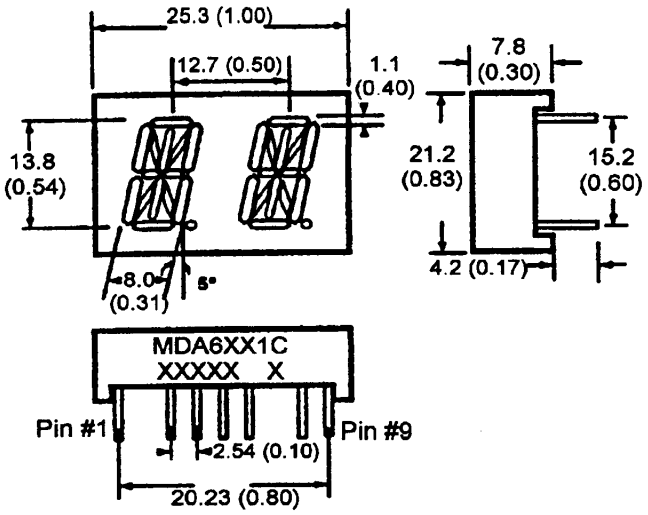
FAIRCHILD
SEMICONDUCTOR™

0.54 INCH (13.8MM) 14 SEGMENT, DUAL DIGIT ALPHA - NUMERIC STICK DISPLAY

BRIGHT RED	MDA6141C
YELLOW	MDA6341C
GREEN	MDA6441C
HIGH EFF. RED	MDA6941C

PACKAGE DIMENSIONS



FEATURES

Easy to read digits.
2 digit common cathode.
Multiplexing pin out
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.

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

MODEL NUMBERS

Part number	Color	Description
MDA6141C	Bright Red	2 Digit; Common Cathode; Rt.Hand Decimal
MDA6341C	Yellow	2 Digit; Common Cathode; Rt.Hand Decimal
MDA6441C	Green	2 Digit; Common Cathode; Rt Hand Decimal
MDA6941C	High Eff. Red	2 Digit; Common Cathode; Rt Hand Decimal

(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 MDA 6141C	Yellow MDA 6341C	Green MDA 6441C	High Eff. Red MDA 6941C	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 6141C	Yellow MDA 6341C	Green MDA 6441C	High Eff. Red MDA 6941C	Test Condition
Luminous intensity (ucd)					
minimum	500	1000	750	1000	I_F = 20 mA
typical	1400	4000	5000	4000	I_F = 20 mA
Forward voltage (V_F)					
typical	2.1	2.1	2.1	2.0	I_F = 20 mA
maximum	2.6	2.8	2.8	2.8	I_F = 20 mA
Peak wavelength (nm)	697	590	570	635	I_F = 20 mA
Spectral line half width (nm)	90	30	30	35	I_F = 20 mA
Reverse breakdown voltage (V_R)	5	5	5	5	I_R = 100 uA

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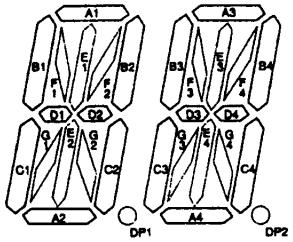
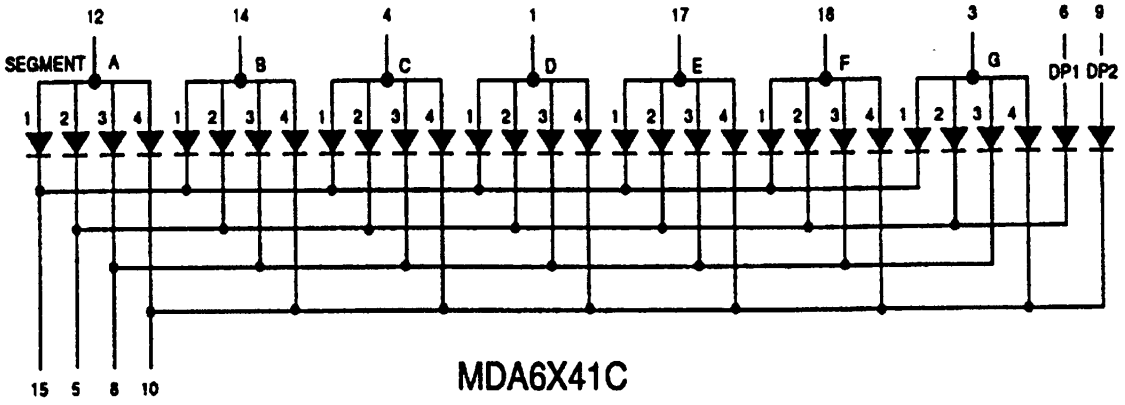
PINOUT

