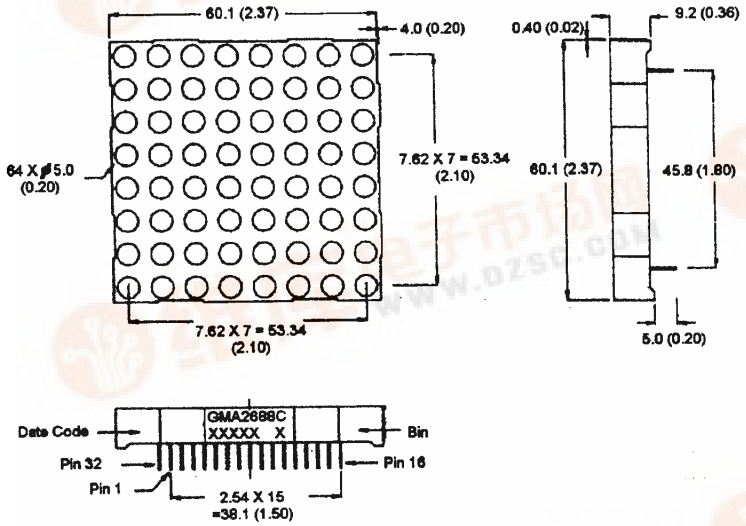
FAIRCHILD
SEMICONDUCTOR™

2.3 INCH (58.4)mm) 8 X 8 DOT MATRIX STICK DISPLAY

HER Red / Green GMA2688C

PACKAGE DIMENSIONS



NOTE: Dimensions are in mm (inch).
Tolerances are ± 0.25 (0.1) unless otherwise noted.
All pins are 0.5 (.02).

DESCRIPTION

The GMA2688C a common anode row 8 X 8, bicolor High Efficiency Red / Green dot matrix display. It has a grey faces with neutral segment color.

FEATURES

2.3" (58.4mm) 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.

MODEL NUMBER

Part Number	Colour	Description
GMA2688C	HER Red/Green	Common anode row.

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

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ABSOLUTE MAXIMUM RATING (T_A = 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.....3 sec
(1/16" below seating plane)

ELECTRO - OPTICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

	HER	Green	Test Condition
Luminous Intensity/Dot Digit average (Typical)	3000ucd	3000ucd	I_F = 20mA
Forward voltage (V_F)			
typical	2.0V	2.1V	I_F = 20 mA
maximum	2.8V	2.8V	I_F = 20 mA
Peak wavelength (nm)	635nm	570nm	I_F = 20 mA
Spectral line half width (nm)	45nm	30nm	I_F = 20mA
Reverse breakdown voltage V_R	5V	5V	I_R = 100uA

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PIN CONNECTION:

GMA2688C

Pin Number	Function	Pin Number	Function
1	Cathode Column 1b	17	Cathode Column 8b
2	Cathode Column 1a	18	Cathode Column 8a
3	Cathode Column 2b	19	Cathode Column 7b
4	Cathode Column 2a	20	Cathode Column 7a
5	Cathode Column 3b	21	Cathode Column 6b
6	Cathode Column 3a	22	Cathode Column 6a
7	Cathode Column 4b	23	Cathode Column 5b
8	Cathode Column 4a	24	Cathode Column 5a
9	Anode Row 5b	25	Anode Row 4b
10	Anode Row 5a	26	Anode Row 4a
11	Anode Row 6b	27	Anode Row 3b
12	Anode Row 6a	28	Anode Row 3a
13	Anode Row 7b	29	Anode Row 2b
14	Anode Row 7a	30	Anode Row 2a
15	Anode Row 8b	31	Anode Row 1a
16	Anode Row 8a	32	Anode Row 1b

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

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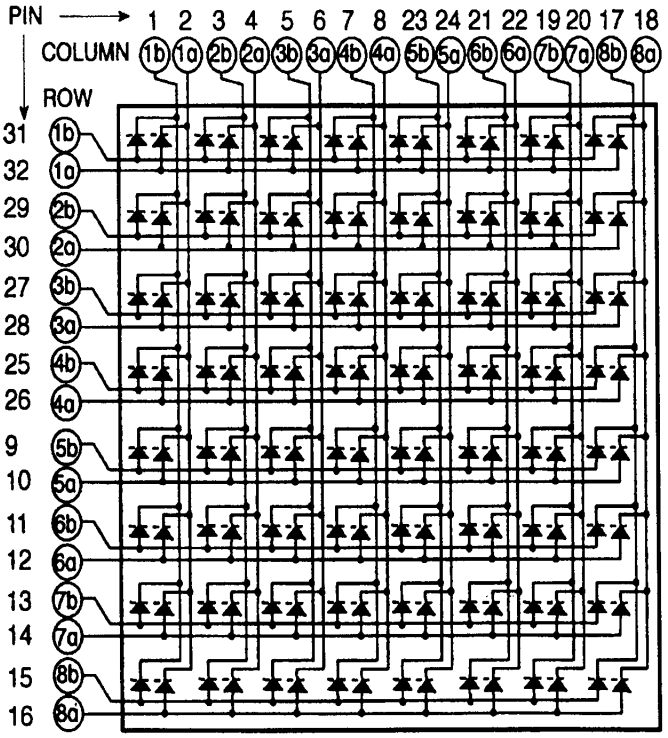
SCHEMATIC:



