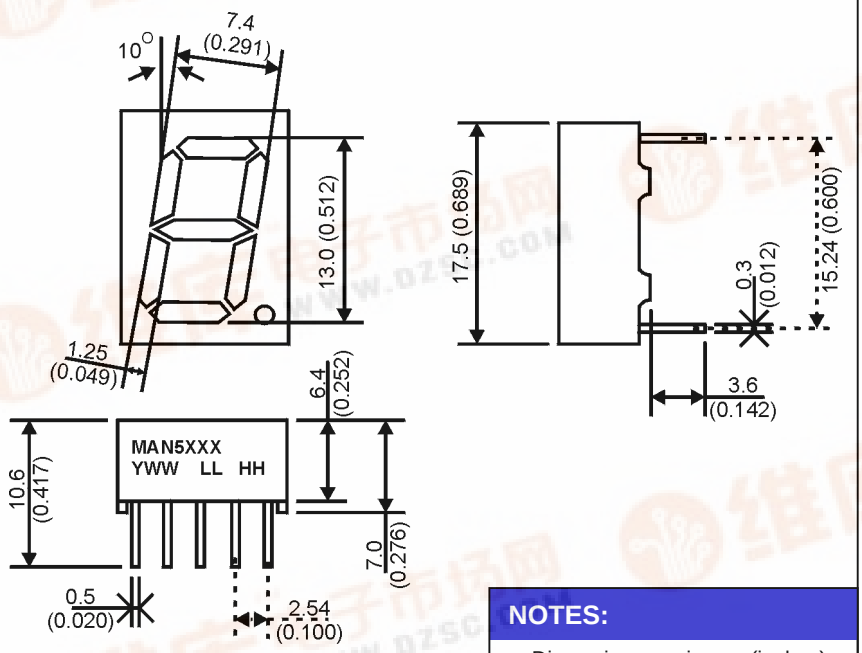
FAIRCHILD SEMICONDUCTOR™

13mm (0.512 inch) One Digit NUMERIC FRAME DISPLAY

AlInGaP Red (632nm) MAN5H50, MAN5H60
AlInGaP Red (639nm) MAN5R50, MAN5R60
AlInGaP Yellow MAN5Y50, MAN5Y60

TR/QTS030100-001

PACKAGE DIMENSIONS



NOTES:

- Dimensions are in mm (inches)
- Tolerances are +/- 0.25 (0.010) 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
MAN5H50	AlInGaP 632nm	Single Digit, RHDP, Common Anode	Low Current Capability
MAN5H60	AlInGaP 632nm	Single Digit, RHDP, Common Cathode	Low Current Capability
MAN5R50	AlInGaP 639nm	Single Digit, RHDP, Common Anode	Low Current Capability
MAN5R60	AlInGaP 639nm	Single Digit, RHDP, Common Cathode	Low Current Capability
MAN5Y50	AlInGaP Yellow	Single Digit, RHDP, Common Anode	Low Current Capability
MAN5Y60	AlInGaP Yellow	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	MAN5H50 / MAN5H60	MAN5R50 / MAN5R60	MAN5Y50 / MAN5Y60	Units
Continuous Forward Current (each segment)	25	25	25	mA
Peak Forward Current (F = 10KHz, D/F = 1/10)	100	100	100	mA
Power Dissipation (P_D)	60	60	60	mW
***Derate Linearly from 25°C**	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	MAN5H50 / MAN5H60	MAN5R50 / MAN5R60	MAN5Y50 / MAN5Y60	Units	Test Condition
Luminous intensity[2] (I_V)					
Minimum (Standard Current)	6000	4000	8000	ucd	I_F = 10mA
Typical (Standard Current)	7800	5800	12800	ucd	I_F = 10mA
Minimum (Low Current)	510	510	510	ucd	I_F = 2mA
Typical (Low Current)	1000	1000	1000	ucd	I_F = 2mA
Forward Voltage (V_F)					
Typical (Standard Current)	2.05	2.05	2.05	Volts	I_F = 20mA
Maximum (Standard Current)	2.40	2.40	2.40	Volts	I_F = 20mA
Typical (Low Current)	1.80	1.80	1.80	Volts	I_F = 2mA
Maximum (Low Current)	2.20	2.20	2.20	Volts	I_F = 2mA
Peak Wavelength	632	639	591	nm	I_F = 10mA
Dominant Wavelength	624	631	585	nm	I_F = 10mA
Spectral Line 1/2 Width	20	20	20	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

