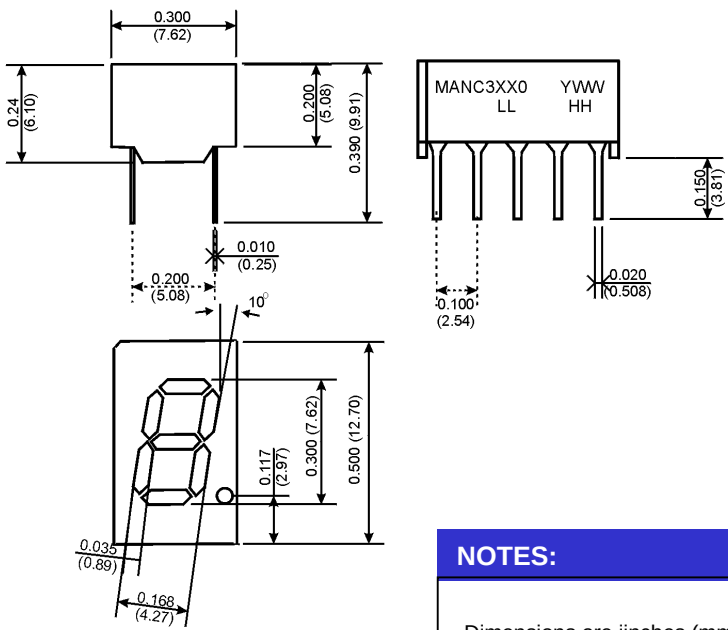
FAIRCHILD
SEMICONDUCTOR™

7.6mm (0.3 inch) COMPACT NUMERIC FRAME DISPLAY

Bright Red MANC3110, MANC3140
High Efficiency Red MANC3910, MANC3940
Green MANC3410, MANC3440

TR/QTO/SV001

PACKAGE DIMENSIONS



NOTES:

- Dimensions are iinches (mm)
- Tolerances are +/- 0.010 (0.25mm) unless otherwise stated.

FEATURES

- Bright Bold Segments
- Common Anode/Cathode
- Low Power Consumption
- Low Current Capability
- Neutral Segments
- Grey Face
- Epoxy Encapsulated Frame
- High Performance
- High Reliability

APPLICATIONS

- Appliances
- Automotive
- Instrumentation
- Process Control

MODELS AVAILABLE

Part Number	Colour	Description	Recommended I_F Levels
MANC3110	Bright Red	Common Anode	Standard Current (5mA - 20mA)
MANC3140	Bright Red	Common Cathode	Standard Current (5mA - 20mA)
MANC3410	Green	Common Anode	Standard Current (5mA - 20mA)
MANC3440	Green	Common Cathode	Standard Current (5mA - 20mA)
MANC3910	High Efficiency Red	Common Anode	Standard Current (5mA - 20mA)
MANC3940	High Efficiency Red	Common Cathode	Standard Current (5mA - 20mA)

(For other colour options, contact your local area Sales Manager)

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7.6mm (0.3 inch) COMPACT NUMERIC FRAME DISPLAY

ABSOLUTE MAXIMUM RATINGS[1] (T_A = 25°C, unless otherwise specified)

Part Number / Parameter	MANC3110 MANC3140	MANC3410 MANC3440	MANC3910 MANC3940	Units
Continuous Forward Current (each segment)	15	25	25	mA
Peak Forward Current (F = 10KHz, D/F = 1/10)	60	90	90	mA
Power Dissipation (P_D)	40	70	70	mW
***Derate Linearly from 25°C**	0.17	0.33	0.33	mW
Reverse Voltage per Die			5 Volts	
Operating and Storage Temperature Range			-40°C to +85°C	
Lead soldering time (1/16 inch from standoffs)			5 seconds @ 230°C	

ELECTRO-OPTICAL CHARACTERISTICS[1] (T_A = 25°C, unless otherwise specified)

