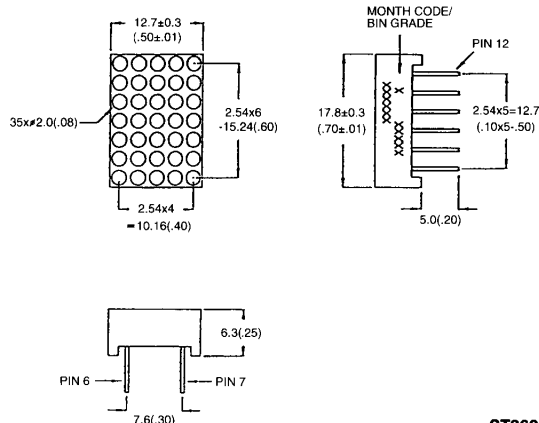


HER GMA 7175CA GMC 7175CA
YELLOW GMA 7475CA GMC 7475CA
GREEN GMA 7975CA GMC 7975CA

PACKAGE DIMENSIONS



NOTES:
1. ALL PINS ARE 00.5 (.02).
2. DIMENSION IN MILLIMETERS (INCH),
TOLERANCE IS 0.25 (.01) UNLESS
OTHERWISE NOTED.

DESCRIPTION

The GMX7X75CA series are 0.7" (17.2mm) matrix height 5 X 7 dot matrix displays. All these parts are available in grey face and white dot color.

The X in GMX denotes row anode or row cathode.

FEATURES

- 0.7" (17.8mm) matrix height
- Choice of 3 colors — green, yellow and HER
- Low power consumption
- 5 X 7 array with X-Y select
- Stackable vertically and horizontally
- Choice of 2 matrix orientation cathode column or anode column
- Easy mounting on PCB or sockets
- Categorized for luminous intensity

ST2623

ABSOLUTE MAXIMUM RATING (T_A=25°C unless otherwise specified)

	YELLOW	HER	GREEN	UNITS
Power dissipation per dot	60	70	75	mW
Peak forward current per dot (Duty cycle 1/10, 10KHz)	80	100	100	mA
Continuous I _F per dot	20	25	25	mA
Reverse voltage per dot	5	5	5	V
Operating and operating temperature range	-25°C to +85°C			
Soldering time at 260°C (1/16 inch below seating plane)	3 sec			

ELECTRICAL/OPTICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ Unless otherwise specified)
GMX7175CA (HER)

PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Average luminous intensity		3000		μcd	$I_F=20\text{ mA}$
Peak emission wavelength		635		nm	$I_F=20\text{ mA}$
Spectral line half-width		40		nm	$I_F=20\text{ mA}$
Forward voltage, any dot		2.1	2.8	V	$I_F=20\text{ mA}$
Reverse voltage, any dot			100	μA	$V_R=5\text{V}$

TYPICAL ELECTRICAL/OPTICAL CHARACTERISTIC CURVES
($T_A=25^\circ\text{C}$ Unless otherwise specified)

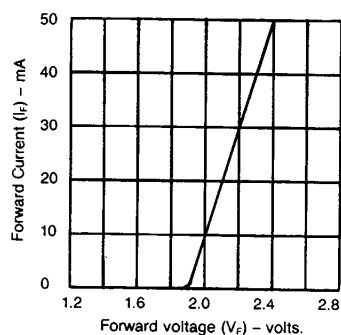


Fig. 1. Forward Current vs. Forward Voltage

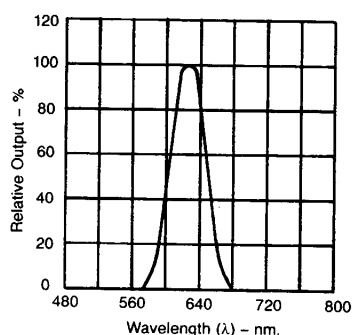


Fig. 2. Spectral Response

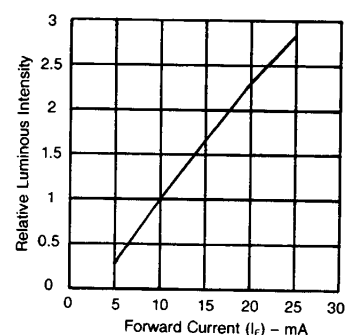


Fig. 3. Relative Luminous Intensity vs. Forward Current (Per Segment)

