

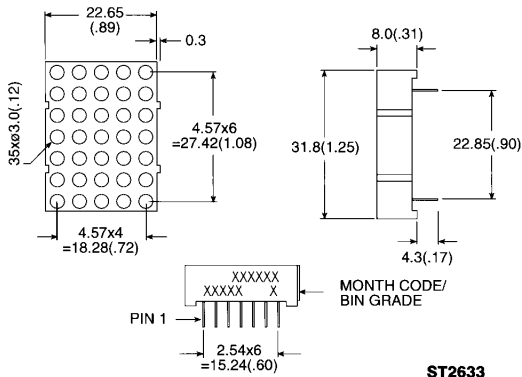


**1.2" 5 × 7  
DOT MATRIX DISPLAYS**

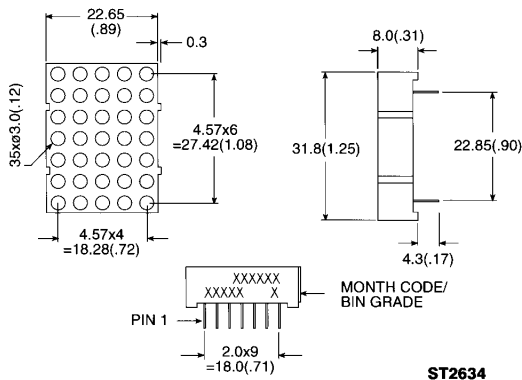
**YELLOW GMA 8475C GMC 8475C  
HER GMA 8875C GMC 8875C  
GREEN GMA 8975C GMC 8975C  
BICOLOR- RED/GREEN GMA 8675C GMC 8675C**

**PACKAGE DIMENSIONS**

**A. GMX8X75C**



**B. GMX8675C**



**DESCRIPTION**

The GMX8X75C series are 1.2" (30 mm) matrix height 5 × 7 dot matrix displays. All these parts are available in gray face and white dot color.

The X in GMX denotes row anode or row cathode.

**FEATURES**

- 1.2" (30 mm) matrix height
- Choice of 3 colors — green, yellow & HER and bicolor — red/green
- Low power consumption
- 5 × 7 array with X-Y select
- Stackable horizontally
- Choice of 2 matrix orientation cathode column or anode column
- Easy mounting or PCB on sockets
- Categorized for luminous intensity
- Multicolor color displays are applicable to 3 bright colors — green, orange (HER) and yellow (green and HER mixed)

**NOTES:**

1. ALL PINS ARE Ø0.5 (.02).
2. DIMENSIONS IN MILLIMETER (INCH), TOLERANCE IS ±0.25 (.01) UNLESS OTHERWISE NOTED.



## 1.2" 5 × 7 DOT MATRIX DISPLAYS

<b>ABSOLUTE MAXIMUM RATING</b> ( $T_A = 25^\circ\text{C}$ unless otherwise specified)				
PARAMETER	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	5	25	mA
Reverse voltage per dot .....	5	5	5	V
Operating and storage temperature range .....				-25°C to +85°C
Soldering time at 260°C (1/16 inch below seating plane) .....				3 sec

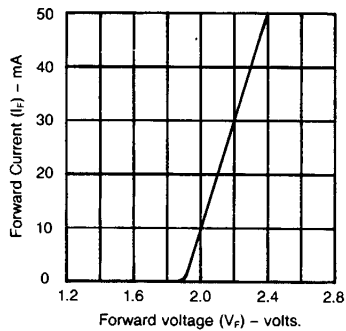
<b>MODEL NUMBERS</b>						
PART NO.				DESCRIPTION	PACKAGE DIMENSION	INTERNAL CIRCUIT DIAGRAM
YELLOW	HER	GREEN	MULTI-COLOR			
GMC8475C	GMC8875C	GMC8975C		Anode column, cathode row	A	A
GMA8475C	GMA8875C	GMA8975C		Cathode column, anode row	A	B
			GMA8675C	Cathode column, anode row	B	C
			GMC8675C	Anode column, cathode row	B	D

