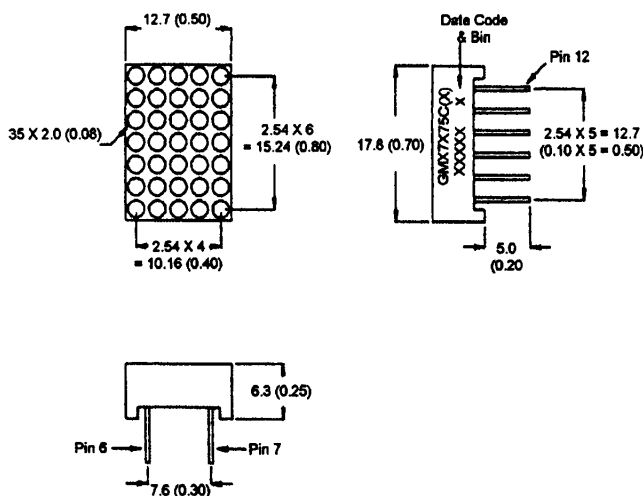


**Superbright Red GMX7275C
Superbright Red GMX7275CA**

PACKAGE DIMENSIONS



DESCRIPTION

The GMX7275C(X) a 5 X 7, Superbright red dotmatrix display. Populated with GaAlAs/GaAs Single Hetero Junction LEDs, it has a grey face with white segment color.

FEATURES

- 0.7" (17.2mm) 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 ± 0.25 (0.1) unless otherwise noted.
All pins are 0.5 (.02).

MODEL NUMBERS

| <u>Part Number</u> | <u>Colour</u> | <u>Description</u> |
|--------------------|---------------|----------------------------------------|
| GMA7275C | AlGaAs Red | Common anode row. |
| GMA7275CA | AlGaAs Red | Common anode row, alternate pin-out. |
| GMC7275C | AlGaAs Red | Common cathode row. |
| GMC7275CA | AlGaAs Red | Common cathode row, alternate pin-out. |

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

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

| | Superbright 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 segment | 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)

| | Superbright 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 | $I_R = 100 \mu\text{A}$ |

PIN CONNECTION:

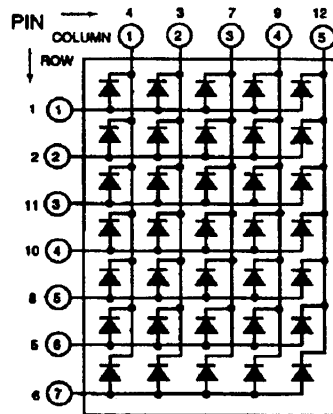
GMX7X75C

| GMA7X75C | | GMC7X75C | |
|-----------------|------------------|-----------------|----------------|
| Pin Number | Function | Pin Number | Function |
| 1 | Anode Row 1 | 1 | Cathode Row 1 |
| 2 | Anode Row 2 | 2 | Cathode Row 2 |
| 3 | Cathode Column 2 | 3 | Anode Column 2 |
| 4 | Cathode Column 1 | 4 | Anode Column 1 |
| 5 | Anode Row 6 | 5 | Cathode Row 6 |
| 6 | Anode Row 7 | 6 | Cathode Row 7 |
| 7 | Cathode Column 3 | 7 | Anode Column 3 |
| 8 | Anode Row 5 | 8 | Cathode Row 5 |
| 9 | Cathode Column 4 | 9 | Anode Column 4 |
| 10 | Anode Row 4 | 10 | Cathode Row 4 |
| 11 | Anode Row 3 | 11 | Cathode Row 3 |
| 12 | Cathode Column 5 | 12 | Anode Column 5 |

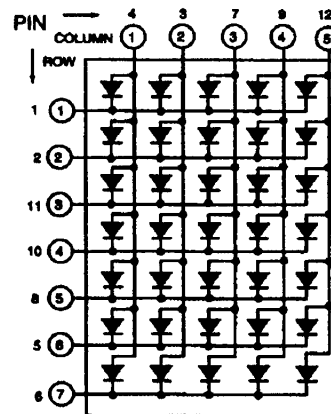
GMX7X75CA

| GMC7X75CA | | GMA7X75CA | |
|------------------|----------------|------------------|------------------|
| Pin Number | Function | Pin Number | Function |
| 1 | Anode Column 1 | 1 | Cathode Column 1 |
| 2 | Cathode Row 3 | 2 | Anode Row 3 |
| 3 | Anode Column 2 | 3 | Cathode Column 2 |
| 4 | Cathode Row 5 | 4 | Anode Row 5 |
| 5 | Cathode Row 6 | 5 | Anode Row 6 |
| 6 | Cathode Row 7 | 6 | Anode Row 7 |
| 7 | Anode Column 4 | 7 | Cathode Column 3 |
| 8 | Anode Column 5 | 8 | Cathode Column 5 |
| 9 | Cathode Row 4 | 9 | Anode Row 4 |
| 10 | Anode Column 3 | 10 | Cathode Column 3 |
| 11 | Cathode Row 2 | 11 | Anode Row 2 |
| 12 | Cathode Row 1 | 12 | Anode Row 1 |

