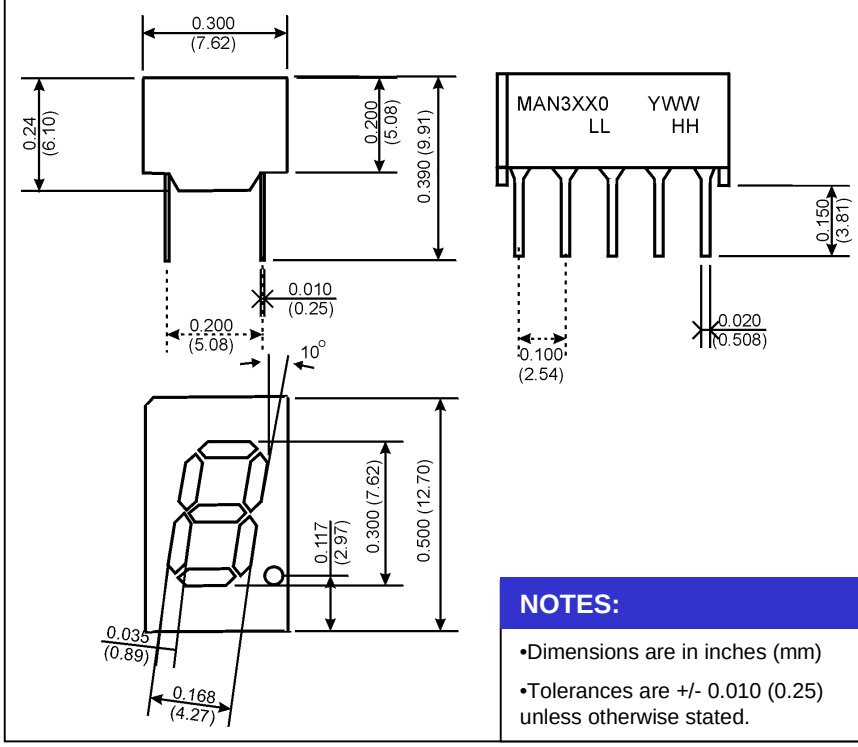
FAIRCHILD SEMICONDUCTOR™

0.3 Inch (7.62mm) COMPACT NUMERIC FRAME DISPLAY

AlInGaP Red (630nm) MAN3H10, MAN3H40
AlInGaP Red (642nm) MAN3R10, MAN3R40
AlInGaP Yellow MAN3Y10, MAN3Y40
GaP Green MAN3G10, MAN3G40

TR/QTS/030100-001

PACKAGE DIMENSIONS



NOTES:

- Dimensions are in inches (mm)
- Tolerances are +/- 0.010 (0.25) 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	Special
MAN3H10	AlInGaP 630nm	Single Digit, RHDP, Common Anode	Low Current Capability
MAN3H40	AlInGaP 630nm	Single Digit, RHDP, Common Cathode	Low Current Capability
MAN3R10	AlInGaP 642nm	Single Digit, RHDP, Common Anode	Low Current Capability
MAN3R40	AlInGaP 642nm	Single Digit, RHDP, Common Cathode	Low Current Capability
MAN3Y10	AlInGaP Yellow	Single Digit, RHDP, Common Anode	Low Current Capability
MAN3Y40	AlInGaP Yellow	Single Digit, RHDP, Common Cathode	Low Current Capability
MAN3G10	GaP Green	Single Digit, RHDP, Common Anode	Low Current Capability
MAN3G40	GaP Green	Single Digit, RHDP, Common Cathode	Low Current Capability

