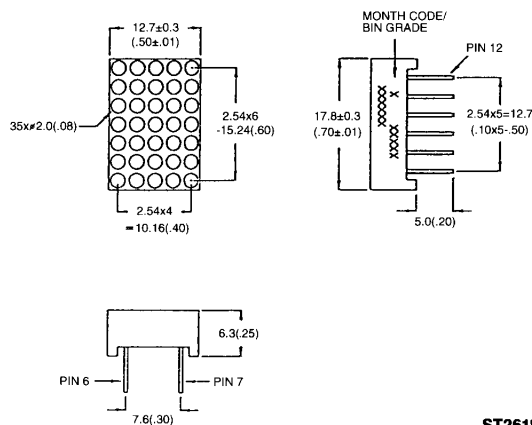




**0.7" 5x7  
DOT MATRIX DISPLAYS**

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

**PACKAGE DIMENSIONS**



ST2618

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

**DESCRIPTION**

The GMX7X75C 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.

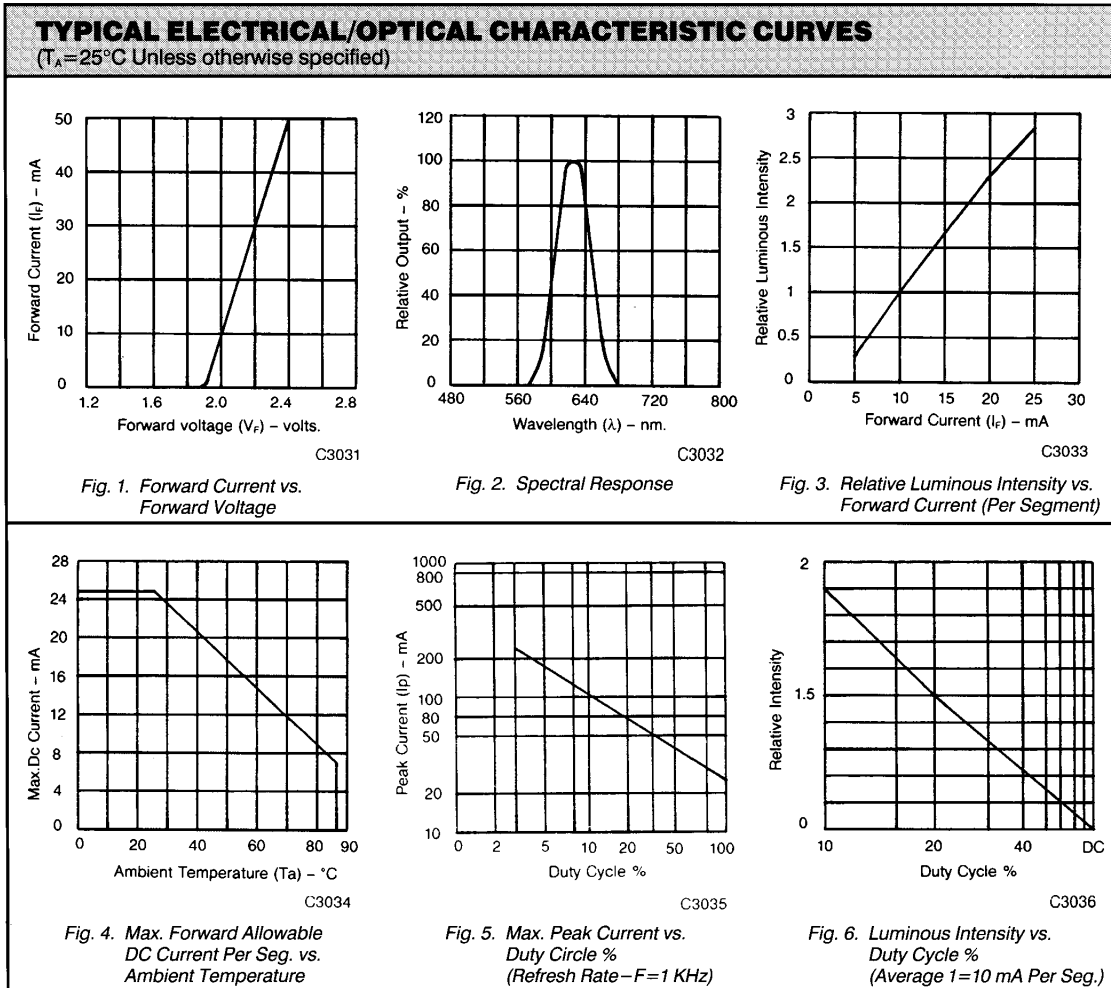
**FEATURES**

- 0.7" (17.8mm) matrix height
- Choice of 3 colors — green, yellow and HER
- Low power consumption
- 5x7 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<sub>A</sub>=25°C unless otherwise specified)

	<b>YELLOW</b>	<b>HER</b>	<b>GREEN</b>	<b>UNITS</b>
Power dissipation per dot .....	60	70	75	mW
Peak forward current per dot .....	80	100	100	mA
(Duty cycle 1/10, 10KHz)				
Continuous I <sub>f</sub> 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			

