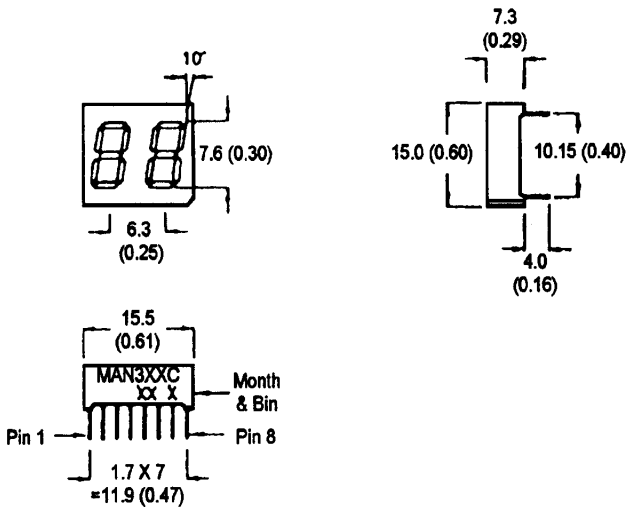


**BRIGHT RED MSD314C, MSD315C  
GREEN MSD344C, MSD345C  
HIGH EFF. RED MSD394C, MSD395C**

**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**

<u>Part number</u>	<u>Color</u>	<u>Description</u>
MSD314C	Bright Red	2 Digit, Common Anode.
MSD315C	Bright Red	2 Digit, Common Cathode.
MSD344C	Green	2 Digit, Common Anode.
MSD345C	Green	2 Digit, Common Cathode.
MSD394C	High Eff. Red	2 Digit, Common Anode.
MSD395C	High Eff. Red	2 Digit, Common Cathode.

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

**ABSOLUTE MAXIMUM RATING** ( $T_A=25^\circ\text{C}$  unless otherwise specified)

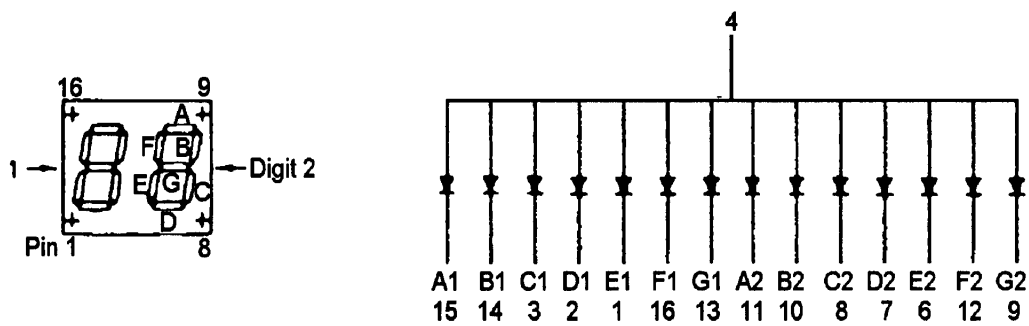
	B.Red MSD 314C 315C	Green MSD 344C 345C	High Eff. Red MSD 394C 395C	Unit
Part number				
Continuous forward current ( $I_f$ ) Per Segment.....	15	25	25	mA
Peak forward current per die ( $I_p$ )..... (at $f = 10.0$ KHz, Duty factor = 1/10)	60	90	90	mA
Power dissipation ( $P_D$ ).....	40*	70*	70*	mW
*Derate Linearly from $25^\circ\text{C}$ .....	0.17	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)

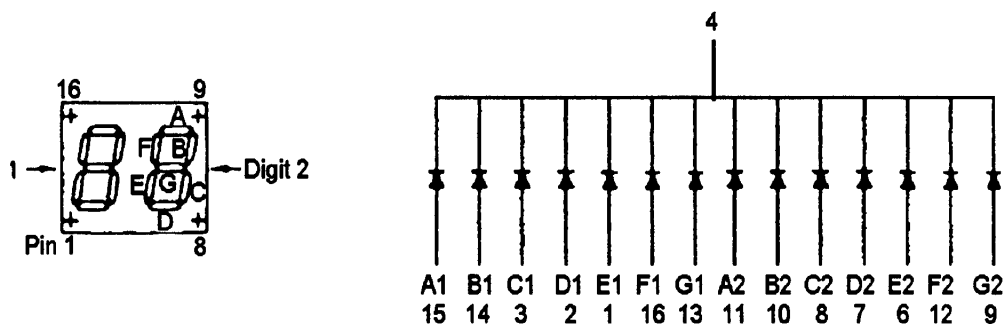
	B. Red MSD 314C 315C	Green MSD 344C 345C	High Eff. Red MSD 394C 395C	Test Condition
<u>Part number</u>				
Luminous intensity (ucd) minimum	210	540	800	$I_f = 20$ mA
typical	650	1600	2200	$I_f = 20$ mA
Forward voltage ( $V_f$ ) typical	2.1	2.1	2.0	$I_f = 20$ mA
maximum	2.6	2.8	2.8	$I_f = 20$ mA
Peak 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