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

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

Part Number / Parameter	MAN3H10 / MAN3H40	MAN3R10 / MAN3R40	MAN3Y10 / MAN3Y40	MAN3G10 / MAN3G40	Units
Continuous Forward Current (each segment)	25	25	25	25	mA
Peak Forward Current (F = 10KHz, D/F = 1/10)	100	100	100	100	mA
Power Dissipation (P_D)	60	60	60	60	mW
***Derate Linearly from 25°C**	0.36	0.36	0.36	0.36	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	MAN3H10 / MAN3H40	MAN3R10 / MAN3R40	MAN3Y10 / MAN3Y40	MAN3G10 / MAN3G40	Units	Test Condition
Luminous intensity[2] (I_V)						
Minimum (Standard Current)	6000	4000	8000	1500	ucd	I_F = 10mA
Typical (Standard Current)	7800	5800	12800	2500	ucd	I_F = 10mA
Minimum (Low Current)	510	510	510	510	ucd	I_F = 2mA
Typical (Low Current)	1000	1000	1000	1000	ucd	I_F = 2mA
Forward Voltage (V_F)						
Typical (Standard Current)	2.05	2.05	2.05	2.05	Volts	I_F = 10mA
Maximum (Standard Current)	2.45	2.45	2.45	2.45	Volts	I_F = 10mA
Typical (Low Current)	1.80	1.80	1.80	1.80	Volts	I_F = 2mA
Maximum (Low Current)	2.20	2.20	2.20	2.20	Volts	I_F = 2mA
Peak Wavelength	632	639	591	565	nm	I_F = 10mA
Dominant Wavelength	624	631	585	570	nm	I_F = 10mA
Spectral Line 1/2 Width	20	20	20	20	nm	I_F = 10mA
Reverse B[3].Voltage (V_R)	5	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

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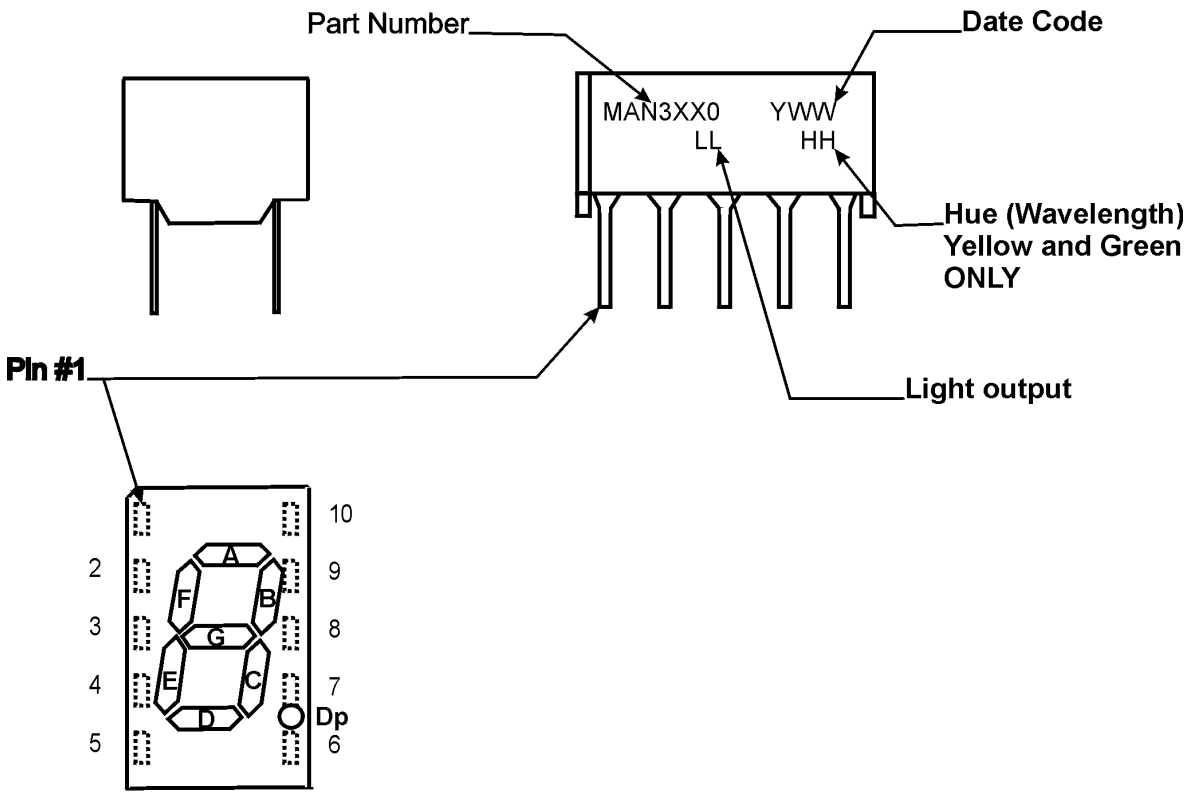
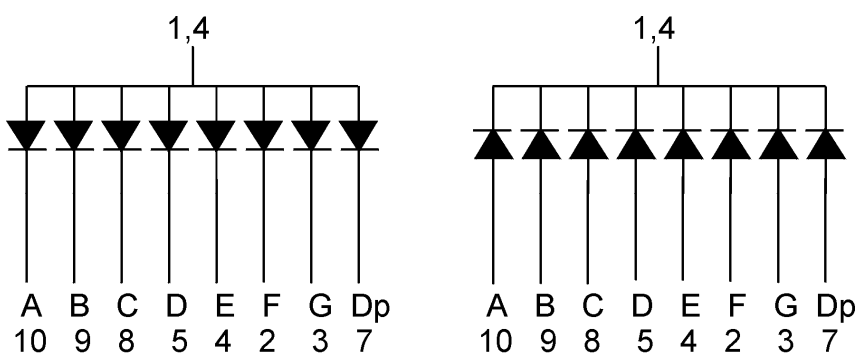
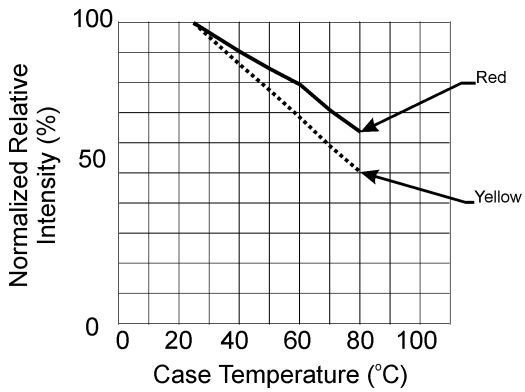
PIN ORIENTATION, SEGMENT IDENTIFICATION, AND PRODUCT MARKING