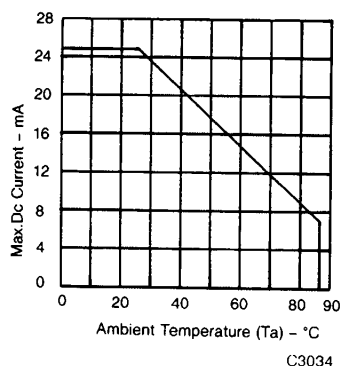


Fig. 4. Max. Forward Allowable DC Current Per Seg. vs. Ambient Temperature

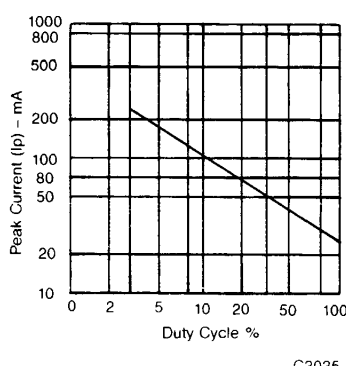


Fig. 5. Max. Peak Current vs. Duty Cycle %
(Refresh Rate— $F=1\text{ KHz}$)

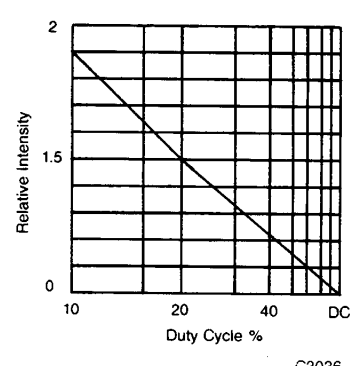


Fig. 6. Luminous Intensity vs. Duty Cycle %
(Average $I_F=10\text{ mA}$ Per Seg.)

ELECTRICAL/OPTICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ Unless otherwise specified)
GMX 7475CA (YELLOW)

PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Average luminous intensity		3000		μcd	$I_F=20\text{ mA}$
Peak emission wavelength		585		nm	$I_F=20\text{ mA}$
Spectral line half-width		35		nm	$I_F=20\text{ mA}$
Forward voltage, any dot		2.1	2.8	V	$I_F=20\text{ mA}$
Reverse voltage, any dot			100	μA	$V_R=5\text{V}$

TYPICAL ELECTRICAL/OPTICAL CHARACTERISTIC CURVES
($T_A=25^\circ\text{C}$ Unless Otherwise Noted)

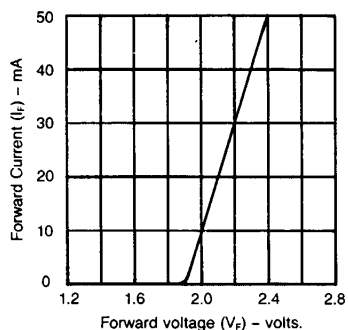


Fig. 1. Forward Current vs. Forward Voltage

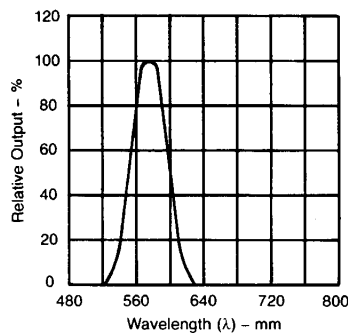


Fig. 2. Spectral Response

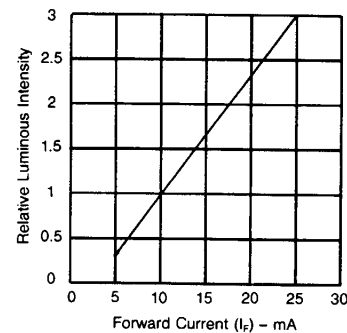


Fig. 3. Relative Luminous Intensity vs. Forward Current (Per Segment)