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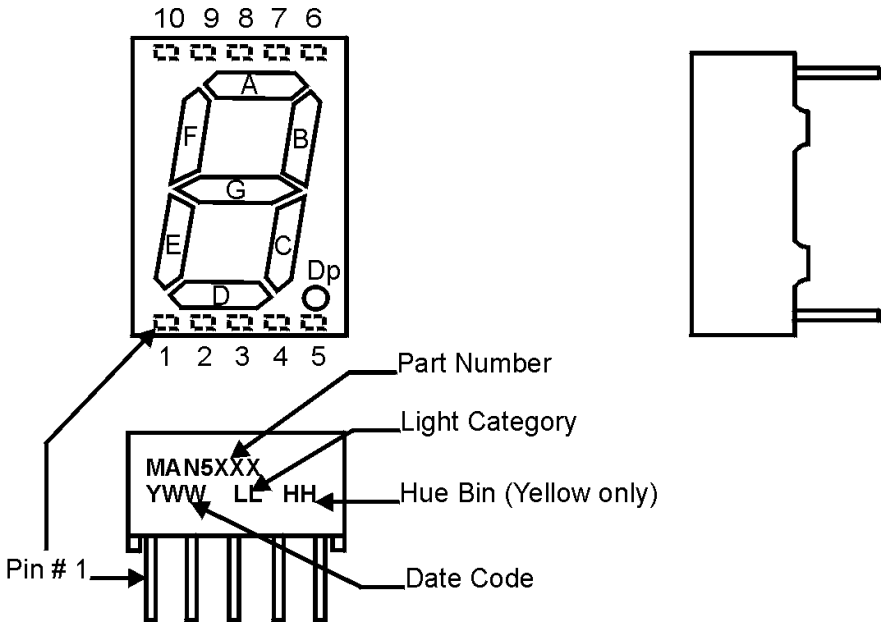
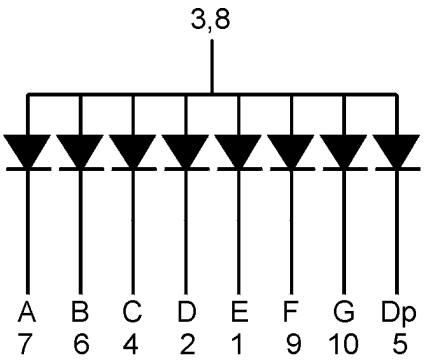
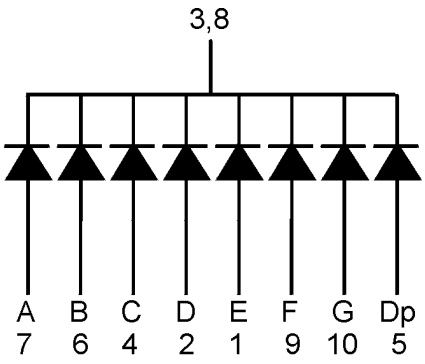
PIN ORIENTATION, SEGMENT IDENTIFICATION, AND PRODUCT MARKING