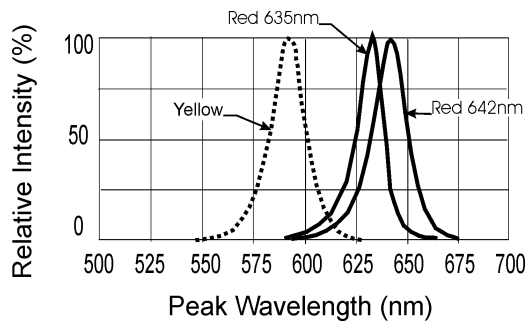
SCHEMATICS



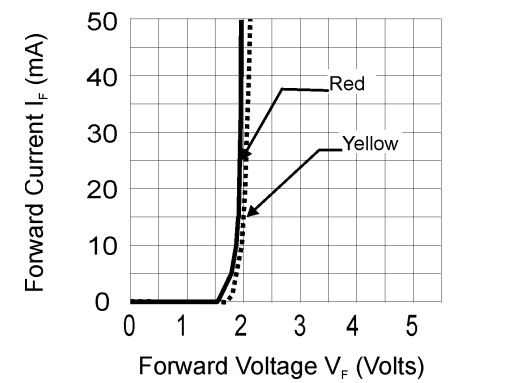
GRAPHICAL DATA AlInGaP 630nm (T_A = 25°C, unless otherwise specified)



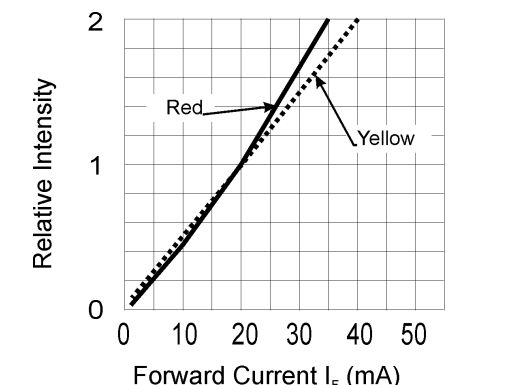
Relative Intensity vs Case Temp.