**ELECTRICAL/OPTICAL CHARACTERISTICS** ( $T_A = 25^\circ\text{C}$  Unless otherwise specified)  
**GMX8475C (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	$\mu\text{A}$	$V_R = 5 \text{ V}$

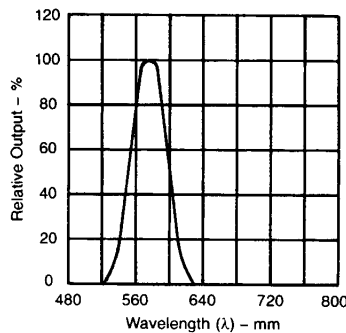
**TYPICAL ELECTRICAL/OPTICAL CHARACTERISTIC CURVES**

( $T_A = 25^\circ\text{C}$  Unless otherwise specified)



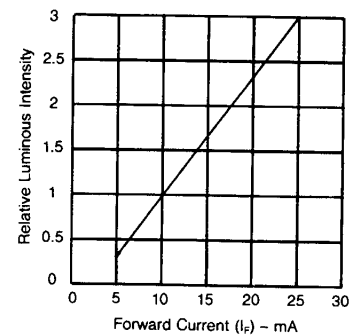
C3037

Fig. 1. Forward Current vs. Forward Voltage



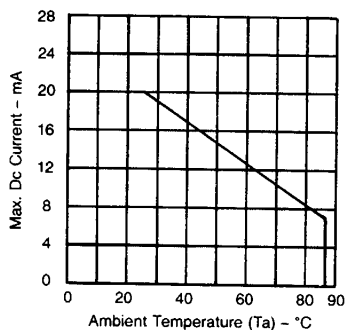
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Fig. 2. Spectral Response



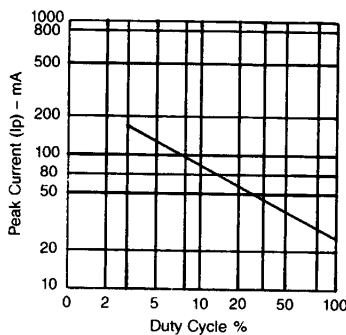
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Fig. 3. Relative Luminous Intensity vs. Forward Current (Per Segment)



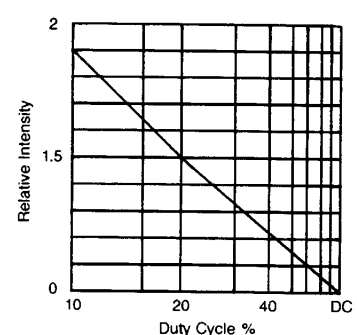
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Fig. 4. Maximum Forward Allowable DC Current Per Segment vs. Ambient Temperature



