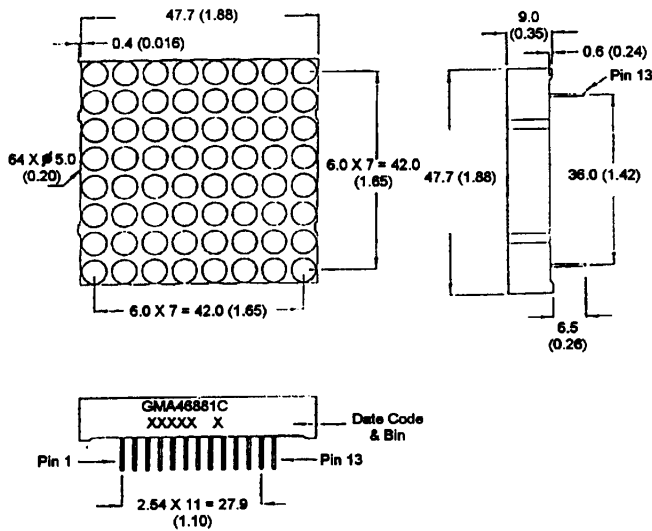




# 1.85 INCH (47.0)mm 8 X 8 DOT MATRIX STICK DISPLAY

**HER Red / Green GMA46881C  
(BI-COLOR)**

## PACKAGE DIMENSIONS



## DESCRIPTION

The GMA46881C a common cathode column 8 X 8, bicolor High Efficiency Red / green dotmatrix display. The GMA47881C is a 8 X 8 populated with super bright AlInGaP yellow LEDs. Both have grey faces with neutral segment color.

## FEATURES

- 1.85" ( 47.0mm) character height.
- Low power requirement.
- Wide 130° viewing angle.
- High brightness and contrast
- 8 X 8 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 NUMBER

<u>Part Number</u>	<u>Colour</u>	<u>Description</u>
GMA46881C	HER Red/Green	Common anode row.

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



# 1.85 INCH (47.0)mm) 8 X 8 DOT MATRIX STICK DISPLAY

## ABSOLUTE MAXIMUM RATING (T<sub>A</sub> = 25°C unless otherwise specified)

	HER	Green	Units
Peak forward current per segment (Duty cycle 1/10, 10KHz)	90	90	mA
Continous IF per segment	25	25	mA
Power dissipation per segment	70*	70*	mW
*Derate linearly from 25°C	0.33	0.33	mW/°C
Reverse voltage VR per segment	5	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<sub>A</sub> = 25°C unless otherwise specified)

	HER	Green	Test Condition
Luminous Intensity/Dot			
Digit average (Typical)	2200ucd	1600ucd	I <sub>F</sub> = 20mA
Forward voltage (V <sub>F</sub> )			
typical	2.0V	2.1V	I <sub>F</sub> = 20 mA
maximum	2.8V	2.8V	I <sub>F</sub> = 20 mA
Peak wavelength (nm)	635nm	570nm	I <sub>F</sub> = 20 mA
Spectral line half width (nm)	45nm	30nm	I <sub>F</sub> = 20mA
Reverse breakdown voltage V <sub>R</sub>	5V	5V	I <sub>R</sub> = 100uA

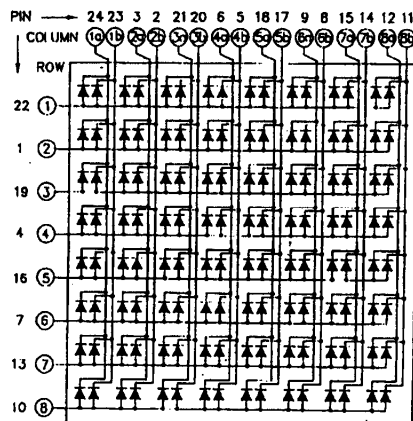
## PIN CONNECTION:

### GMA46881C

Pin Number	Function	Pin Number	Function
1	Anode Row 2	13	Anode Row 7
2	Cathode Column 2b	14	Cathode Column 7b
3	Cathode Column 2a	15	Cathode Column 7a
4	Anode Row 4	16	Anode Row 4
5	Cathode Column 4b	17	Cathode Column 5b
6	Cathode Column 4a	18	Cathode Column 5a
7	Anode Row 6	19	Anode Row 3
8	Cathode Column 6b	20	Cathode Column 3b
9	Cathode Column 6a	21	Cathode Column 3a
10	Anode Row 8	22	Anode Row 1
11	Cathode Column 8b	23	Cathode Column 1b
12	Cathode Column 8a	24	Cathode Column 1a

