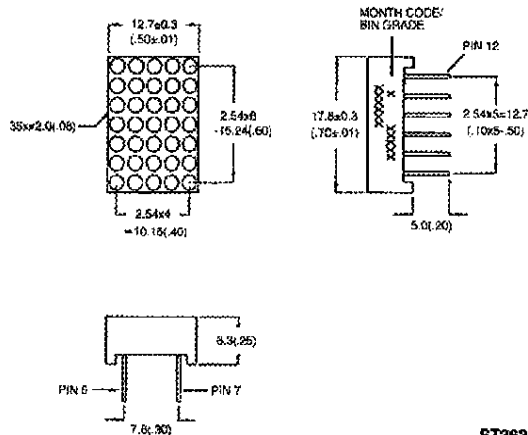




## 0.7" 5x7 DOT MATRIX DISPLAYS

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

### PACKAGE DIMENSIONS



ST2623

#### NOTES:

1. ALL PINS ARE 80.5 (.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

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

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

<b>ELECTRICAL/OPTICAL CHARACTERISTICS</b> ( $T_c = 25^\circ\text{C}$ Unless otherwise specified) <b>GMX7175CA (HER)</b>					
PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Average luminous intensity		3000		$\mu\text{cd}$	$I_f = 20\text{ mA}$
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	$\mu\text{A}$	$V_r = 5\text{V}$

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

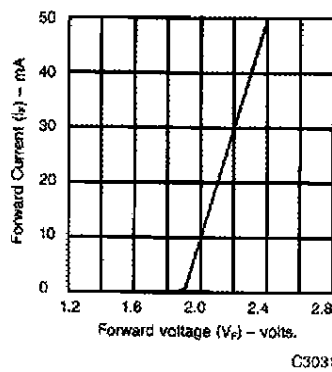


Fig. 1. Forward Current vs. Forward Voltage

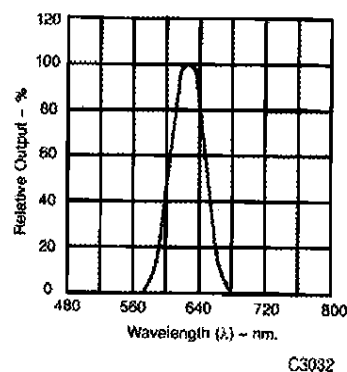


Fig. 2. Spectral Response

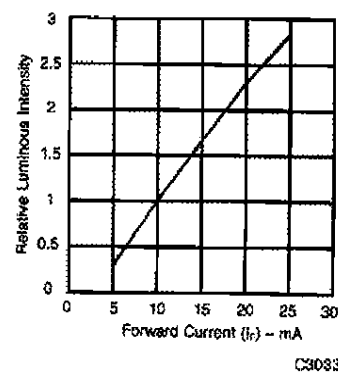


Fig. 3. Relative Luminous Intensity vs. Forward Current (Per Segment)

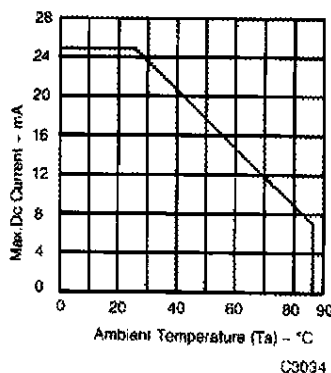


Fig. 4. Max. Forward Allowable DC Current Per Seg. vs. Ambient Temperature

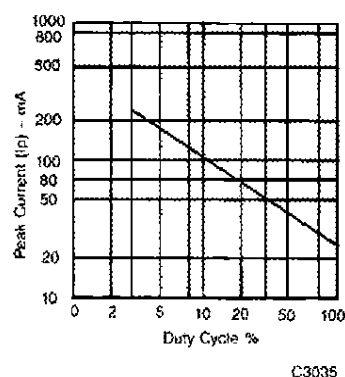


Fig. 5. Max. Peak Current vs. Duty Circle % (Refresh Rate - F=1 KHz)

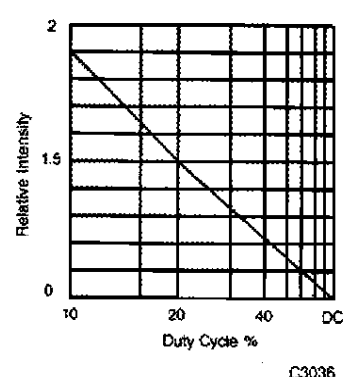


Fig. 6. Luminous Intensity vs. Duty Cycle % (Average  $I_f = 10\text{ mA}$  Per Seg.)

<b>ELECTRICAL/OPTICAL CHARACTERISTICS</b> ( $T_a = 25^\circ\text{C}$ Unless otherwise specified) <b>GMX 7475CA (YELLOW)</b>					
PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Average luminous intensity		3000		$\mu\text{cd}$	$I_f = 20\text{ mA}$
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	$\mu\text{A}$	$V_R = 5\text{V}$