C3041

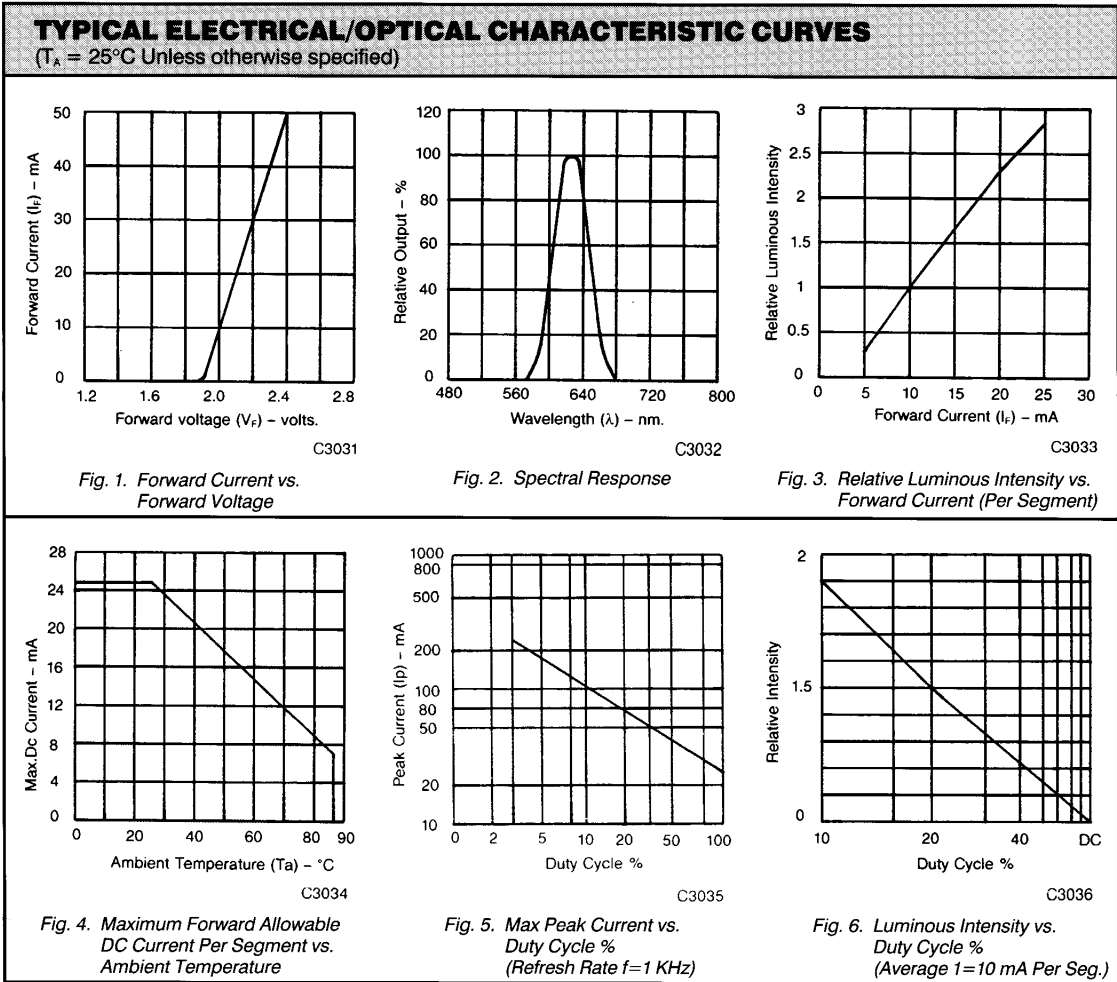
Fig. 5. Max Peak Current vs. Duty Cycle %  
(Refresh Rate  $f = 1 \text{ KHz}$ )



