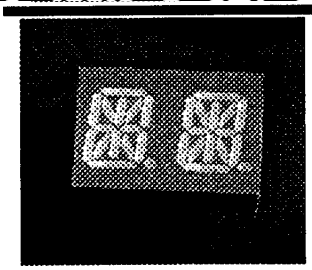
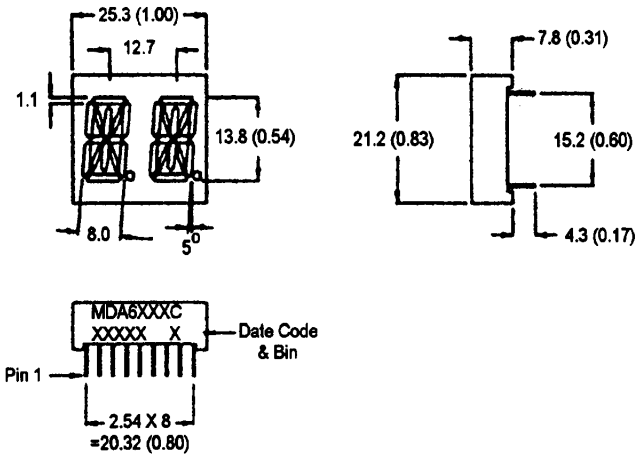
FAIRCHILD
SEMICONDUCTOR™

0.54 INCH (13.7MM) 14 SEGMENT,DUAL DIGIT ALPHA - NUMERIC STICK DISPLAY



BRIGHT RED	MDA6110C, MDA6140C
YELLOW	MDA6310C, MDA6340C
GREEN	MDA6410C, MDA6440C
HIGH EFF. RED	MDA6910C, MDA6940C

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 digits.
2 digit common anode or cathode.
Low power consumption.
Bold segments that are highly visible.
High brightness with high contrast
White segments on a grey face.
Directly compatible with integrated circuits.
Rugged plastic/epoxy construction.

APPLICATIONS

Digital readout displays.
Instrument panels.

MODEL NUMBERS

Part number	Color	Description
MDA6110C	Bright Red	2 Digit; Common Anode; Rt. Hand Decimal
MDA6140C	Bright Red	2 Digit; Common Cathode; Rt. Hand Decimal
MDA6310C	Yellow	2 Digit; Common Anode; Rt. Hand Decimal
MDA6340C	Yellow	2 Digit; Common Cathode; Rt Hand Decimal
MDA6410C	Green	2 Digit; Common Anode; Rt Hand Decimal
MDA6440C	Green	2 Digit; Common Cathode; Rt Hand Decimal
MDA6910C	High Eff. Red	2 Digit; Common Anode; Rt Hand Decimal
MDA6940C	High Eff. Red	2 Digit; Common Cathode; Rt Hand Decimal

(For other colour 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 MDA 6110C 6140C	Yellow MDA 6310C 6340C	Green MDA 6410C 6440C	High Eff. Red MDA 6910C 6940C	Unit
Continuous forward current (I_f) Per Segment.....	15	20	30	30	mA
Peak forward current per die (I_f). (at f = 1.0 KHz, Duty factor = 1/10)	50	80	90	160	mA
Power dissipation (P_D).....	40*	70*	70*	90*	mW
*Derate Linearly From 25°C.....	0.17	0.25	0.33	0.33	mW/°C

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	B. Red MDA 6110C 6140C	Yellow MDA 6310C 6340C	Green MDA 6410C 6440C	High Eff. Red MDA 6910C 6940C	Test Condition
Luminous intensity (ucd)					I_F = 20 mA
minimum	500	1000	750	1000	
typical	1400	4000	5000	4000	
Forward voltage (V_F)					I_F = 20 mA
typical	2.1	2.1	2.1	2.0	
maximum	2.6	2.8	2.8	2.8	
Peak wavelength (nm)	697	590	570	635	I_F = 20 mA
Spectral line half width (nm)	90	35	30	45	I_F = 20 mA
Reverse breakdown voltage (V_R)	5	5	5	5	I_R = 100 uA