**PINOUT**

**MSD3X4C - Common Anode**



**MSD3X5C - Common Cathode**



**GRAPHICAL DETAIL: Bright Red** ( $T_A = 25^\circ\text{C}$  unless otherwise specified)

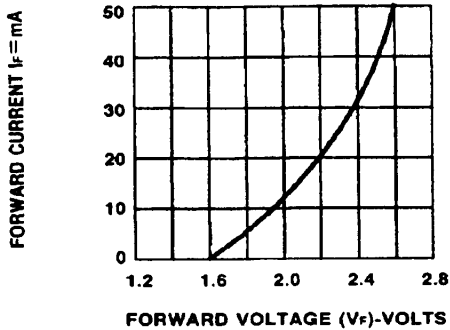


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

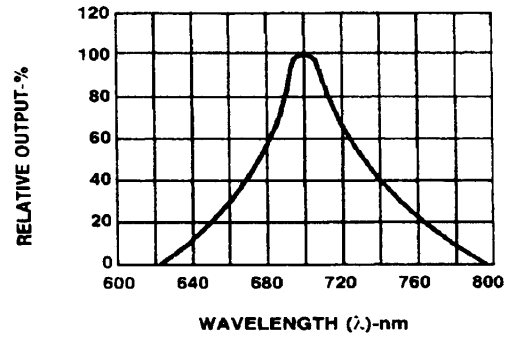


Fig.2 SPECTRAL RESPONSE

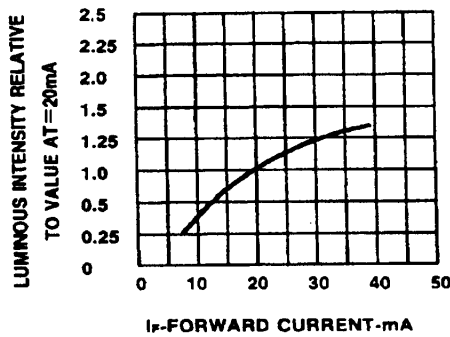


Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

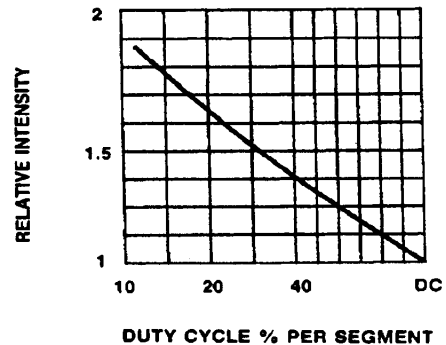


Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE

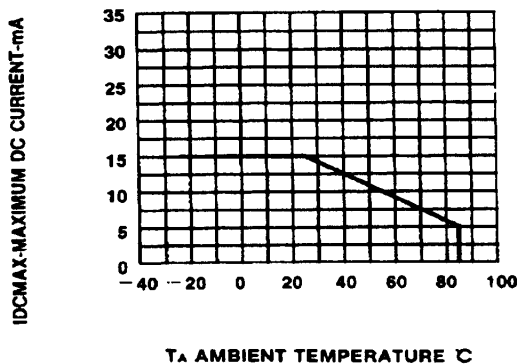


Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT VS. A FUNCTION OF AMBIENT TEMPERATURE.

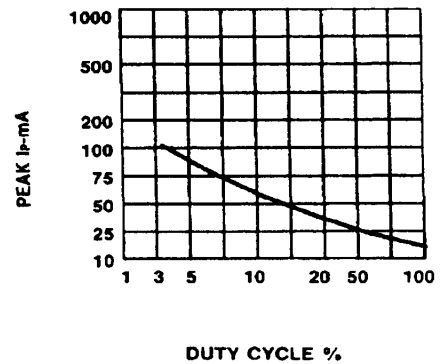


Fig.6 MAX PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE f = 1 KHz)