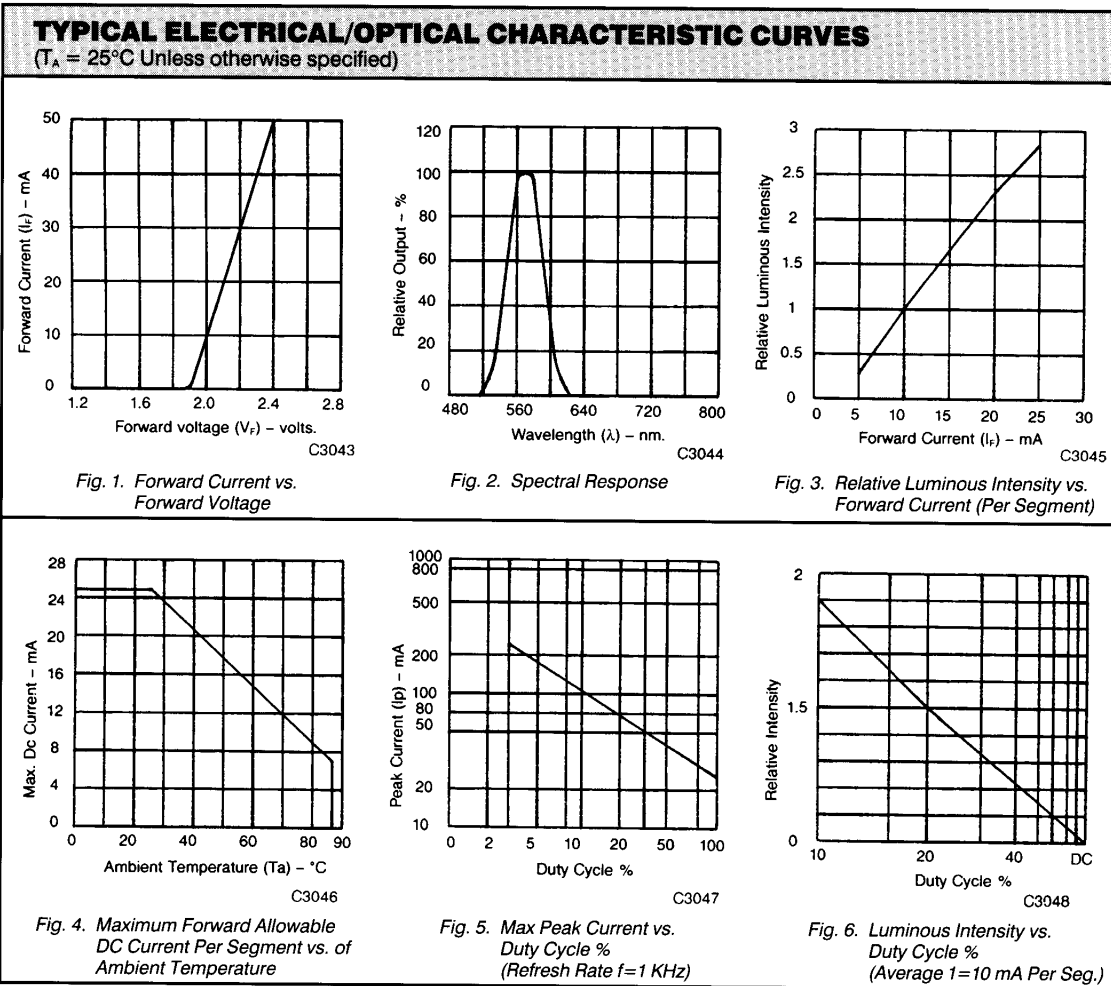
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Fig. 6. Luminous Intensity vs. Duty Cycle %  
(Average  $I = 10 \text{ mA Per Seg.}$ )

<b>ELECTRICAL/OPTICAL CHARACTERISTICS</b> ( $T_A = 25^\circ\text{C}$ Unless otherwise specified)					
<b>GMX8875C (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		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	$\mu\text{A}$	$V_R = 5 \text{ V}$



<b>ELECTRICAL/OPTICAL CHARACTERISTICS</b> ( $T_A = 25^\circ\text{C}$ Unless otherwise specified) <b>GMX8975C (GREEN)</b>					
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	$\mu\text{A}$	$V_R = 5 \text{ V}$



