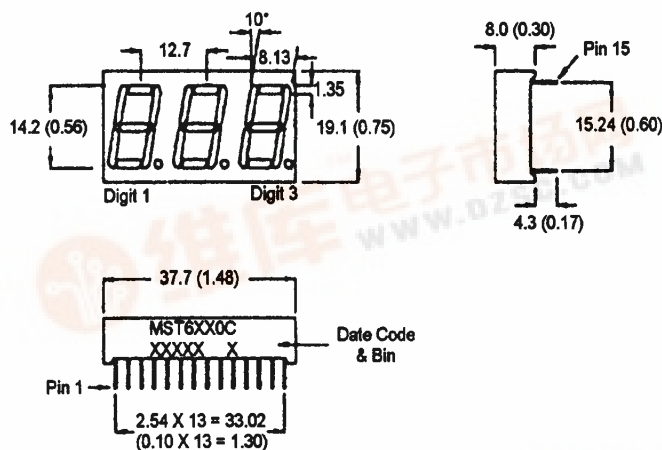


FAIRCHILD
SEMICONDUCTOR™

0.56 INCH (14.2 MM) THREE DIGIT STICK DISPLAY

BRIGHT RED MST6110C, MST6140C
GREEN MST6410C, MST6440C
HIGH EFF. RED MST6910C, MST6940C

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
MST64X0C and MST61X0C.
Red segments and red face for
MST69X0C
Directly compatible with integrated
circuits
Rugged plastic/epoxy construction

APPLICATIONS

Digital readout displays
Instrument panels

MODEL NUMBERS

Part number	Color	Description
MST6110C	Bright Red	Common Anode; right hand decimal
MST6140C	Bright Red	Common Cathode; right hand decimal
MST6410C	Green	Common Anode; right hand decimal
MST6440C	Green	Common Cathode; right hand decimal
MST6910C	High Efficiency Red	Common Anode; right hand decimal
MST6940C	High Efficiency Red	Common Cathode; right hand decimal

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

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

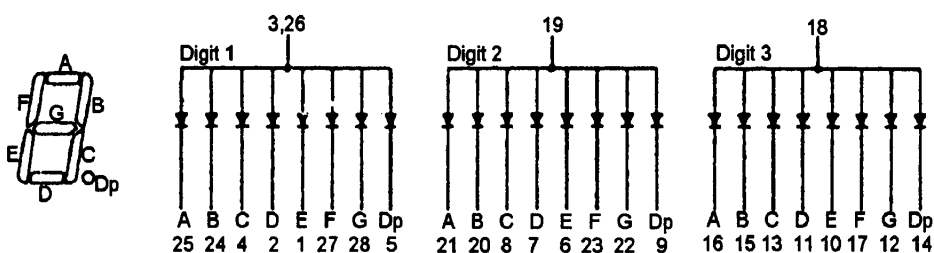
Part number	B.Red MST 6110C 6140C	Green MST 6410C 6440C	High Eff. Red MST 6910C 6940C	Unit
Continuous forward current (I _F) Per Segment	15	30	30	mA
Peak forward current per die (I _P) (at f = 10.0 KHz, Duty factor = 1/10)	60	90	90	mA
Power dissipation (P _D)	40*	70*	70*	mW
*Derate Linearly from 25°C	0.17	0.33	0.33	mW/°C
Reverse voltage per dice.....	5V			
Operating and Storage temperature range.....	- 25°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)