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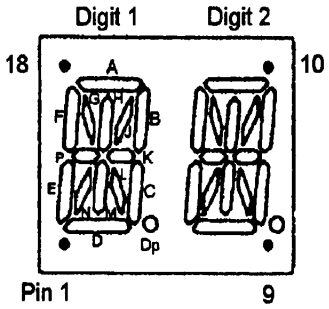
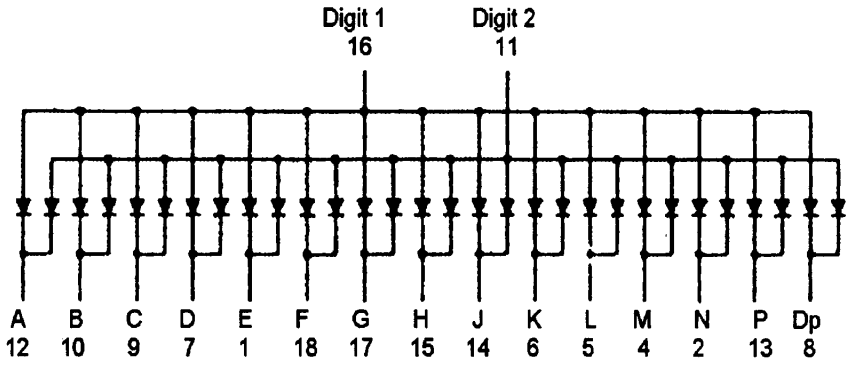
0.54 INCH (13.7MM) 14 SEGMENT,DUAL DIGIT ALPHA - NUMERIC STICK DISPLAY

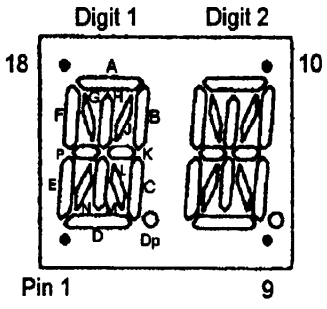
PINOUT

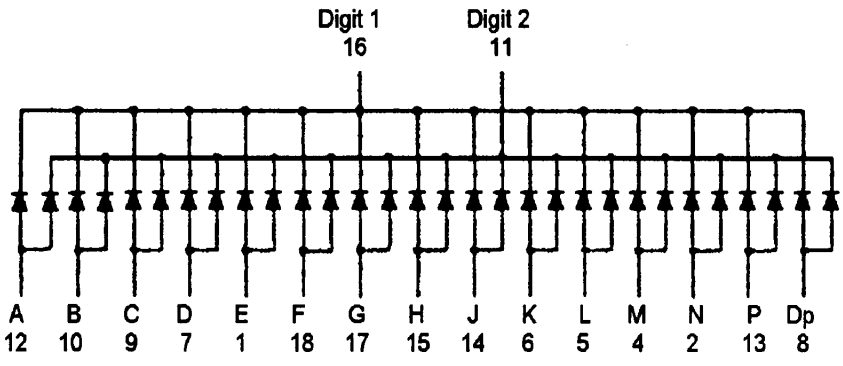
MDA6X10C - Common Anode; Pin 3 - no connection





MDA6X40C - Common Cathode; Pin 3 - no connection





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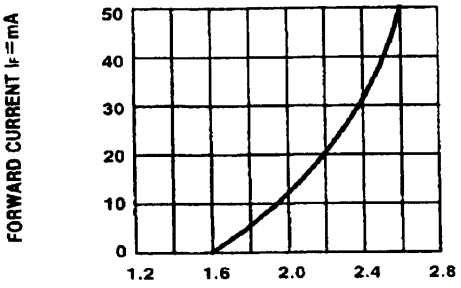
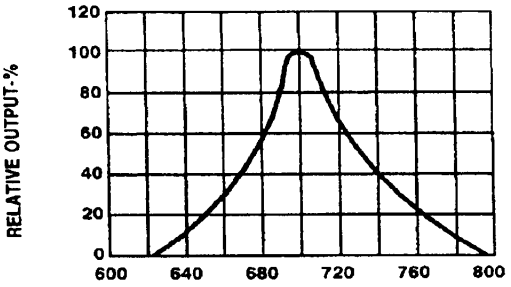
0.54 INCH (13.7MM) 14 SEGMENT,DUAL DIGIT ALPHA - NUMERIC STICK DISPLAY