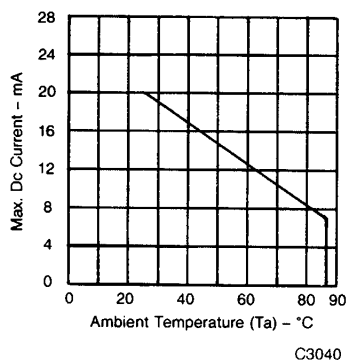


Fig. 4. Max. Forward Allowable DC Current Per Seg. vs. Ambient Temperature

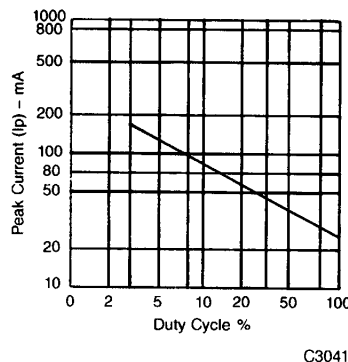


Fig. 5. Max. Peak Current vs. Duty Cycle %
(Refresh Rate $F=1\text{ KHz}$)

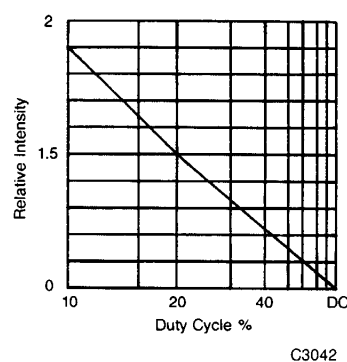


Fig. 6. Luminous Intensity vs. Duty Cycle %
(Average $I=10\text{ mA Per Seg.}$)

ELECTRICAL/OPTICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ Unless otherwise specified)
GMX 7975CA (GREEN)

PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Average luminous intensity		3000		μcd	$I_F=20\text{ mA}$
Peak emission wavelength		565		nm	$I_F=20\text{ mA}$
Spectral line half-width		30		nm	$I_F=20\text{ mA}$
Forward voltage, any dot		2.1	2.8	V	$I_F=20\text{ mA}$
Reverse voltage, any dot			100	μA	$V_R=5\text{ V}$

TYPICAL ELECTRICAL/OPTICAL CHARACTERISTIC CURVES
($T_A=25^\circ\text{C}$ Unless otherwise specified)

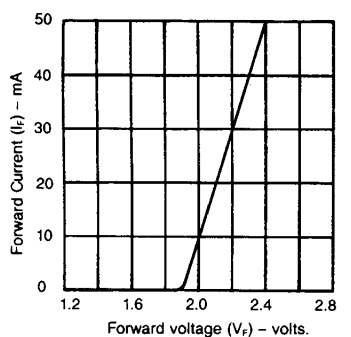


Fig. 1. Forward Current vs. Forward Voltage

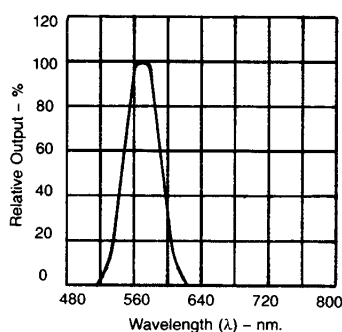


Fig. 2. Spectral Response

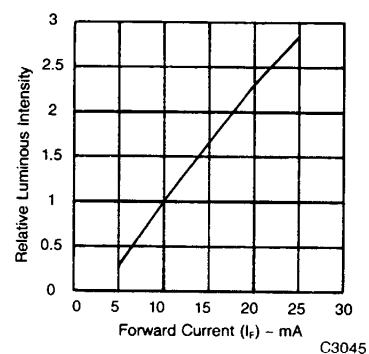


Fig. 3. Relative Luminous Intensity vs. Forward Current (Per Segment)

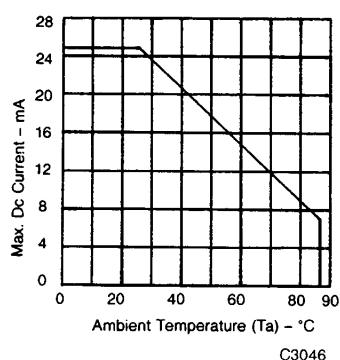


Fig. 4. Max. Forward Allowable DC Current Per Seg. vs. Ambient Temperature

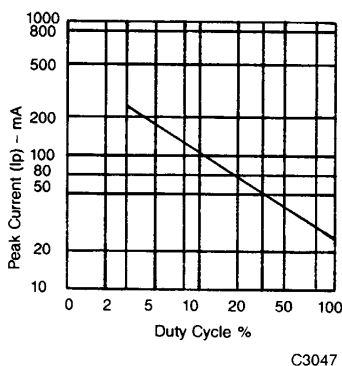


Fig. 5. Max. Peak Current vs. Duty Cycle %
(Refresh Rate— $F=1\text{ KHz}$)