MDA6X41C - Common Cathode





MDA6X41C

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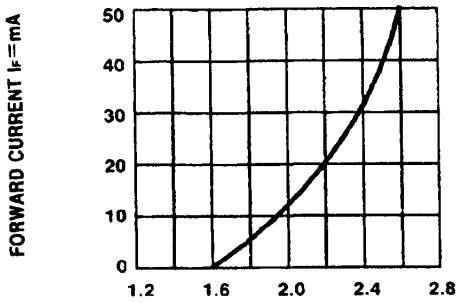
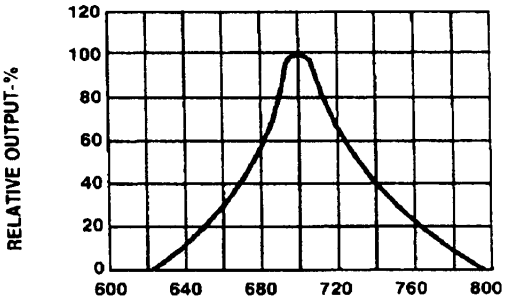
GRAPHICAL DETAIL: Bright Red



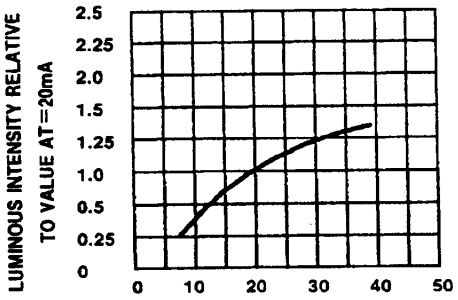
FORWARD VOLTAGE (V_F)-VOLTS

Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE.



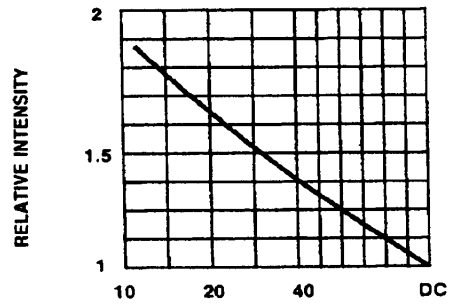
WAVELENGTH (λ_p)-nm

Fig.2 SPECTRAL RESPONSE



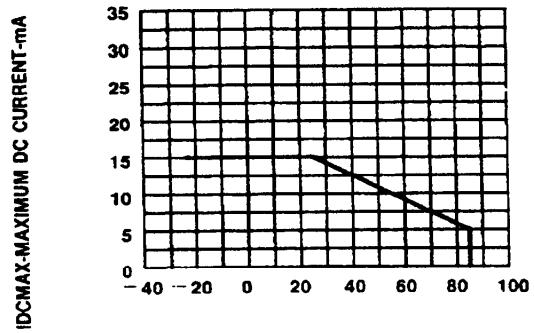
I_F-FORWARD CURRENT-mA

Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



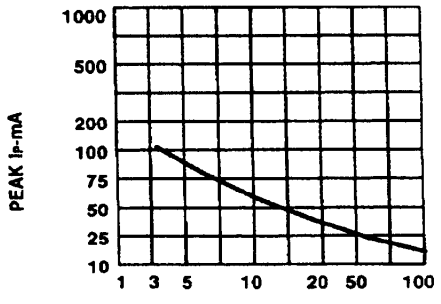
DUTY CYCLE % PER SEGMENT (AVERAGE I_F=10mA)