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



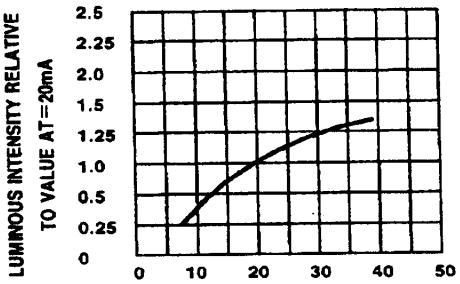
FORWARD VOLTAGE (V_F)-VOLTS

Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE.



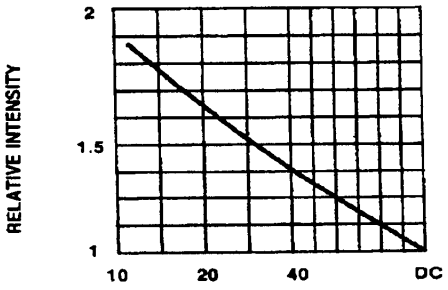
WAVELENGTH (λ)-nm

Fig.2 SPECTRAL RESPONSE



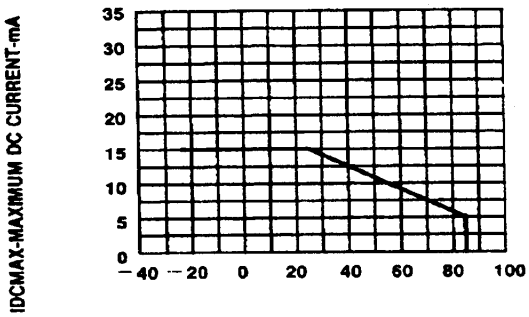
I_F-FORWARD CURRENT-mA

Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



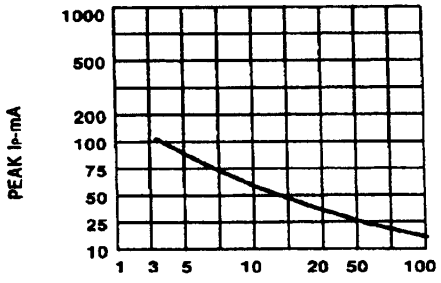
DUTY CYCLE % PER SEGMENT (AVERAGE I_F=10mA)

Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE



TA AMBIENT TEMPERATURE °C

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



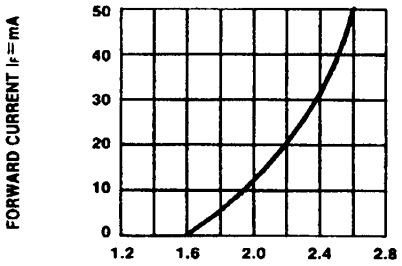
DUTY CYCLE %

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

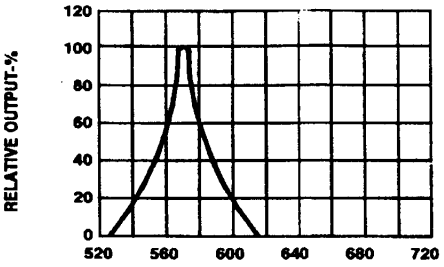
FAIRCHILD
SEMICONDUCTOR™

0.54 INCH (13.7MM) 14 SEGMENT,DUAL DIGIT ALPHA - NUMERIC STICK DISPLAY

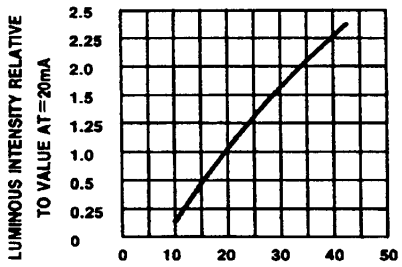
GRAPHICAL DETAIL: Green (T_A = 25°C unless otherwise specified)



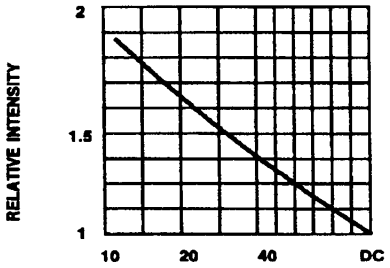
FORWARD VOLTAGE (V_F)-VOLTS
Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE.