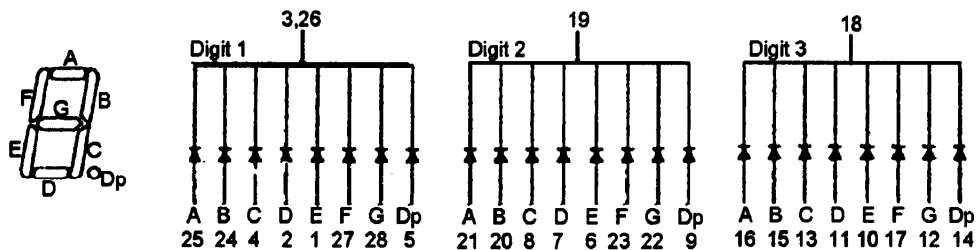
Part number	Bright Red MST 6110C 6140C	Green MST 6410C 6440C	High Eff. Red MST 6910C 6940C	Test Condition
Luminous intensity (ucd)				
minimum	300	800	900	I _F = 20mA
typical	700	2200	2200	I _F = 20mA
Forward voltage (V _F)				
typical	2.1	2.1	2.0	I _F = 20mA
maximum	2.6	2.8	2.8	
Peak wavelength (nm)	697	570	635	I _F = 20mA
Spectral line half width (nm)	90	30	45	I _F = 20mA
Reverse breakdown voltage (V _R)	5	5	5	I _R = 100uA

PINOUT

MST6X10C - Common Anode



MST6X40C - Common Cathode



GRAPHICAL DATA - Bright Red ($T_A = 25^\circ\text{C}$ unless otherwise specified)

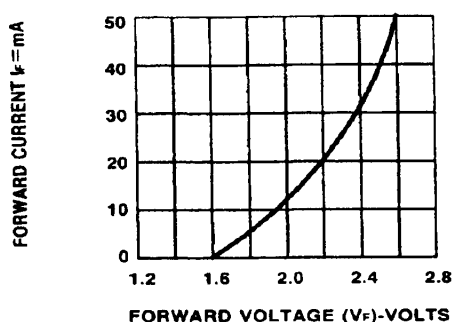


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

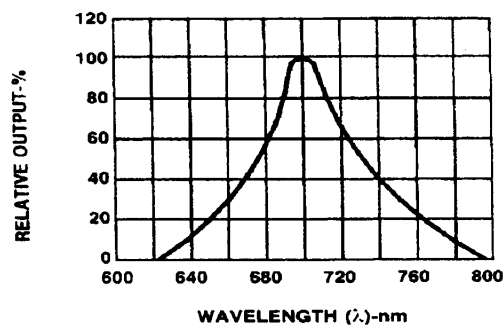


Fig.2 SPECTRAL RESPONSE

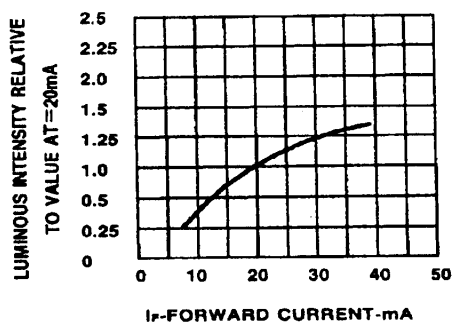


Fig.3 RELATIVE LUMINOUS INTENSITY
VS. FORWARD CURRENT

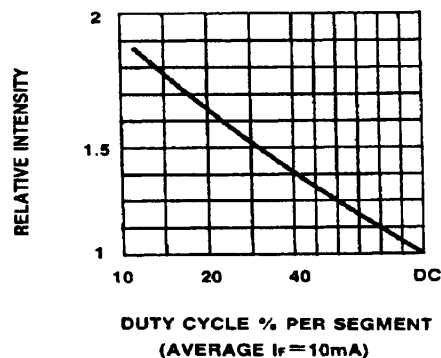


Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE

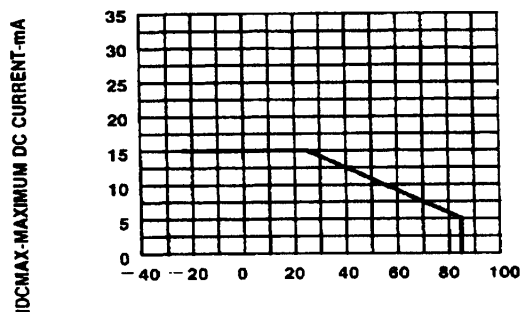


Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER
SEGMENT VS. A FUNCTION OF AMBIENT
TEMPERATURE.