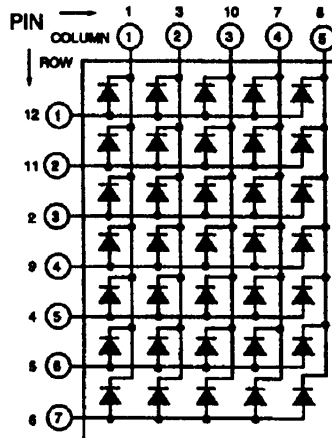
SCHEMATICS:



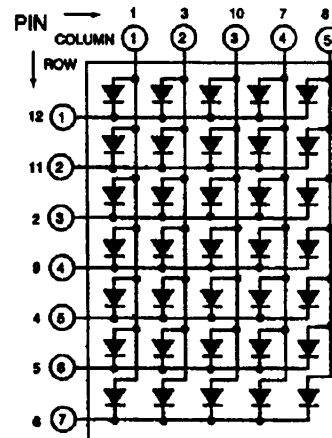
GMA7X75C



GMC7X75C



GMA7X75CA



GMC7X75CA

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

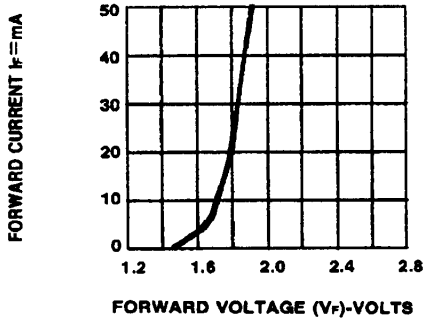


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

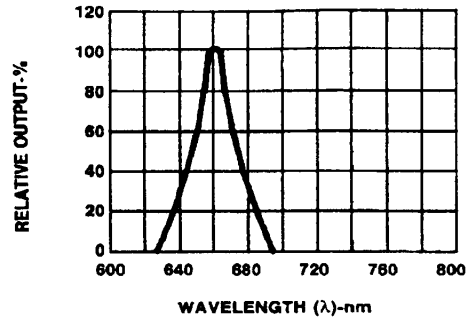


Fig.2 SPECTRAL RESPONSE

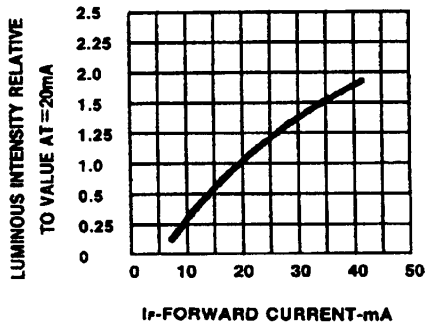


Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

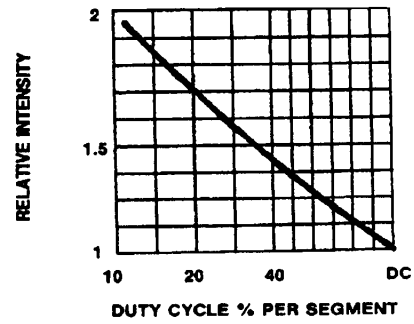


Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE (AVERAGE $I_f = 10\text{mA}$)

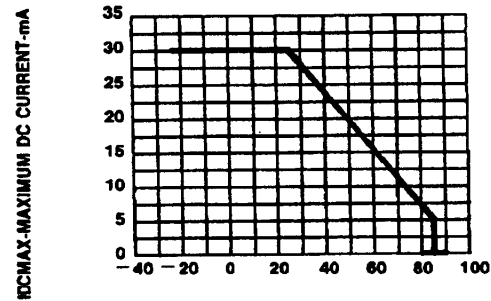


Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT VS. A FUNCTION OF AMBIENT TEMPERATURE.

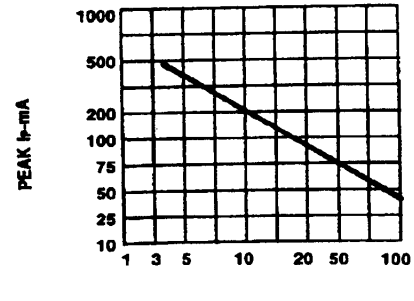


Fig.6 MAX PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE $f = 1\text{KHz}$)

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.