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

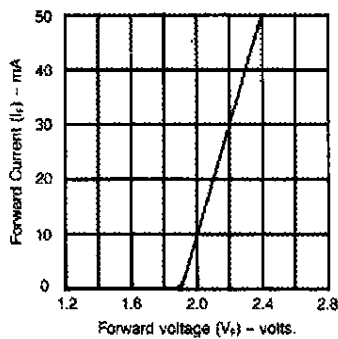


Fig. 1. Forward Current vs. Forward Voltage

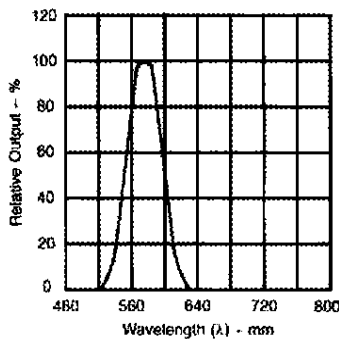


Fig. 2. Spectral Response

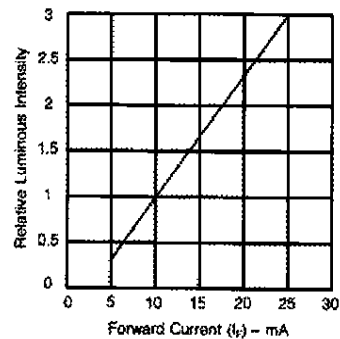


Fig. 3. Relative Luminous Intensity vs. Forward Current (Per Segment)

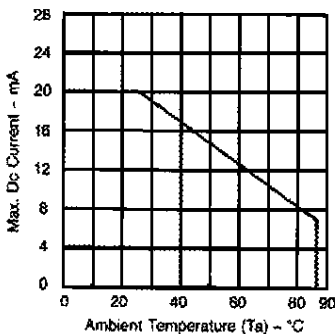


Fig. 4. Max. Forward Allowable DC Current Per Seg. vs. Ambient Temperature

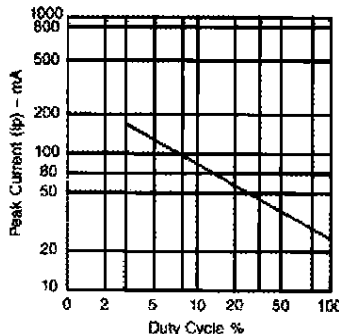


Fig. 5. Max. Peak Current vs. Duty Cycle %  
(Refresh Rate - F=1 KHz)

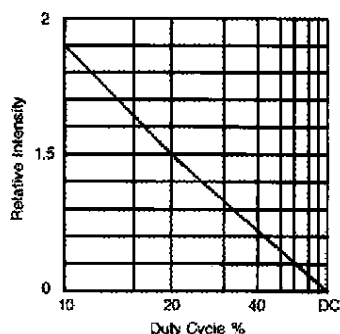


Fig. 6. Luminous Intensity vs. Duty Cycle %  
(Average 1 = 10 mA Per Seg.)

**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		$\mu\text{cd}$	$I_f = 20 \text{ mA}$
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	$\mu\text{A}$	$V_s = 5\text{V}$

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

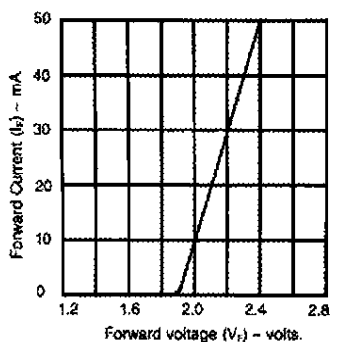


Fig. 1. Forward Current vs. Forward Voltage

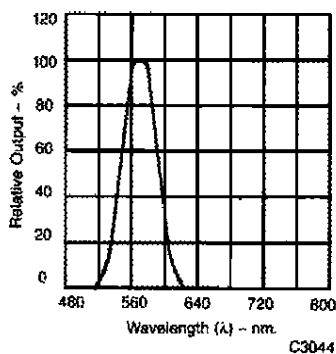


Fig. 2. Spectral Response

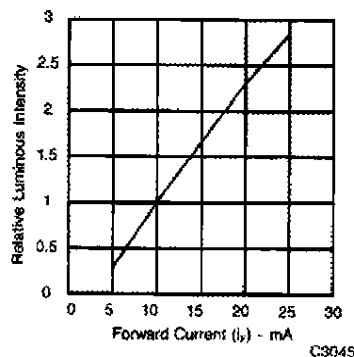


Fig. 3. Relative Luminous Intensity vs. Forward Current (Per Segment)

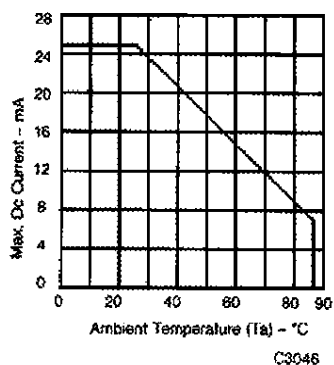


Fig. 4. Max. Forward Allowable DC Current Per Seg. vs. Ambient Temperature

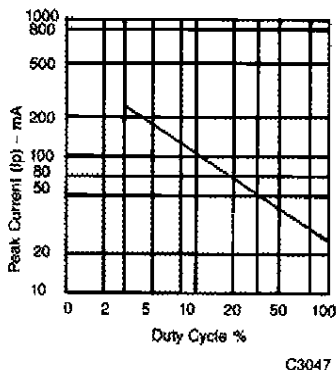


Fig. 5. Max. Peak Current vs. Duty Cycle % (Refresh Rate -  $F = 1 \text{ KHz}$ )

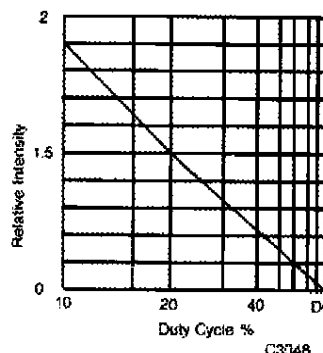


Fig. 6. Luminous Intensity vs. Duty Cycle % (Average  $I_f = 10 \text{ mA}$  Per Seg.)



## 0.7" 5x7 DOT MATRIX DISPLAYS

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

