

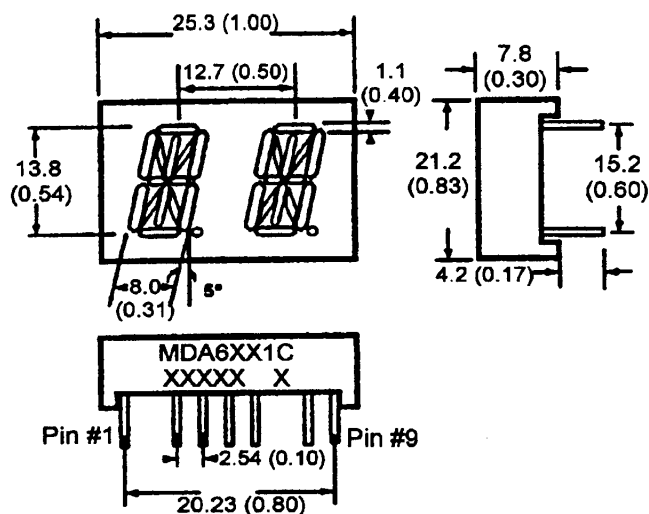
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**FAIRCHILD****SEMICONDUCTOR™****0.54 INCH (13.8MM)  
14 SEGMENT, DUAL DIGIT  
ALPHA - NUMERIC STICK DISPLAY**

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<b>BRIGHT RED</b>	<b>MDA6141C</b>
<b>YELLOW</b>	<b>MDA6341C</b>
<b>GREEN</b>	<b>MDA6441C</b>
<b>HIGH EFF. RED</b>	<b>MDA6941C</b>

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**PACKAGE DIMENSIONS**

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

**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.

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**MODEL NUMBERS**

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<u>Part number</u>	<u>Color</u>	<u>Description</u>
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)

**ABSOLUTE MAXIMUM RATING** ( $T_A=25^{\circ}\text{C}$  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 $25^{\circ}\text{C}$ .....	0.17	0.25	0.33	0.33	mW/ $^{\circ}\text{C}$
Reverse voltage per dice.....	5V				
Operating and Storage temperature range.....	- $40^{\circ}\text{C}$ to $+85^{\circ}\text{C}$				
Lead soldering time (at 1/16 inch from the bottom of lamp).....	5 seconds @ $230^{\circ}\text{C}$				

**ELECTRO - OPTICAL CHARACTERISTICS** ( $T_A = 25^{\circ}\text{C}$  unless otherwise specified)

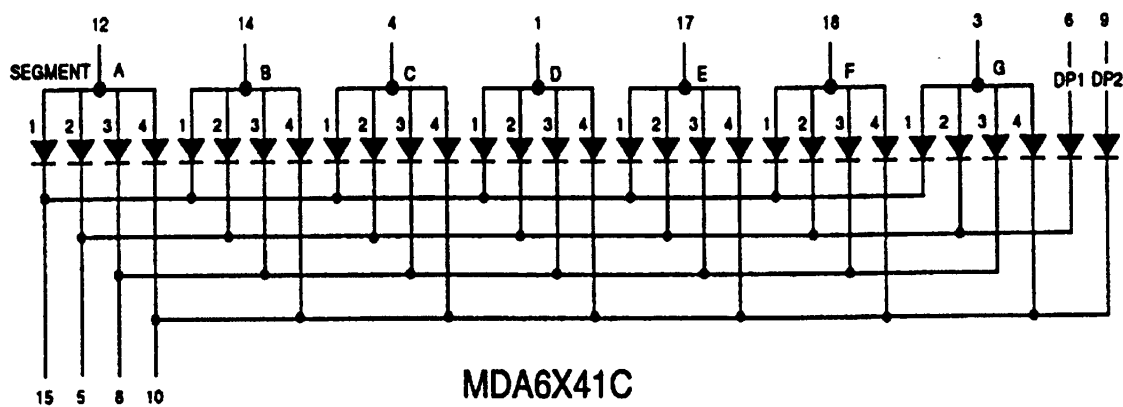
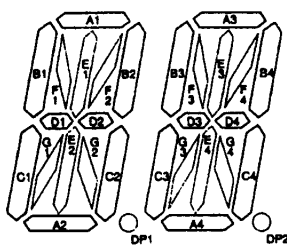
Part number	B. Red MDA 6141C	Yellow MDA 6341C	Green MDA 6441C	High Eff. Red MDA 6941C	Test Condition
Luminous intensity (ucd)					
minimum	500	1000	750	1000	$I_f = 20$ mA
typical	1400	4000	5000	4000	$I_f = 20$ mA
Forward voltage ( $V_F$ )					
typical	2.1	2.1	2.1	2.0	$I_f = 20$ mA
maximum	2.6	2.8	2.8	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