SCHEMATICS



COMMON ANODE
MAN5X50



COMMON CATHODE
MAN5X60

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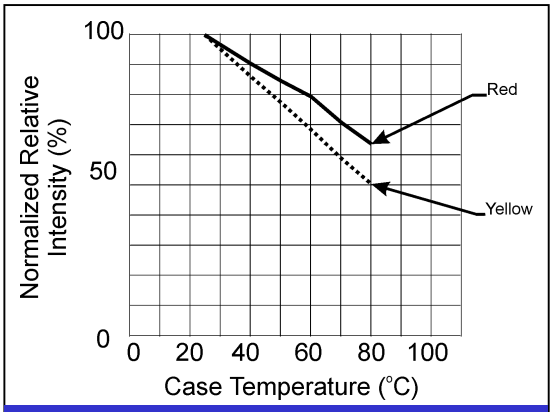
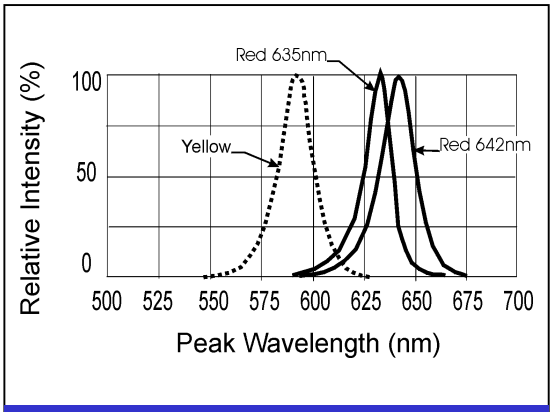
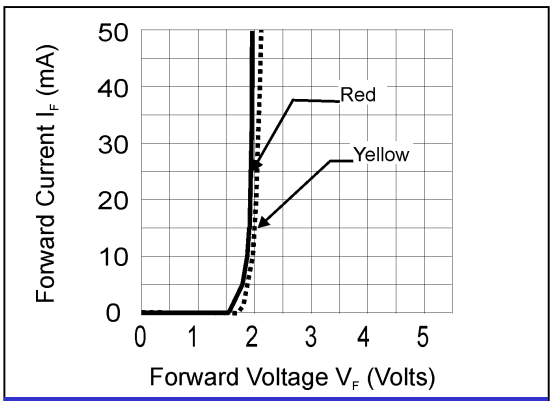
GRAPHICAL DATA AlInGaP (T_A = 25ºC, unless otherwise specified)



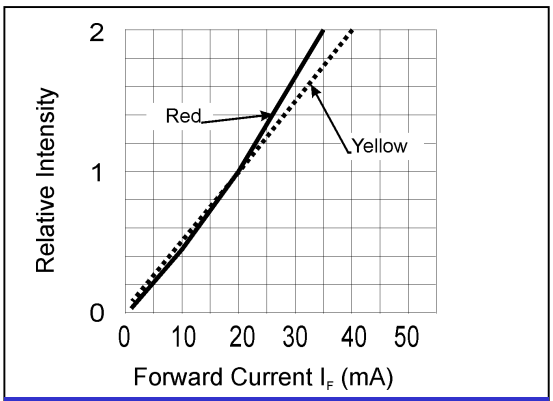
Relative Intensity vs Case Temp.



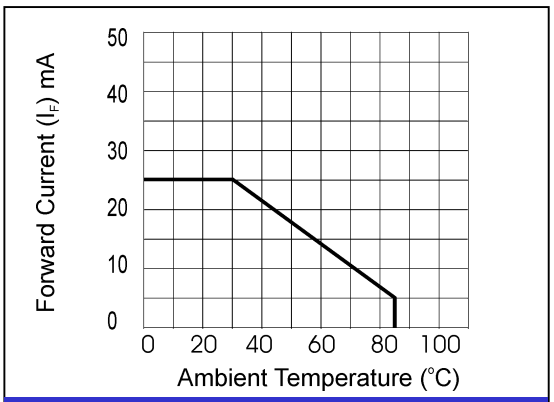
Spectral Response



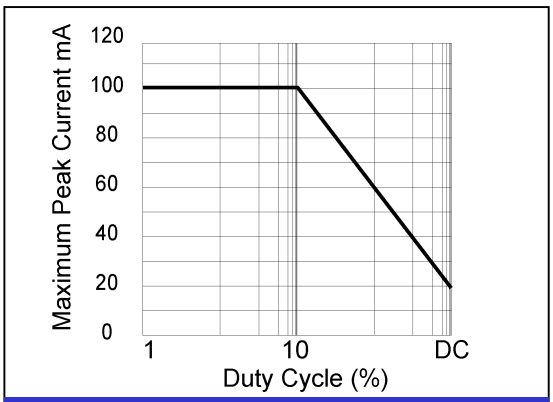
Forward Current vs Forward Voltage



Luminous Intensity vs Forward Current



Maximum Forward Current vs Ambient Temperature



Maximum Peak Current vs Duty Cycle

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DISCLAIMER

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1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, and (c) whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury of the user.
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.