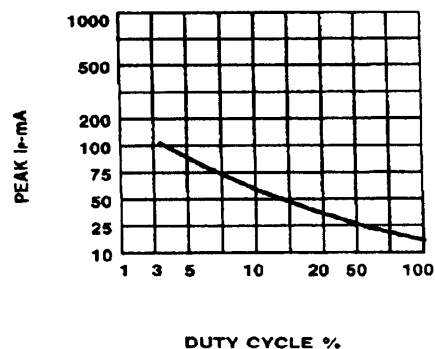


Fig. 6 MAX PEAK CURRENT VS. DUTY CYCLE %
(REFRESH RATE $f = 1 \text{ KHz}$)

GRAPHICAL DATA - Green ($T_A = 25^\circ\text{C}$ unless otherwise specified)

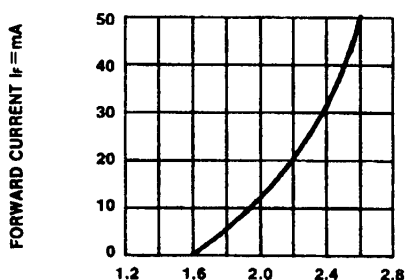


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

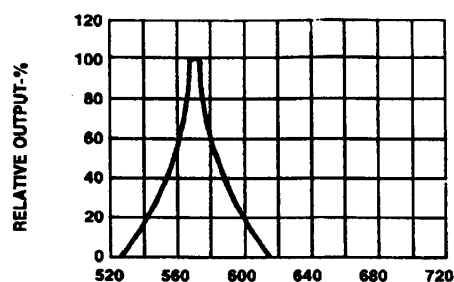
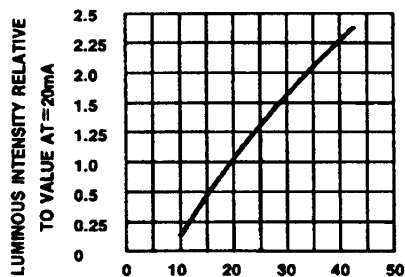
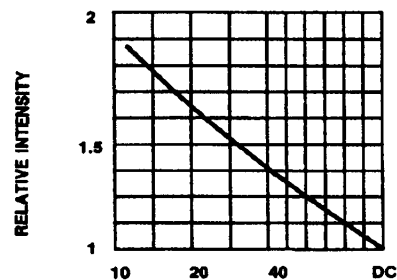


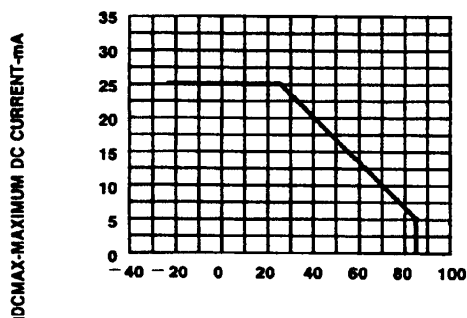
Fig.2 SPECTRAL RESPONSE



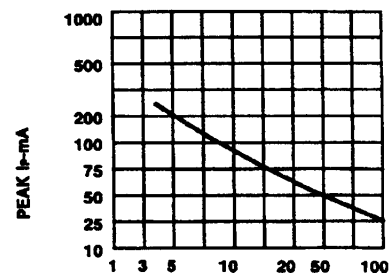
**Fig.3 RELATIVE LUMINOUS INTENSITY
VS. FORWARD CURRENT**



**Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE
(AVERAGE $I_F = 10\text{mA}$)**



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



**Fig. 6 MAX PEAK CURRENT VS. DUTY CYCLE %
(REFRESH RATE $f = 1\text{ KHz}$)**

GRAPHICAL DATA - High Efficiency Red ($T_A = 25^\circ\text{C}$ unless otherwise specified)