SEMICONDUCTOR™

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

## PINOUT

## MDA6X41C - Common Cathode



## GRAPHICAL DETAIL: Bright Red

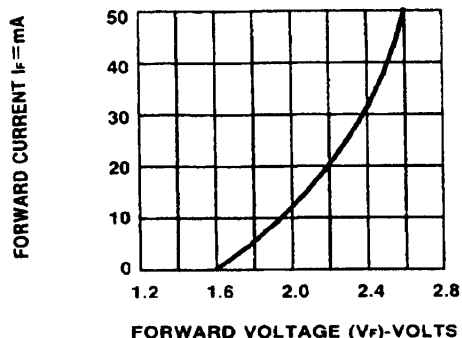


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

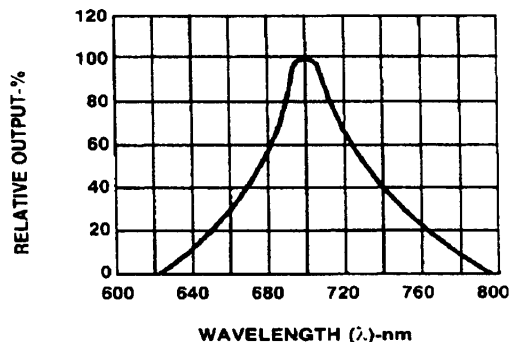


Fig.2 SPECTRAL RESPONSE

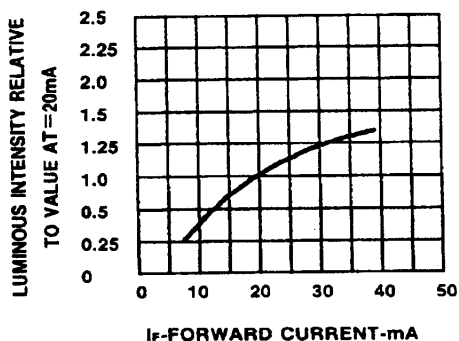


Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

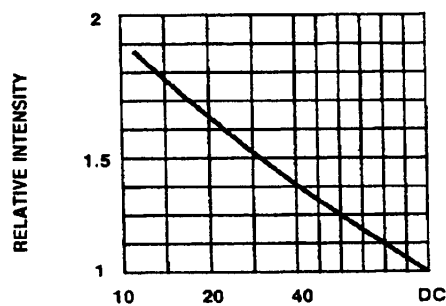


Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE  
(AVERAGE  $I_f = 10\text{mA}$ )

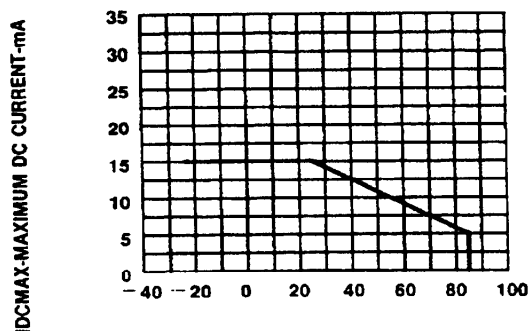


Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT VS. A FUNCTION OF AMBIENT TEMPERATURE.

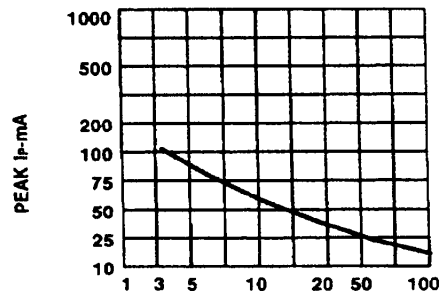


Fig. 6 MAX PEAK CURRENT VS. DUTY CYCLE %  
(REFRESH RATE  $f = 1\text{ KHz}$ )