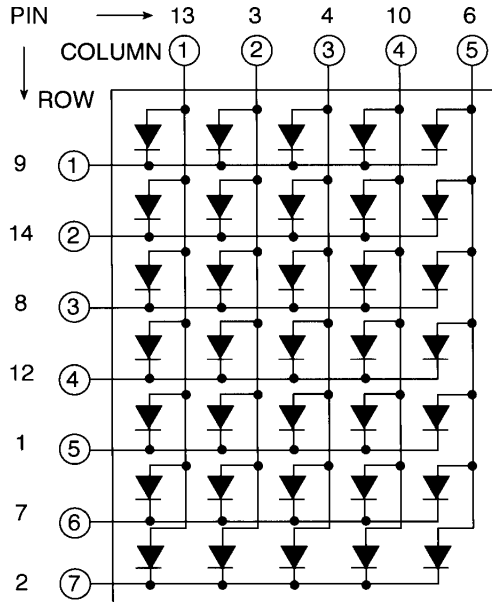


**1.2" 5 × 7  
DOT MATRIX DISPLAYS**

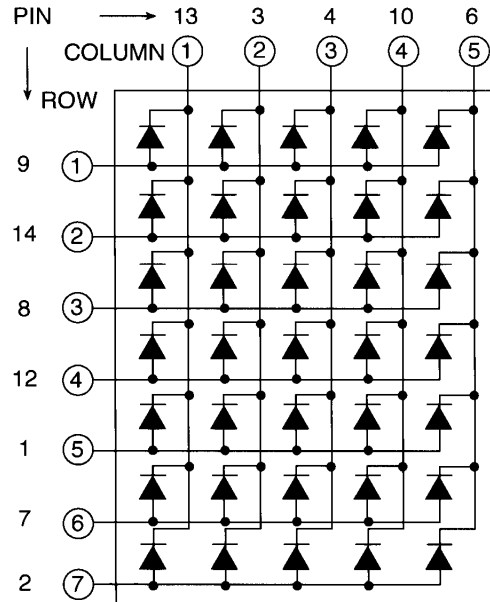
<b>PIN CONNECTION</b>				
<b>PIN NO.</b>	<b>GMA8X75C</b>	<b>GMC8X75C</b>	<b>GMC8675C</b>	<b>GMA8675C</b>
1	Anode row 5	Cathode row 5	Cathode row 7 green	Anode row 7 green
2	Anode row 7	Cathode row 7	Cathode row 7 HER	Anode row 7 HER
3	Cathode column 2	Anode column 2	Anode column 1	Cathode column 1
4	Cathode column 3	Anode column 3	Anode column 2	Cathode column 2
5	Anode row 4	Cathode row 4	Anode column 3	Cathode column 3
6	Cathode column 5	Anode column 5	Anode column 4	Cathode column 4
7	Anode row 6	Cathode row 6	Anode column 5	Cathode column 5
8	Anode row 3	Cathode row 3	Cathode row 6 green	Anode row 6 green
9	Anode row 1	Cathode row 1	Cathode row 6 HER	Anode row 6 HER
10	Cathode column 4	Anode column 4	No connection	No connection
11	Cathode column 3	Anode column 3	Cathode row 5 green	Anode row 5 green
12	Anode row 4	Cathode row 4	Cathode row 5 HER	Anode row 5 HER
13	Cathode column 1	Anode column 1	Cathode row 4 green	Anode row 4 green
14	Anode row 2	Cathode row 2	Cathode row 4 HER	Anode row 4 HER
15			Cathode row 3 green	Anode row 3 green
16			Cathode row 3 HER	Anode row 3 HER
17			Cathode row 2 green	Anode row 2 green
18			Cathode row 2 HER	Anode row 2 HER
19			Cathode row 1 green	Anode row 1 green
20			Cathode row 1 HER	Anode row 1 HER

**INTERNAL CIRCUIT DIAGRAM**

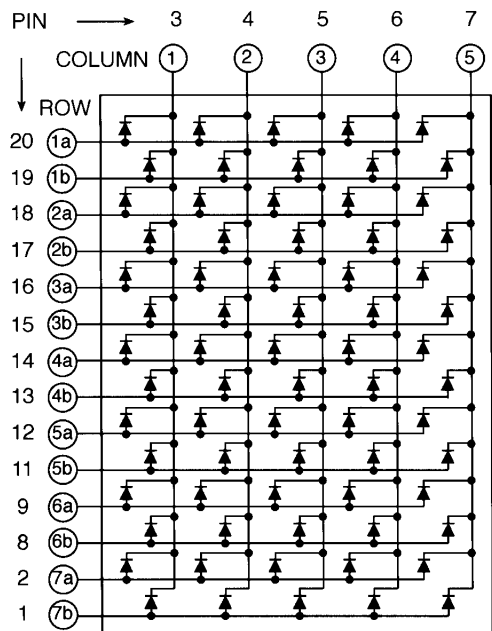
**A. GMC8X75C**



**B. GMA8X75C**



**C. GMA8675C**



**D. GMC8675C**