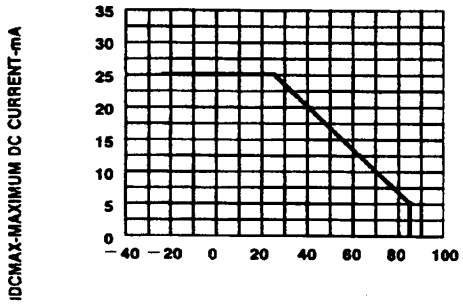
WAVELENGTH (λ)-nm
Fig.2 SPECTRAL RESPONSE



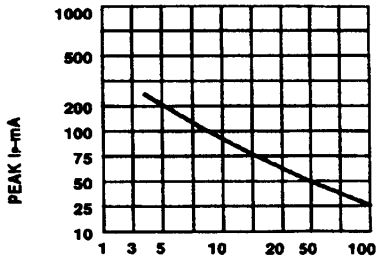
I_F-FORWARD CURRENT-mA
Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



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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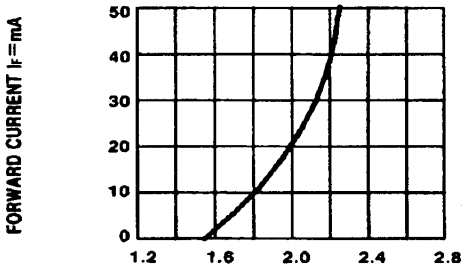
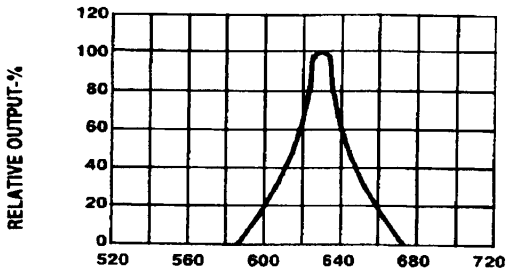
0.54 INCH (13.7MM) 14 SEGMENT,DUAL DIGIT ALPHA - NUMERIC STICK DISPLAY

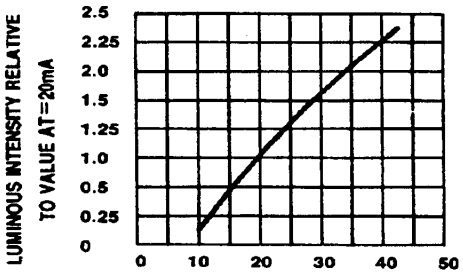
GRAPHICAL DETAIL: High Efficiency Red (T_A = 25°C unless otherwise specified)



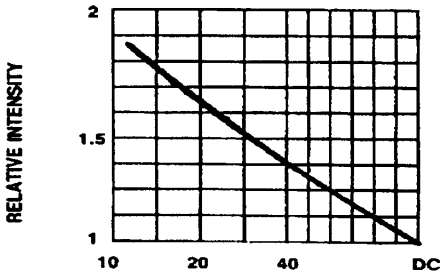
FORWARD VOLTAGE (V_F)-VOLTS
Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE.



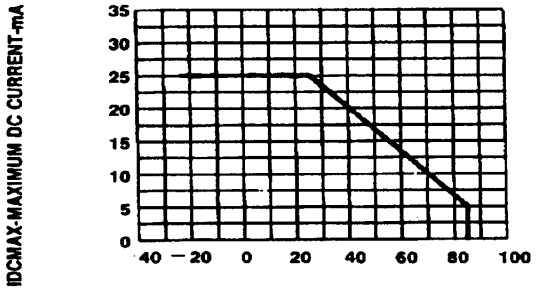
WAVELENGTH (λ)-nm
Fig.2 SPECTRAL RESPONSE