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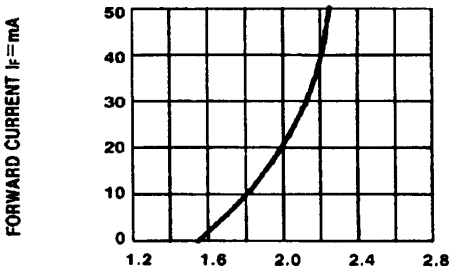
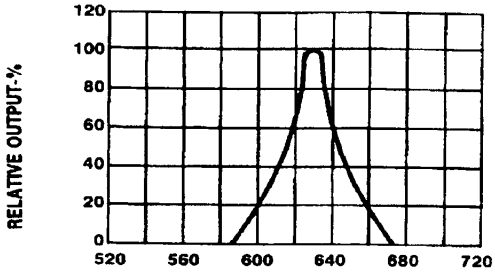
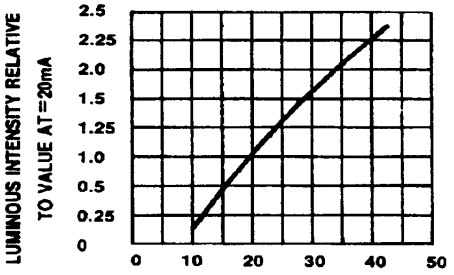
GRAPHICAL DETAIL: High Efficiency Red (T_A = 25°C unless otherwise specified)



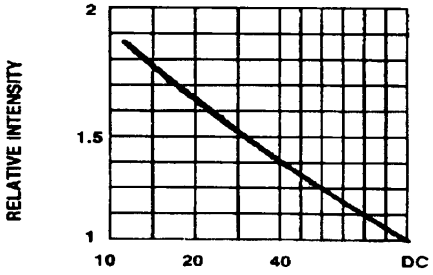
FORWARD VOLTAGE (V_F)-VOLTS
Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE.



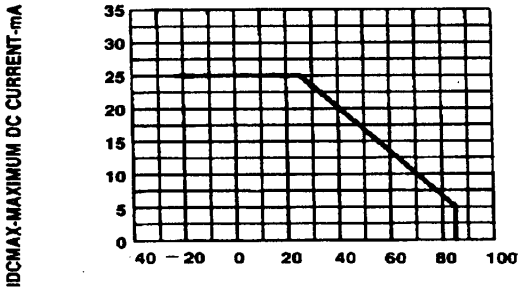
WAVELENGTH (λ)-nm
Fig.2 SPECTRAL RESPONSE



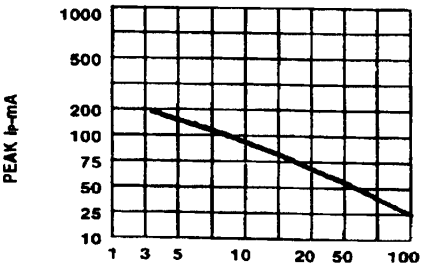
I_F-FORWARD CURRENT-mA
Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



DUTY CYCLE % PER SEGMENT
(AVERAGE I_F=10mA)
Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE



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



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

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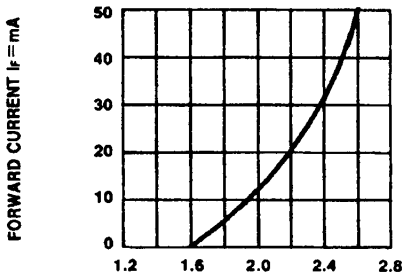
GRAPHICAL DETAIL: Green (T_A = 25°C unless otherwise specified)



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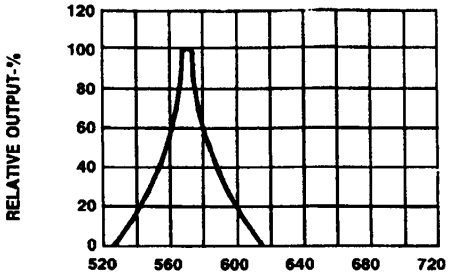
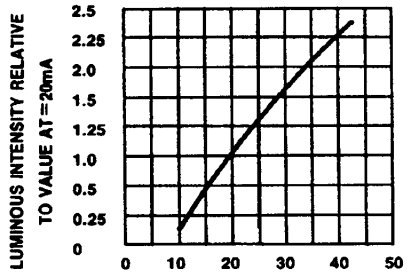


WAVELENGTH (λ)-nm
Fig.2 SPECTRAL RESPONSE



I_F-FORWARD CURRENT-mA
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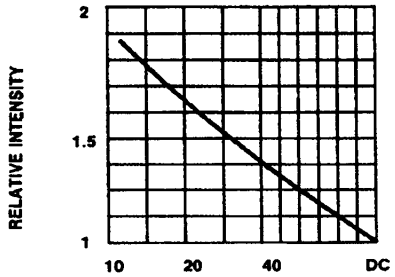
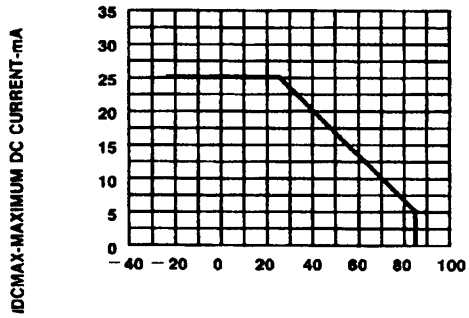


DUTY CYCLE % PER SEGMENT
(AVERAGE I_F=10mA)
Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE



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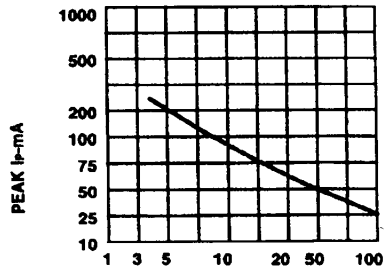

DUTY CYCLE %
Fig. 6 MAX PEAK CURRENT VS. DUTY CYCLE %
(REFRESH RATE f=1 KHz)

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