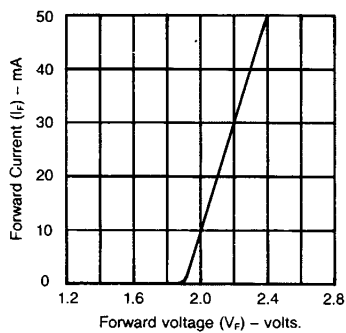
<b>ELECTRICAL/OPTICAL CHARACTERISTICS</b> ( $T_A=25^\circ\text{C}$ Unless otherwise specified)					
<b>GMX 7175C (HER)</b>					
PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Average luminous intensity		3000		$\mu\text{cd}$	$I_f=20\text{ mA}$
Peak emission wavelength		635		nm	$I_f=20\text{ mA}$
Spectral 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	$\mu\text{A}$	$V_R=5\text{V}$



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

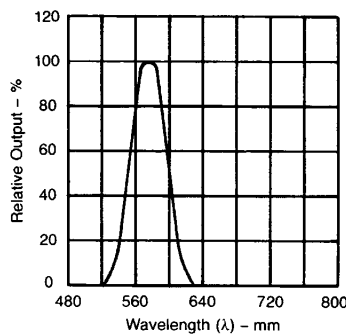
PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Average luminous intensity		3000		$\mu\text{cd}$	$I_F=20\text{ mA}$
Peak emission wavelength		585		nm	$I_F=20\text{ mA}$
Spectral line half-width		35		nm	$I_F=20\text{ mA}$
Forward voltage, any dot		2.1	2.8	V	$I_F=20\text{ mA}$
Reverse voltage, any dot			100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

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



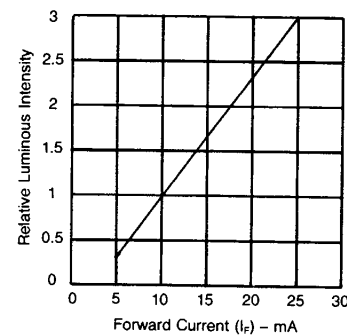
C3037

Fig. 1. Forward Current vs. Forward Voltage



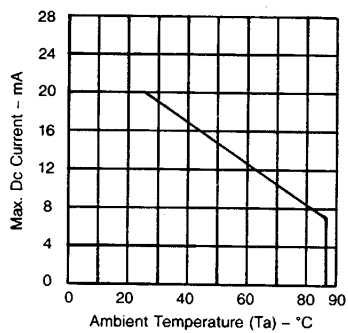
C3038

Fig. 2. Spectral Response



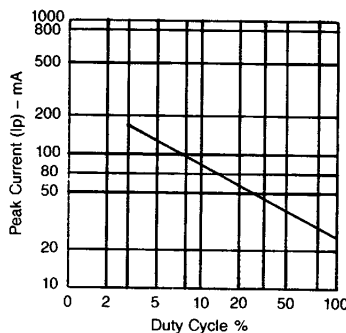
C3039

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



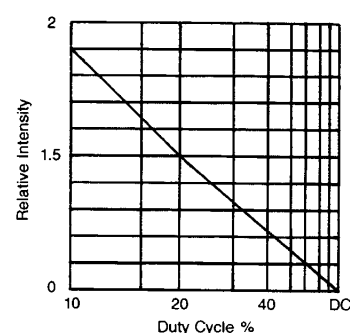
C3040

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



C3041

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



C3042

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 7975C (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	$\mu\text{A}$	$V_R=5\text{V}$

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

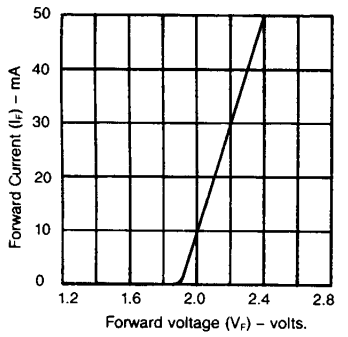


Fig. 1. Forward Current vs. Forward Voltage

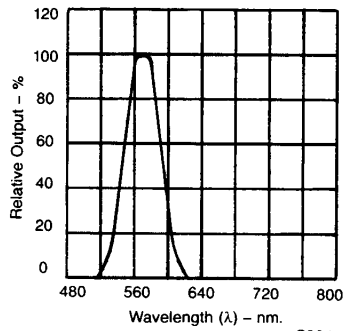


Fig. 2. Spectral Response

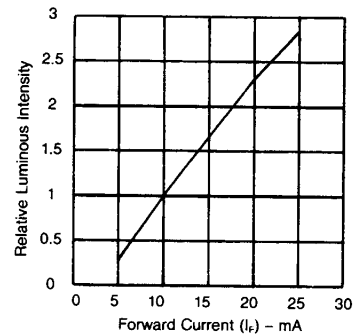


Fig. 3. Relative Luminous Intensity vs. Forward Current (Per Segment)