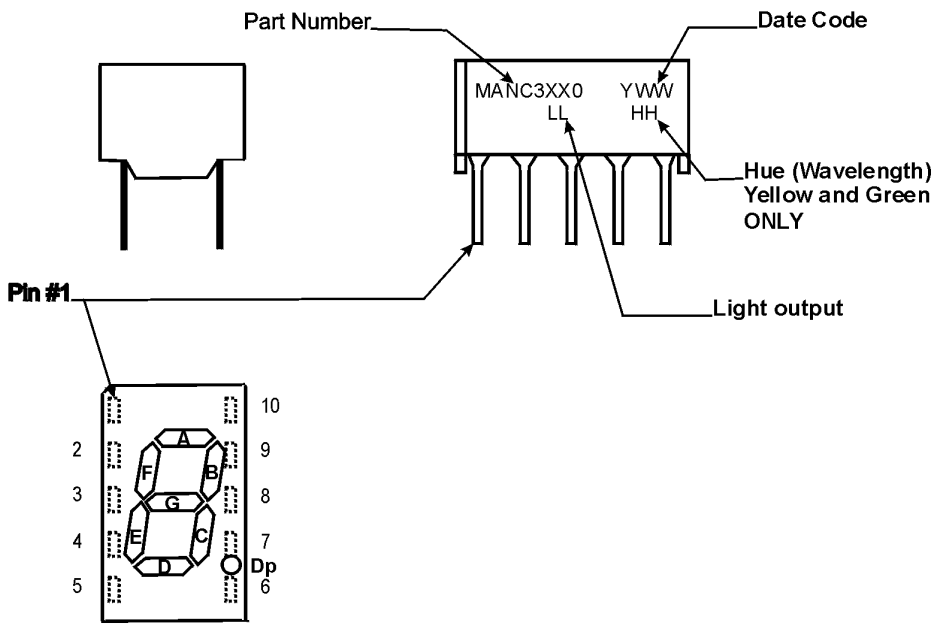
Part Number / Parameter	MANC3110 MANC3140	MANC3410 MANC3440	MANC3910 MANC3940	Units	Test Condition
Luminous intensity[2] (I_V) Minimum (Standard Current)		860	980	ucd	I_F = 5mA
Typical (Standard Current)	700	6800	5390	ucd	I_F = 20mA
For low current versions see	MAN3H10	MAN3G10	MAN3R10		
	MAN3H40	MAN3G40	MAN3R40		
Forward Voltage (V_F) Typical (Standard Current)	2.10	2.10	2.00	Volts	I_F = 20mA
Maximum (Standard Current)	2.80	2.80	2.50	Volts	I_F = 20mA
Peak Wavelength	700	568	643	nm	I_F = 20mA
Dominant Wavelength		573	632	nm	I_F = 20mA
Spectral Line 1/2 Width	90	30	45	nm	I_F = 10mA
Reverse B[3].Voltage (V_R)	5	5	5	Volts	I_R = 100uA

NOTES:
(1) Data per individual LED element
(2) Luminous intensity (ucd) = average light output per segment
(3) B = breakdown

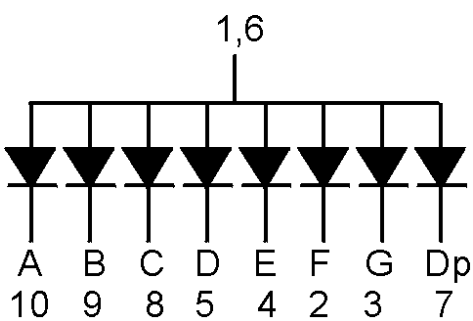
FAIRCHILD
SEMICONDUCTOR™

7.6mm (0.3 inch) COMPACT NUMERIC FRAME DISPLAY

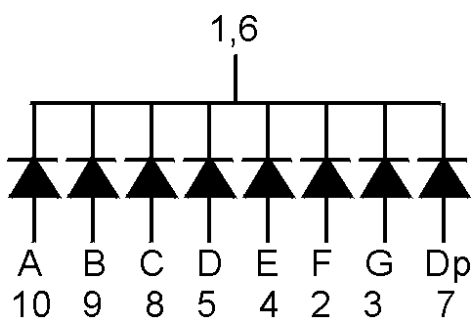
PIN ORIENTATION, SEGMENT IDENTIFICATION, AND PRODUCT MARKING



SCHEMATICS



COMMON ANODE
MANC3X10

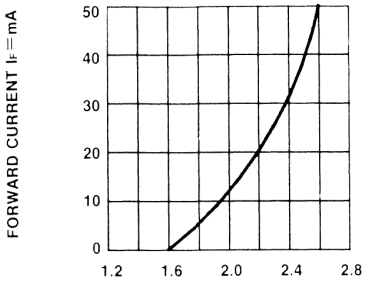


COMMON CATHODE
MANC3X40

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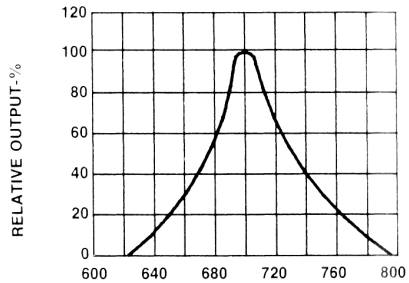
7.6mm (0.3 inch) COMPACT NUMERIC FRAME DISPLAY

