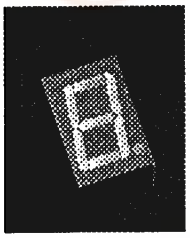
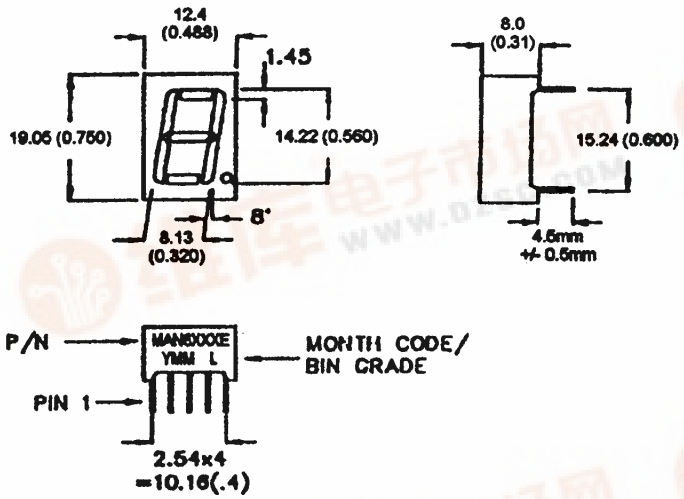
FAIRCHILD
SEMICONDUCTOR™

0.56 INCH (14.2 MM) SINGLE DIGIT STICK DISPLAY



BRIGHT RED MAN6160E, MAN6180E
GREEN MAN6460E, MAN6480E
HIGH EFF. RED MAN6960E, MAN6980E

PACKAGE DIMENSIONS



NOTES: Dimensions are in mm (inch).
All pins are 0.5 (0.02) diameter
Tolerances are ± 0.25 (0.1) unless otherwise noted.

FEATURES

- Easy to read digit
- Common anode or cathode
- Low power consumption
- Highly visible bold segments
- High brightness with high contrast
- White segments on a grey face for MAN64X0E and MAN61X0E.
- Red segments and red face for MAN69X0E
- Directly compatible with integrated circuits
- Rugged plastic/epoxy construction

APPLICATIONS

- Digital readout displays
- Instrument panels

MODEL NUMBERS

Part number	Color	Description
MAN6160E	Bright Red	Common Anode; right hand decimal
MAN6180E	Bright Red	Common Cathode; right hand decimal
MAN6460E	Green	Common Anode; right hand decimal
MAN6480E	Green	Common Cathode; right hand decimal
MAN6960E	High efficiency red	Common Anode; right hand decimal
MAN6980E	High efficiency red	Common Cathode; right hand decima

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

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ABSOLUTE MAXIMUM RATING (T_A=25°C unless otherwise specified)

Part number	B.Red MAN 6160E 6180E	Green MAN 6460E 6480E	High Eff. Red MAN 6960E 6980E	Unit
Continuous forward current (I_f) Per Segment	15	30	30	mA
Peak forward current per die (I_f) (at f = 1.0 KHz, Duty factor = 1/10)	50	160	160	mA
Power dissipation (P_D)	45*	100*	100*	mW

*Derate linearly from 25°C — See graphical data attached

Reverse voltage per dice.....5V

Operating and Storage temperature range.....- 40°C to +85°C

Lead soldering time (at 1/16 inch from the bottom of lamp).....5 seconds @ 230°C

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

Part number	Bright Red MAN 6160E 6180E	Green MAN 6460E 6480E	High Eff. Red MAN 6960E 6980E	Test Condition
Luminous intensity (ucd)				I_F = 10 mA
minimum	300	800	900	
typical	700	2200	2200	
Forward voltage (V_F)				I_F = 20 mA
typical	2.1	2.1	2.0	
maximum	2.8	2.8	2.8	
Peak wavelength (nm)	697	570	635	I_F = 20 mA
Spectral line half width (nm)	90	30	45	I_F = 20 mA
Reverse breakdown voltage (V_R)	5	5	5	I_R =100 uA

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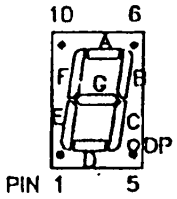
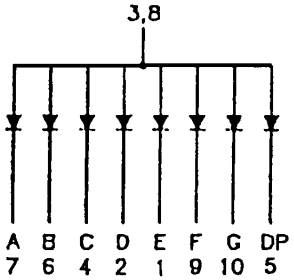
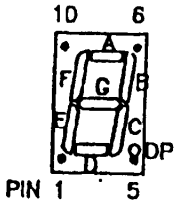
PINOUT