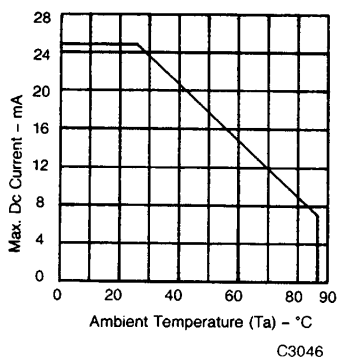


Fig. 4. Max. Forward Allowable DC Current Per Seg. vs. Ambient Temperature

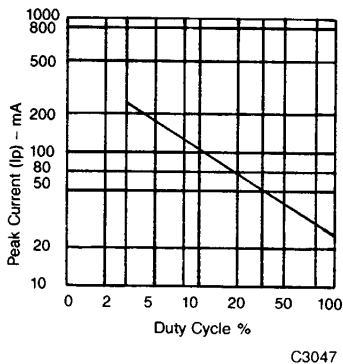


Fig. 5. Max. Peak Current vs. Duty Cycle % (Refresh Rate -  $F=1\text{ KHz}$ )

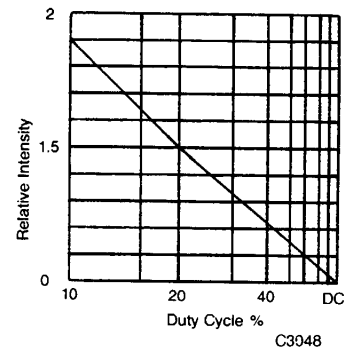
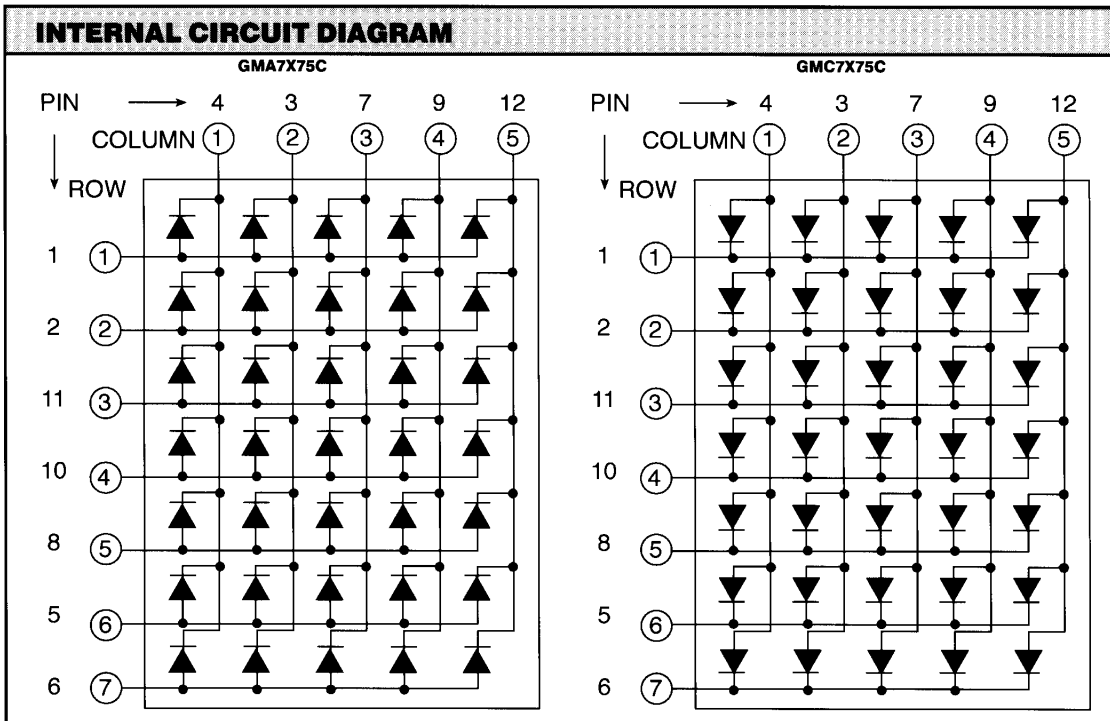


Fig. 6. Luminous Intensity vs. Duty Cycle % (Average  $I=10\text{ mA Per Seg.}$ )

PIN CONNECTION		
PIN NO.	GMA7X75C	GMC7X75C
1	Anode row 1	Cathode row 1
2	Anode row 2	Cathode row 2
3	Cathode column 2	Anode column 2
4	Cathode column 1	Anode column 1
5	Anode row 6	Cathode row 6
6	Anode row 7	Cathode row 7
7	Cathode column 3	Anode column 3
8	Anode row 5	Cathode row 5
9	Cathode column 4	Anode column 4
10	Anode row 4	Cathode row 4
11	Cathode row 3	Anode row 3
12	Cathode row 5	Anode row 5





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