GRAPHICAL DATA Bright Red (T_A = 25°C, unless otherwise specified)



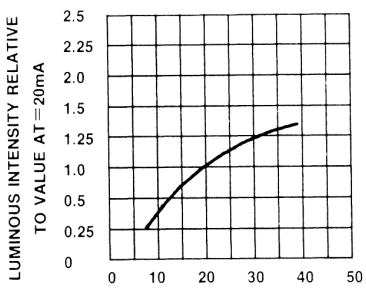
FORWARD VOLTAGE (V_F)-VOLTS

Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE.



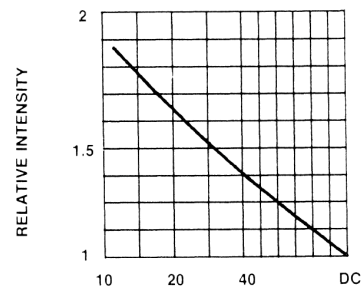
WAVELENGTH (λ)-nm

Fig.2 SPECTRAL RESPONSE



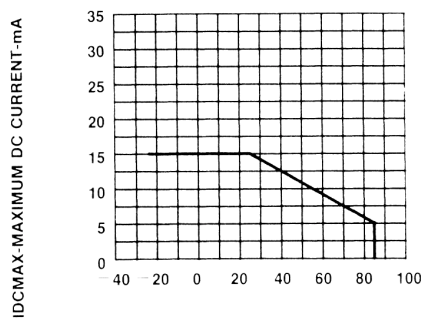
I_F-FORWARD CURRENT-mA

Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



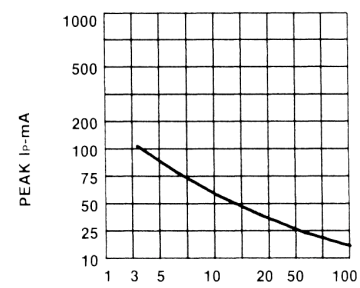
DUTY CYCLE % PER SEGMENT (AVERAGE I_F = 10mA)

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.



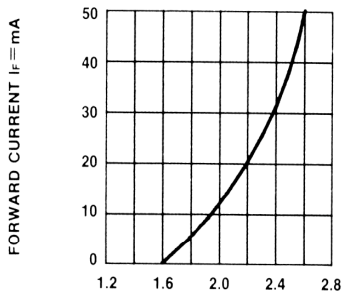
DUTY CYCLE %

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

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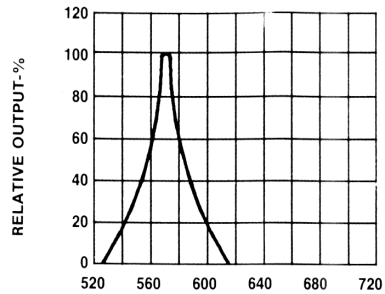
7.6mm (0.3 inch) COMPACT NUMERIC FRAME DISPLAY

GRAPHICAL DATA Green (T_A = 25°C, unless otherwise specified)



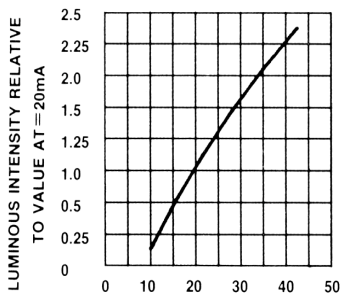
FORWARD VOLTAGE (V_F)-VOLTS

Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE.