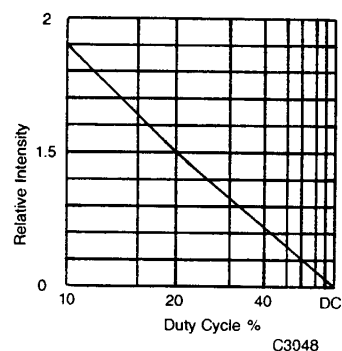
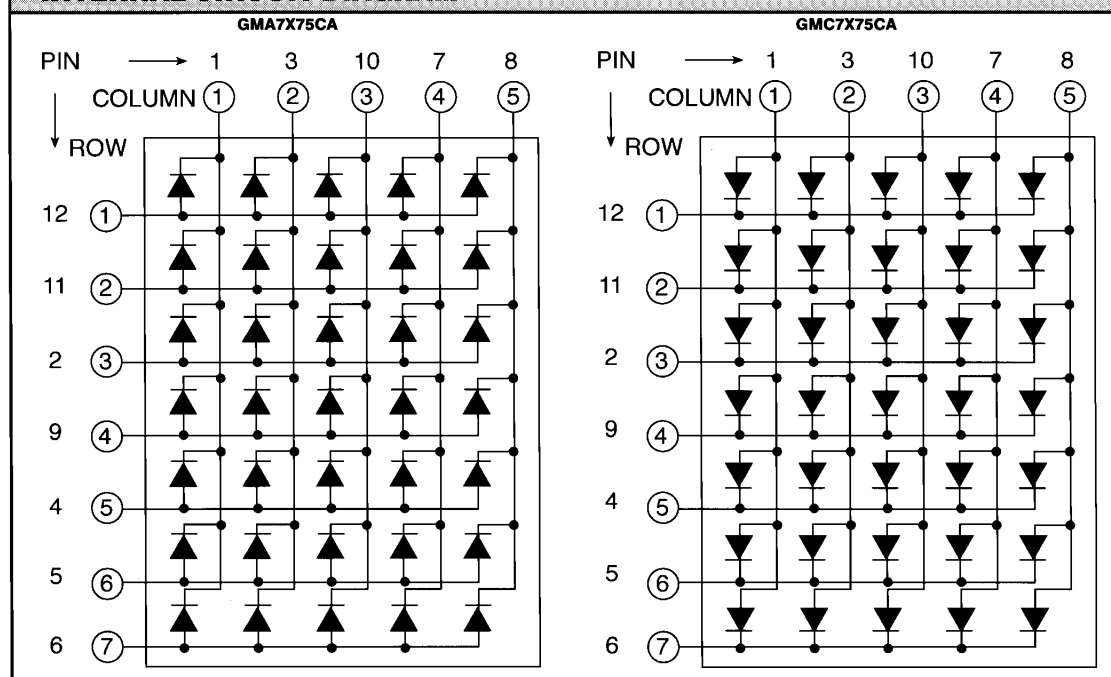


Fig. 6. Luminous Intensity vs. Duty Cycle %
(Average $I=10\text{ mA Per Seg.}$)

PIN CONNECTION

PIN NO.	GMA7X75CA	GMC7X75CA
1	Cathode column 1	Anode column 1
2	Anode row 3	Cathode row 3
3	Cathode column 2	Anode column 2
4	Anode row 5	Cathode row 5
5	Anode row 6	Cathode row 6
6	Anode row 7	Cathode row 7
7	Cathode column 4	Anode column 4
8	Cathode column 5	Anode column 5
9	Anode row 4	Cathode row 4
10	Cathode column 3	Anode column 3
11	Anode row 2	Cathode row 2
12	Anode row 1	Cathode row 1

INTERNAL CIRCUIT DIAGRAM





0.7" 5 X 7 DOT MATRIX DISPLAY

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.