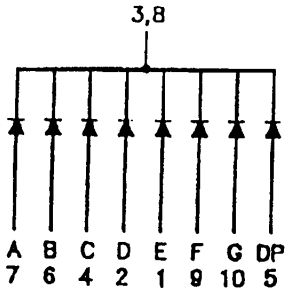
MAN6X60E - Common Anode





MAN6X80E - Common Cathode





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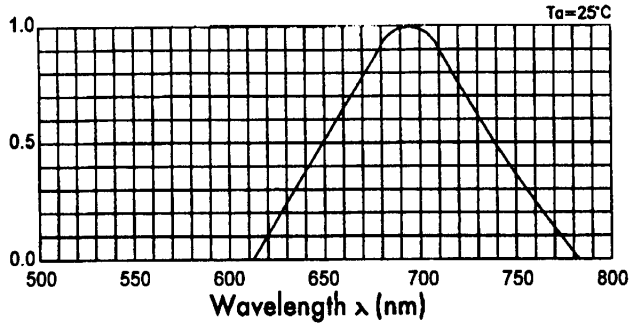
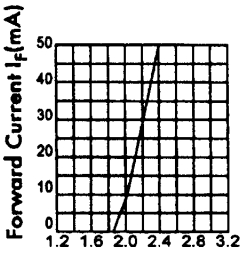
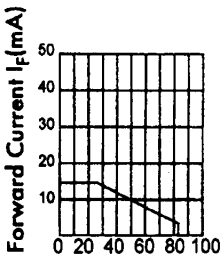
GRAPHICAL DETAIL: Bright Red (T_A = 25°C unless otherwise specified)



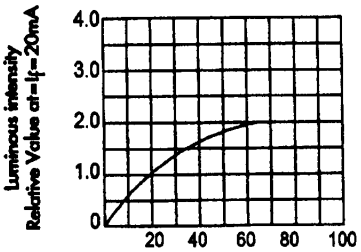
RELATIVE INTENSITY VS. WAVELENGTH



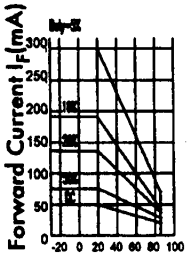
FORWARD VOLTAGE (V_f)-volts
FORWARD CURRENT VS.
FORWARD VOLTAGE



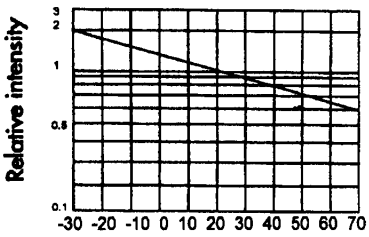
AMBIENT TEMPERATURE T_A (°C)



If-Forward current-mA
RELATIVE LUMINOUS INTENSITY
VS. FORWARD CURRENT



AMBIENT TEMPERATURE (°C)
VS. FORWARD CURRENT CAPACITY



AMBIENT TEMPERATURE T_A (°C)

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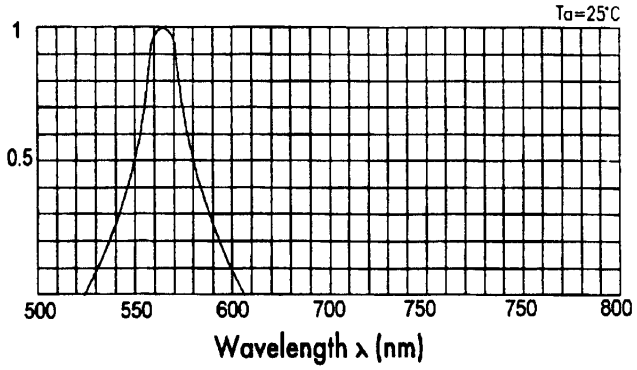
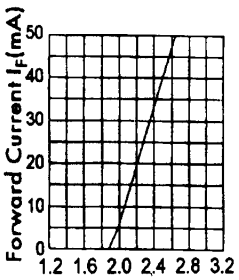
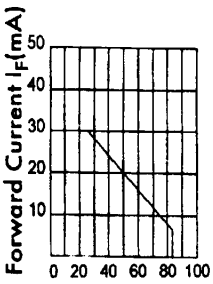
GRAPHICAL DETAIL: Green (T_A = 25°C unless otherwise specified)