Note "a" = High Efficiency Red LED  
 "b" = Green LED

## SCHEMATIC:



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

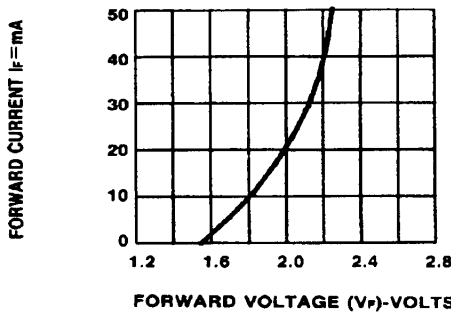


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

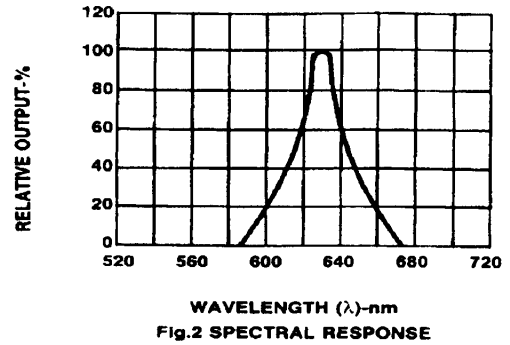


Fig.2 SPECTRAL RESPONSE

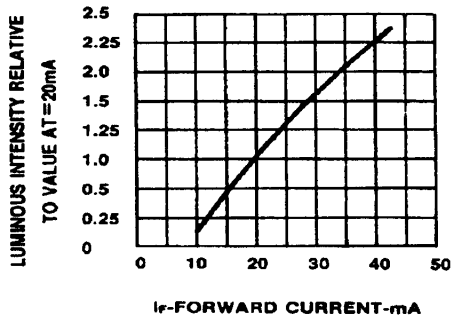


Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

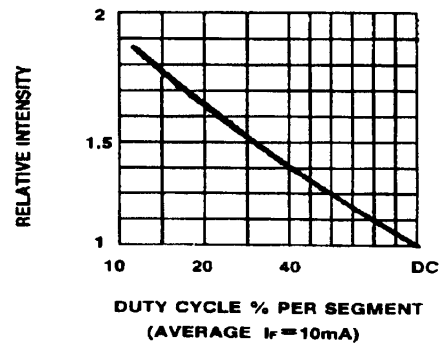


Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE

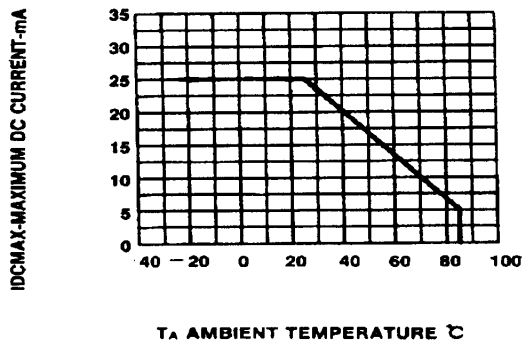


Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT VS. A FUNCTION OF AMBIENT TEMPERATURE.

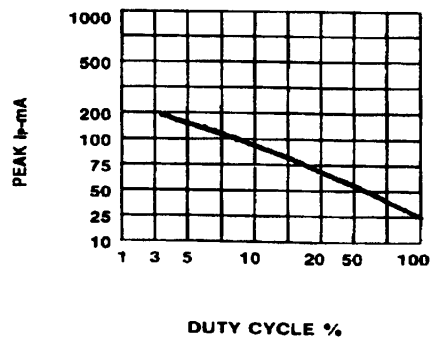


Fig. 6 MAX PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE  $f = 1 \text{ KHz}$ )

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

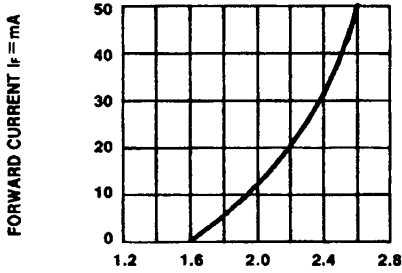


Fig.1 FORWARD CURRENT vs. FORWARD VOLTAGE.

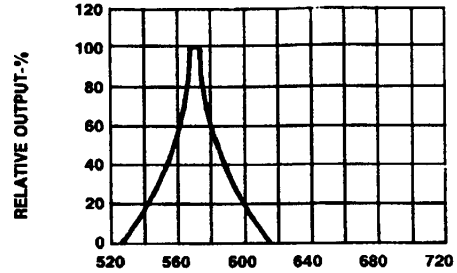


Fig.2 SPECTRAL RESPONSE

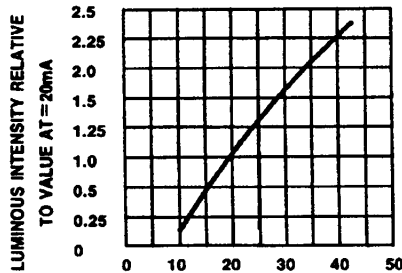


Fig.3 RELATIVE LUMINOUS INTENSITY vs. FORWARD CURRENT

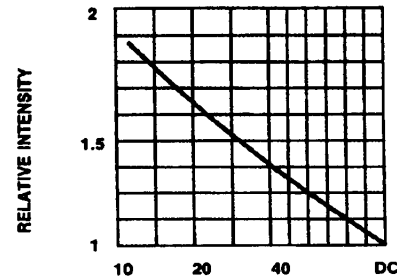


Fig.5 LUMINOUS INTENSITY vs. DUTY CYCLE

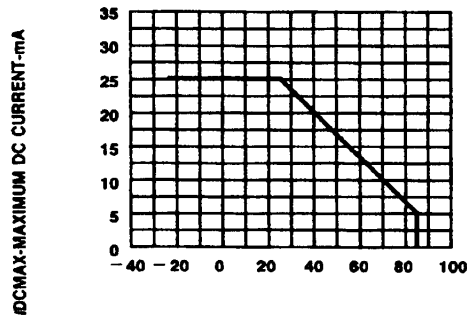


Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT CS. A FUNCTION OF AMBIENT TEMPERATURE.

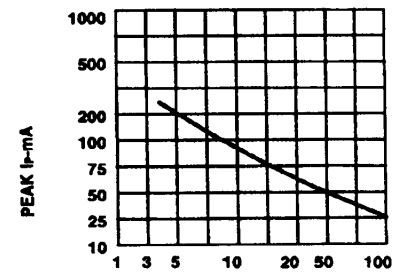


Fig. 6 MAX PEAK CURRENT vs. DUTY CYCLE % (REFRESH RATE f = 1 KHz)