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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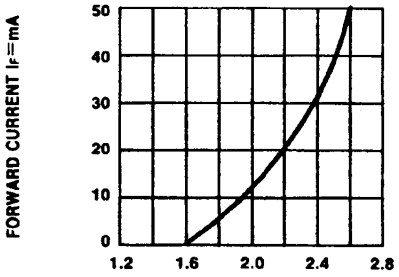
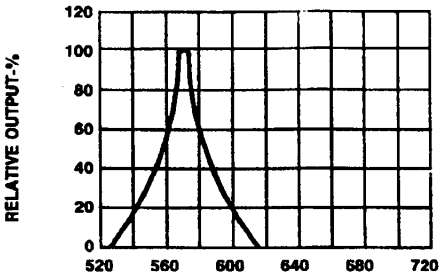
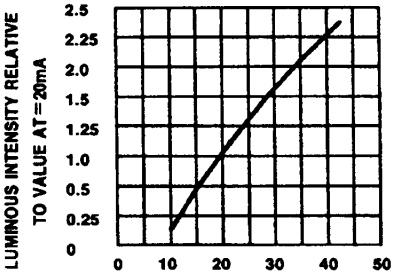
GRAPHICAL DETAIL: Green



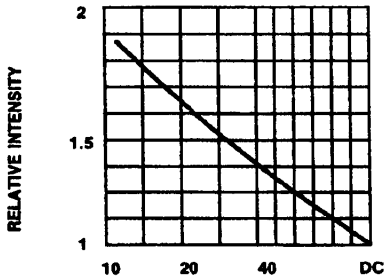
FORWARD VOLTAGE (V_F)-VOLTS
Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE.



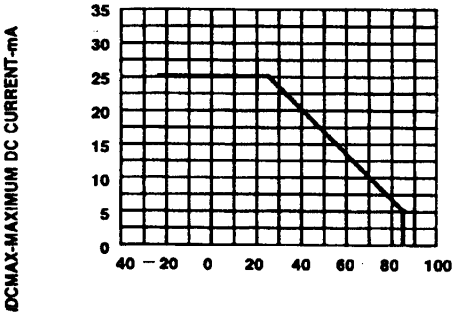
WAVELENGTH (λ)-nm
Fig.2 SPECTRAL RESPONSE



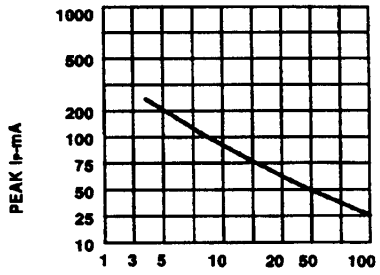
I_F-FORWARD CURRENT-mA
Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



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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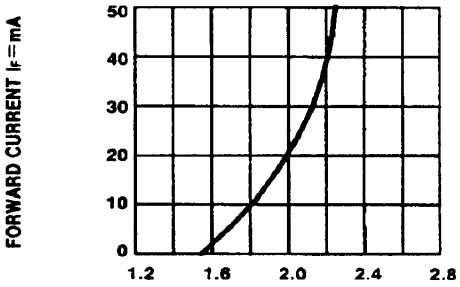
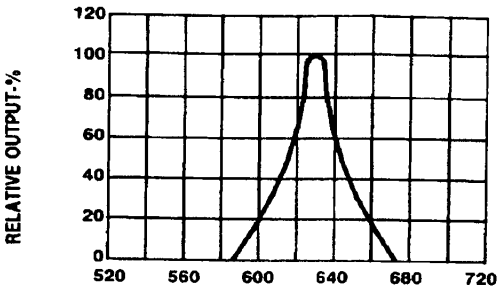
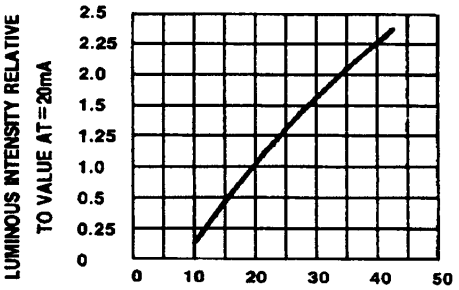
GRAPHICAL DETAIL: High Efficiency Red



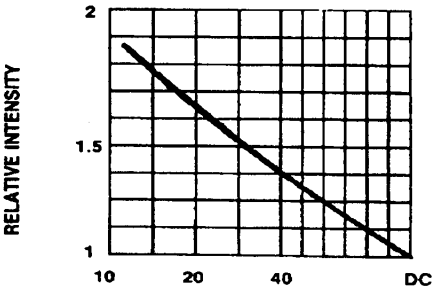
FORWARD VOLTAGE (V_F)-VOLTS
Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE.