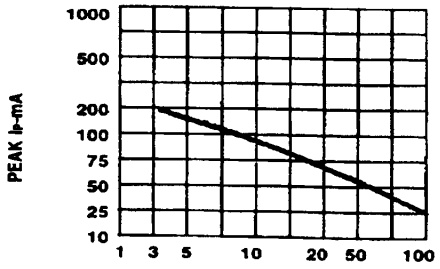
I_F-FORWARD CURRENT-mA
Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



DUTY CYCLE % PER SEGMENT (AVERAGE I_F=10mA)
Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE



T_A 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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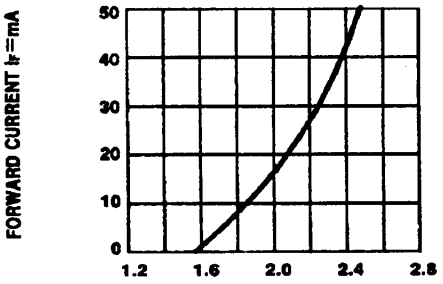
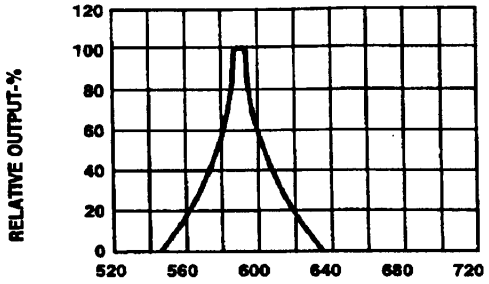
0.54 INCH (13.7MM) 14 SEGMENT,DUAL DIGIT ALPHA - NUMERIC STICK DISPLAY

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



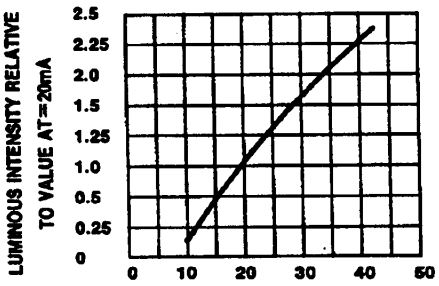
FORWARD VOLTAGE (V_F)-VOLTS

Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE.



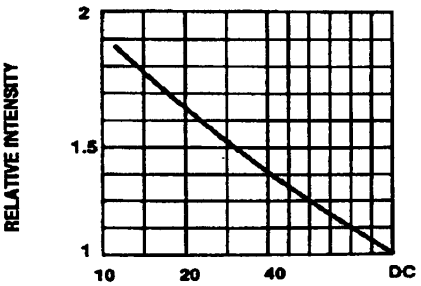
WAVELENGTH (λ)-nm

Fig.2 SPECTRAL RESPONSE



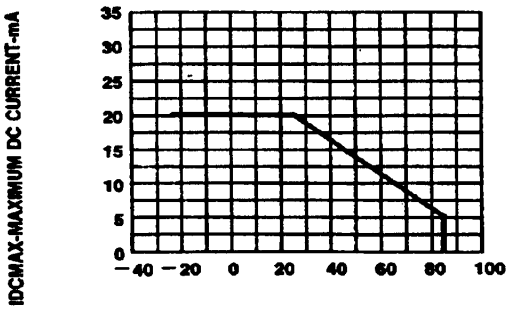
I_F-FORWARD CURRENT-mA

Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



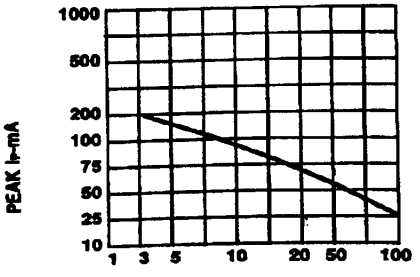
DUTY CYCLE % PER SEGMENT (AVERAGE I_F=10mA)

Fig.5 LUMINOUS INTENSITY VS.DUTY CYCLE



T_A MBIENT 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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0.54 INCH (13.7MM) 14 SEGMENT, DUAL DIGIT ALPHA - NUMERIC STICK DISPLAY

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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.