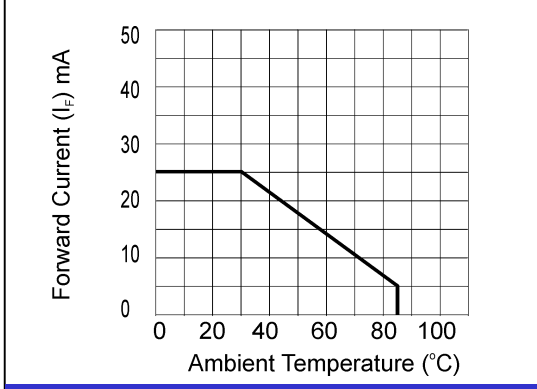
Spectral Response



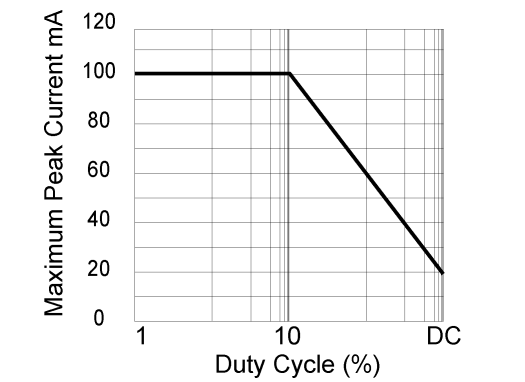
Forward Current vs Forward Voltage



Luminous Intensity vs Duty Cycle



Maximum Forward Current vs Ambient Temperature



Maximum Peak Current vs Duty Cycle

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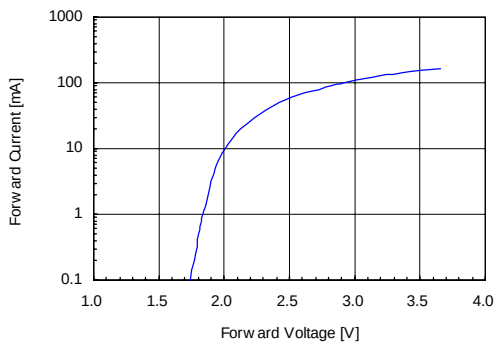
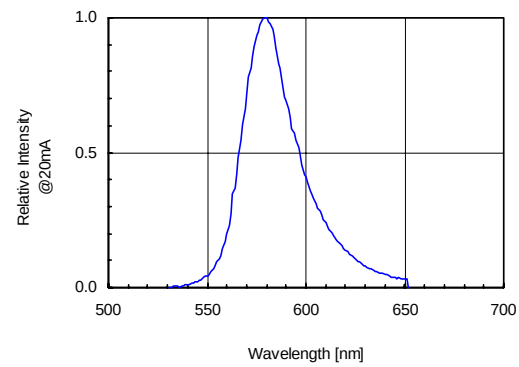
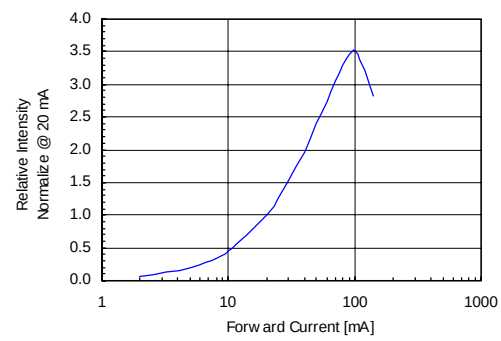
GRAPHICAL DATA GaP Green (T_A = 25°C, unless otherwise specified)



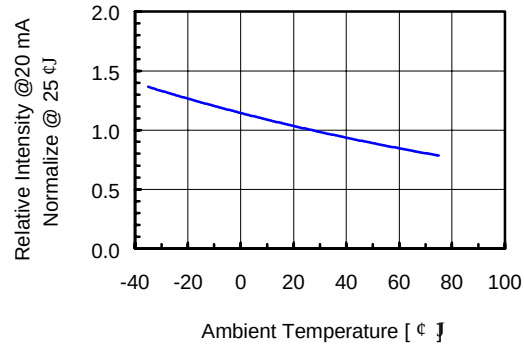
Forward Current vs Forward Voltage



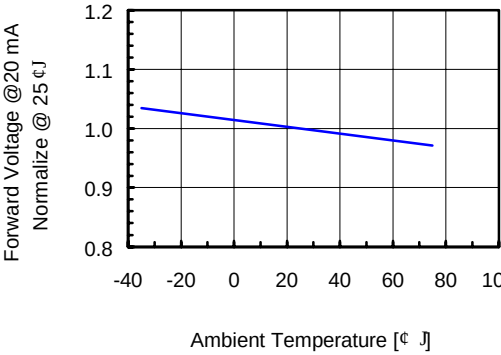
Spectral Response



Relative Intensity vs Forward Current



Relative Intensity vs Ambient Temperature



Forward Voltage vs Ambient Temperature

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2. A critical component in any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.