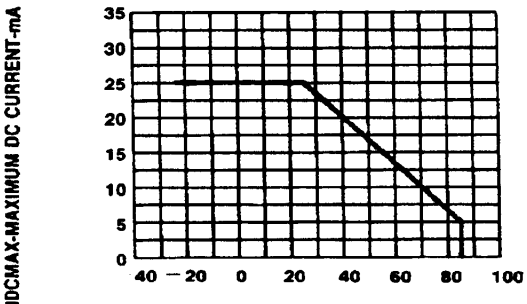
WAVELENGTH (λ)-nm
Fig.2 SPECTRAL RESPONSE



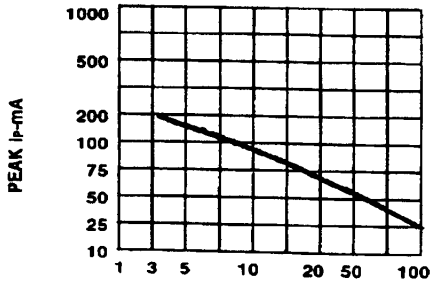
I_F-FORWARD CURRENT-mA
Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



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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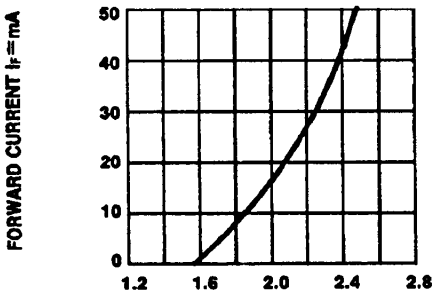
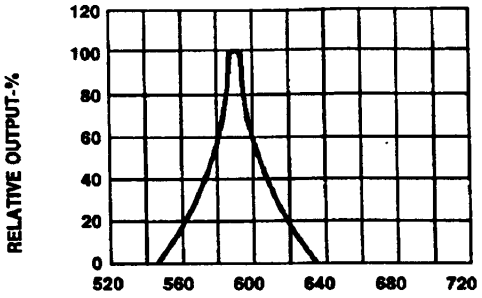
GRAPHICAL DETAIL: Yellow



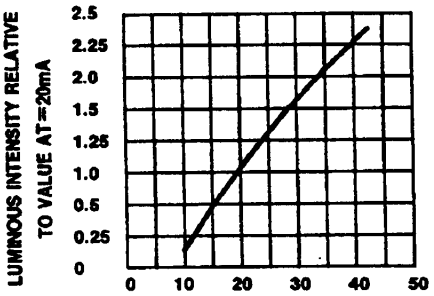
FORWARD VOLTAGE (V_F)-VOLTS

Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE.



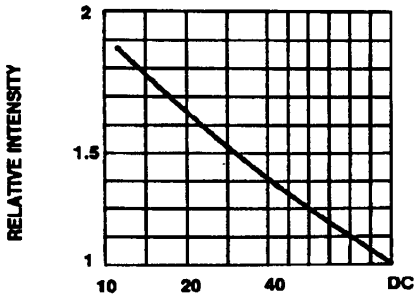
WAVELENGTH (λ_p)-nm

Fig.2 SPECTRAL RESPONSE



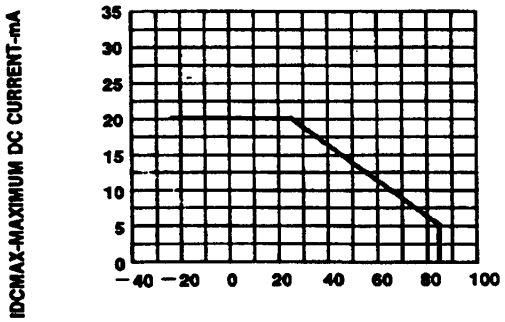
I_F-FORWARD CURRENT-mA

Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



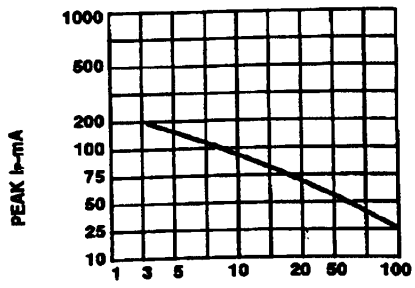
DUTY CYCLE % PER SEGMENT (AVERAGE I_F=10mA)

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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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.