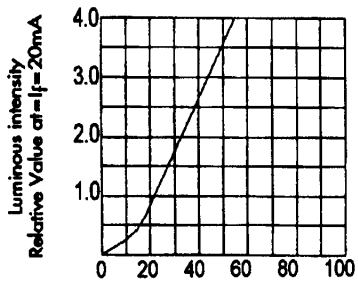
RELATIVE INTENSITY VS. WAVELENGTH



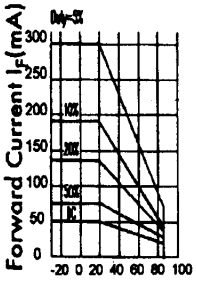
FORWARD VOLTAGE (V_f)-volts
FORWARD CURRENT VS.
FORWARD VOLTAGE



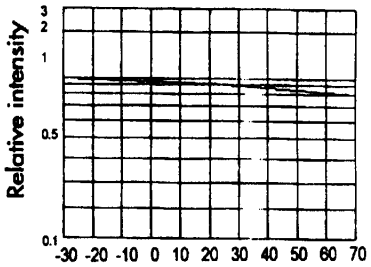
AMBIENT TEMPERATURE T_A (°C)



If-Forward current-mA
RELATIVE LUMINOUS INTENSITY
VS. FORWARD CURRENT



AMBIENT TEMPERATURE (°C)
VS. FORWARD CURRENT CAPACITY



AMBIENT TEMPERATURE T_A (°C)

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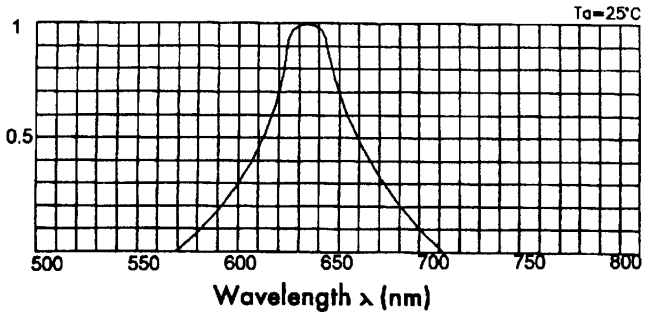
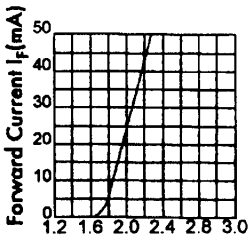
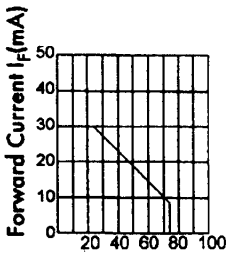
GRAPHICAL DETAIL: High Efficiency Red (T_A = 25°C unless otherwise specified)



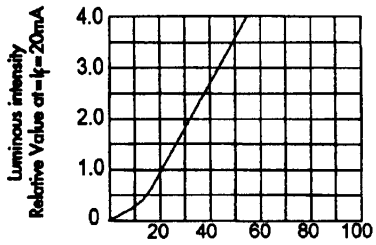
RELATIVE INTENSITY VS. WAVELENGTH



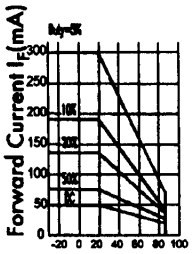
FORWARD VOLTAGE (V_f)-volts
FORWARD CURRENT VS.
FORWARD VOLTAGE



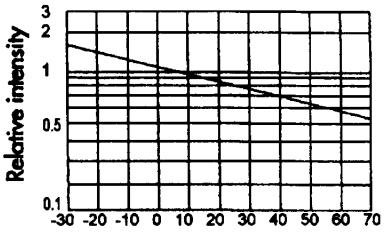
AMBIENT TEMPERATURE T_A (°C)



I_f-Forward current-mA
RELATIVE LUMINOUS INTENSITY
VS. FORWARD CURRENT



AMBIENT TEMPERATURE (°C)
VS. FORWARD CURRENT CAPACITY



AMBIENT TEMPERATURE T_A (°C)

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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.