**GRAPHICAL DETAIL: Green**

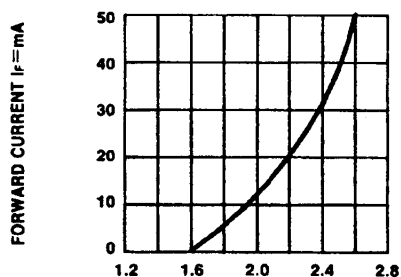


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

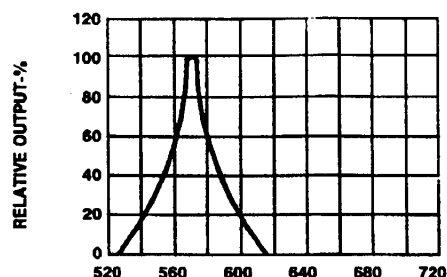


Fig.2 SPECTRAL RESPONSE

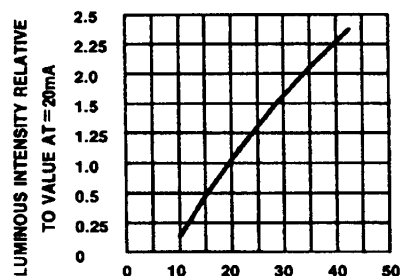


Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

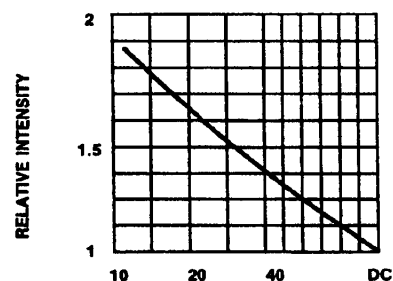


Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE

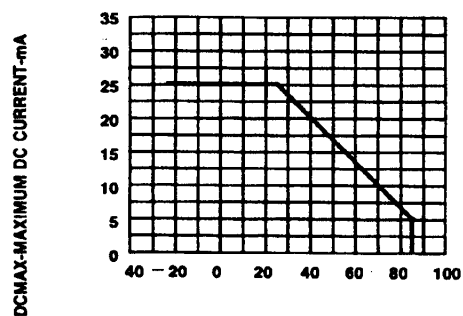


Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT CS. A FUNCTION OF AMBIENT TEMPERATURE.

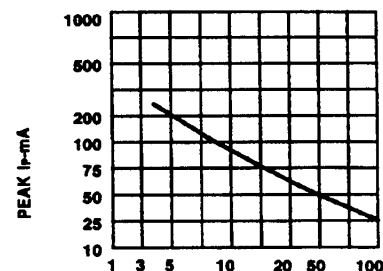


Fig.6 MAX PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE f = 1 KHz)

## GRAPHICAL DETAIL: High Efficiency Red

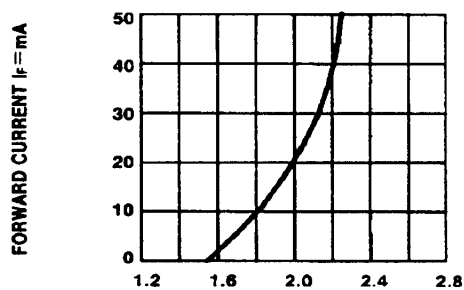


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

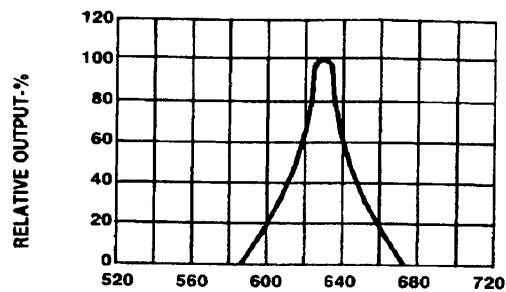


Fig.2 SPECTRAL RESPONSE

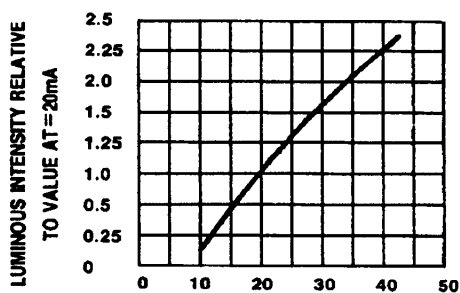


Fig.3 RELATIVE LUMINOUS INTENSITY  
VS. FORWARD CURRENT

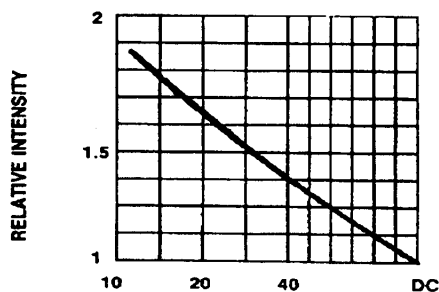


Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE  
(AVERAGE  $I_F = 10\text{mA}$ )