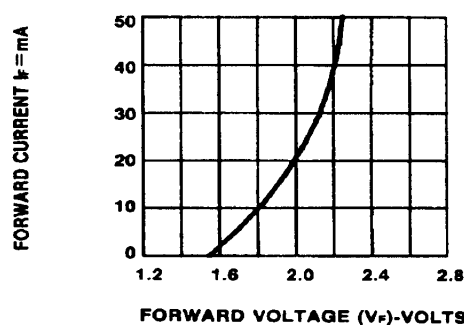


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

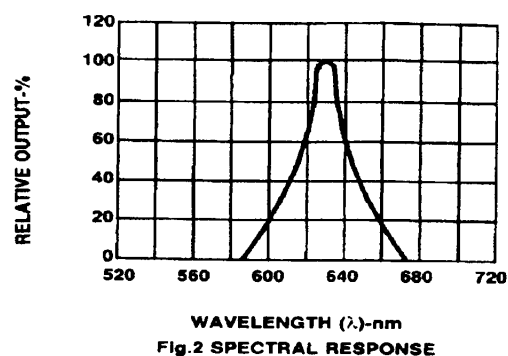


Fig.2 SPECTRAL RESPONSE

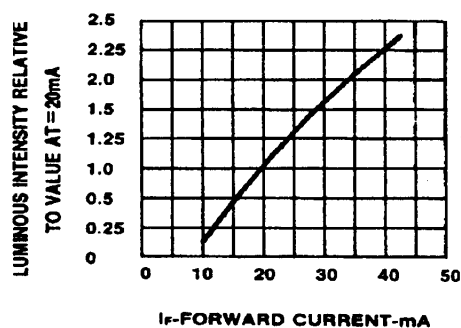


Fig.3 RELATIVE LUMINOUS INTENSITY
VS. FORWARD CURRENT

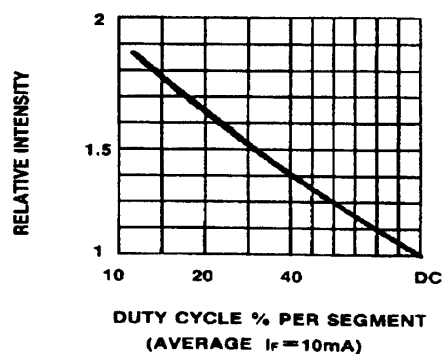


Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE

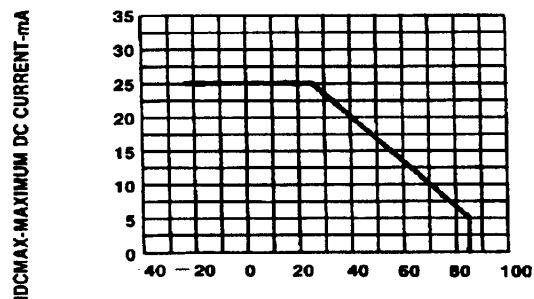


Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER
SEGMENT VS. A FUNCTION OF AMBIENT
TEMPERATURE.

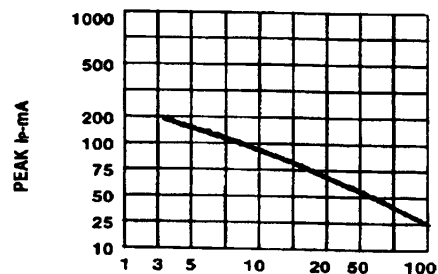


Fig. 6 MAX PEAK CURRENT VS. DUTY CYCLE %
(REFRESH RATE $f = 1 \text{ KHz}$)

DISCLAIMER

FAIRCHILD SEMICONDUCTOR RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION OR DESIGN. FAIRCHILD DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN; NEITHER DOES IT CONVEY ANY LICENSE UNDER ITS PATENT RIGHTS, NOR THE RIGHTS OF OTHERS.

LIFE SUPPORT POLICY

FAIRCHILD'S PRODUCTS ARE NOT AUTHORIZED FOR USE AS CRITICAL COMPONENTS IN LIFE SUPPORT DEVICES OR SYSTEMS WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE PRESIDENT OF FAIRCHILD SEMICONDUCTOR CORPORATION. As used herein:

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.