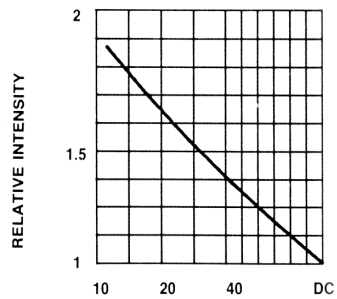
WAVELENGTH (λ)-nm

Fig.2 SPECTRAL RESPONSE



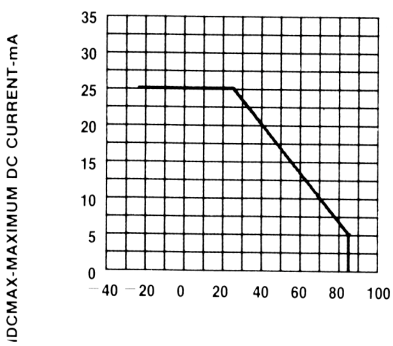
I_F-FORWARD CURRENT-mA

Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



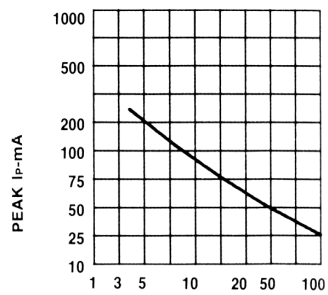
DUTY CYCLE % PER SEGMENT (AVERAGE I_F=10mA)

Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE



T_A AMBIENT TEMPERATURE °C

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



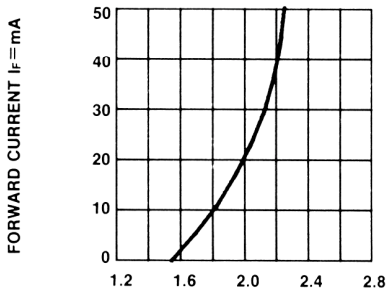
DUTY CYCLE %

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

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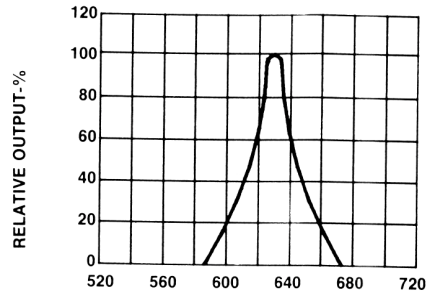
7.6mm (0.3 inch) COMPACT NUMERIC FRAME DISPLAY

GRAPHICAL DATA High Efficiency Red(T_A = 25°C, unless otherwise specified)



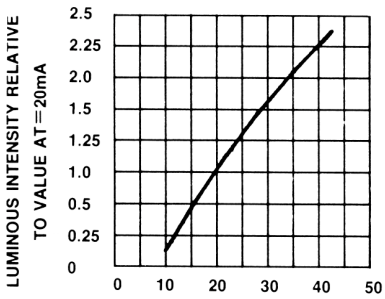
FORWARD VOLTAGE (V_F)-VOLTS

Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE.



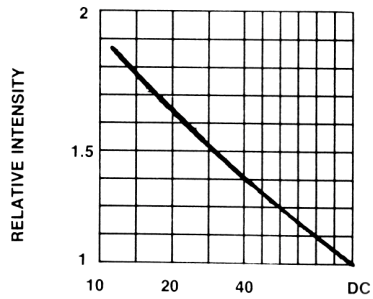
WAVELENGTH (λ)-nm

Fig.2 SPECTRAL RESPONSE



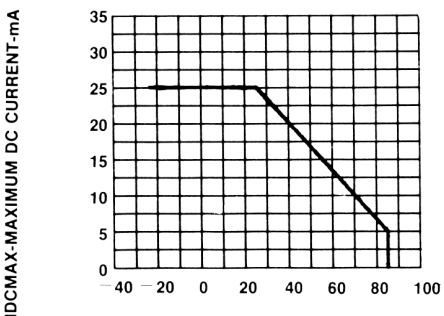
I_F-FORWARD CURRENT-mA

Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



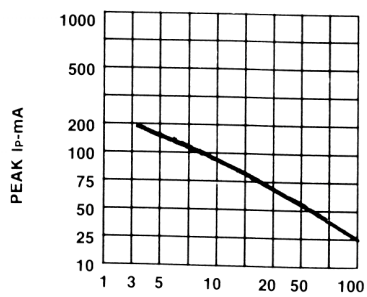
DUTY CYCLE % PER SEGMENT (AVERAGE I_F=10mA)

Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE



T_A AMBIT 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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7.6mm (0.3 inch) COMPACT NUMERIC FRAME DISPLAY

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