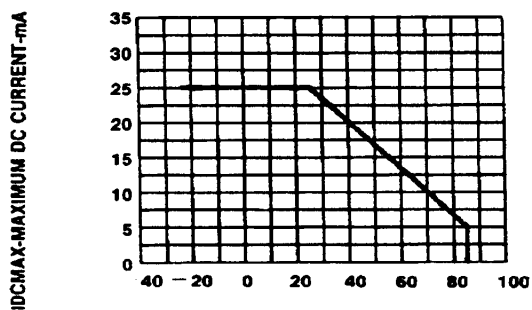


Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER  
SEGMENT VS. A FUNCTION OF AMBIENT  
TEMPERATURE.

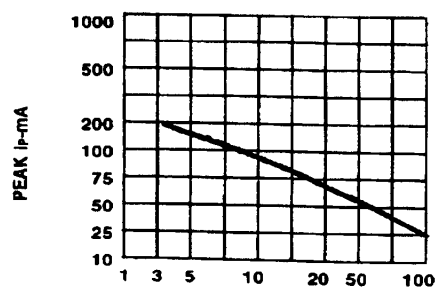


Fig. 6 MAX PEAK CURRENT VS. DUTY CYCLE %  
(REFRESH RATE  $f = 1\text{ KHz}$ )

### GRAPHICAL DETAIL: Yellow

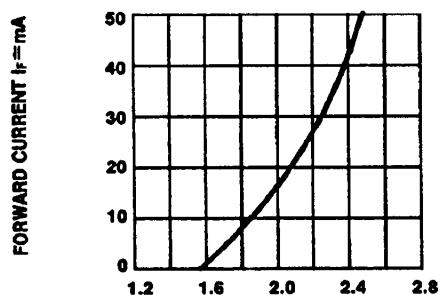


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

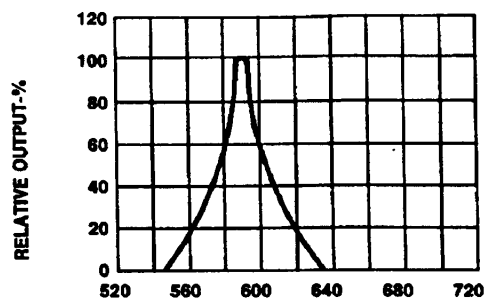


Fig.2 SPECTRAL RESPONSE

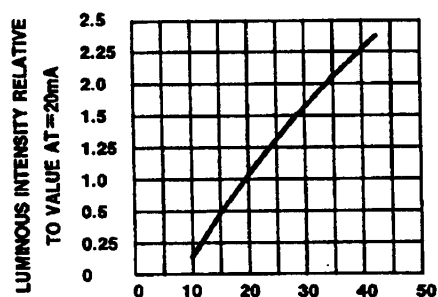


Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

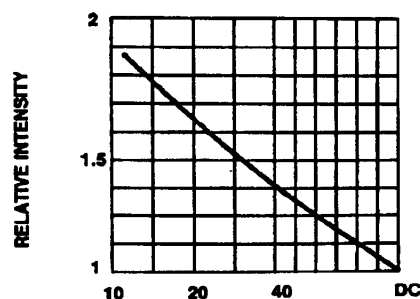


Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE

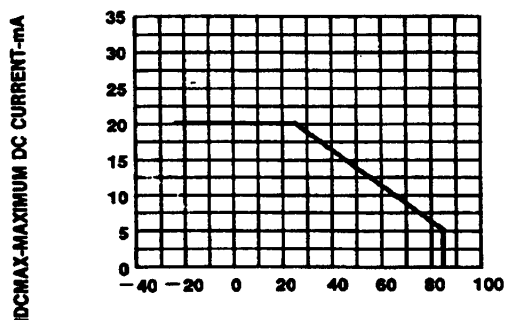


Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT VS. A FUNCTION OF AMBIENT TEMPERATURE.

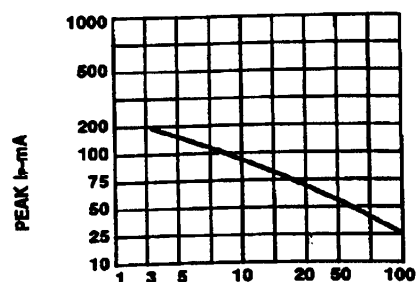


Fig. 6 MAX PEAK CURRENT VS. DUTY CYCLE %  
(REFRESH RATE  $f = 1$  KHz)



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

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