**GRAPHICAL DETAIL: Bright Red** ( $T_A = 25^\circ\text{C}$  unless otherwise specified)

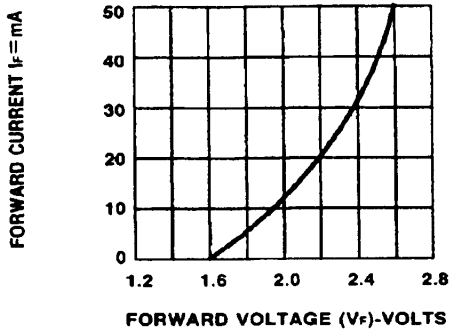


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

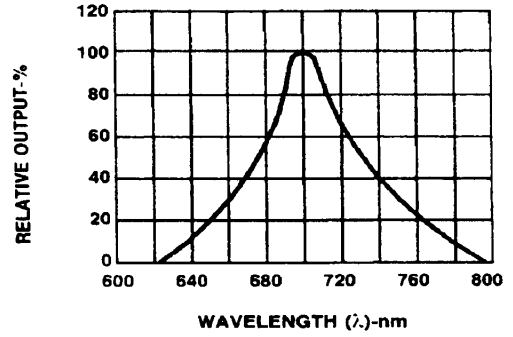


Fig.2 SPECTRAL RESPONSE

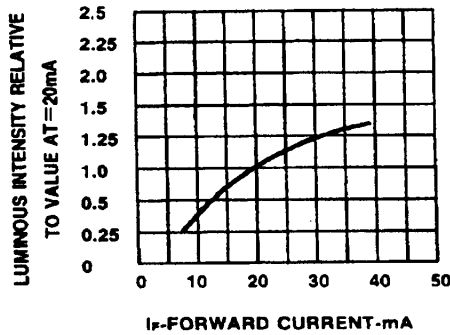


Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

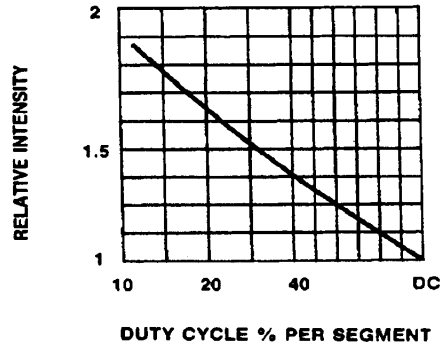


Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE

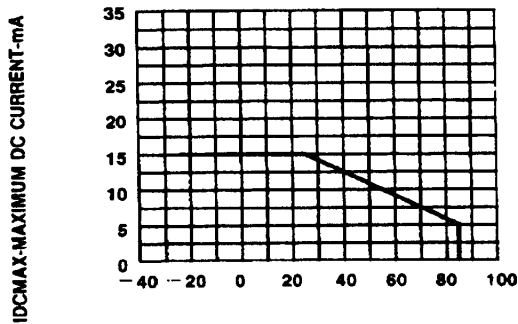


Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT VS. A FUNCTION OF AMBIENT TEMPERATURE.

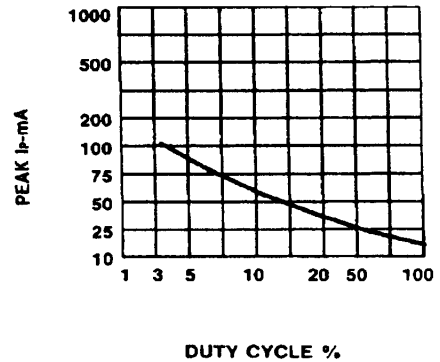


Fig.6 MAX PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE  $f = 1 \text{ KHz}$ )

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

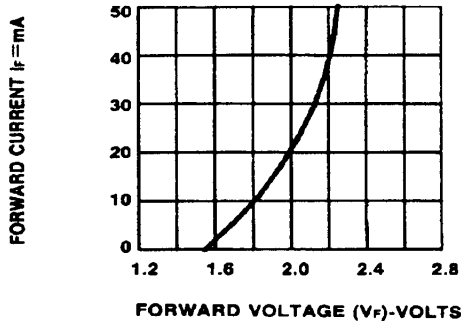


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

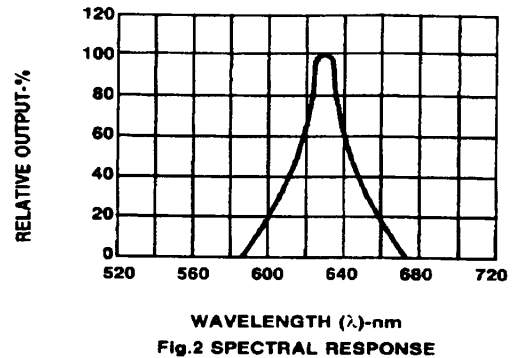


Fig.2 SPECTRAL RESPONSE

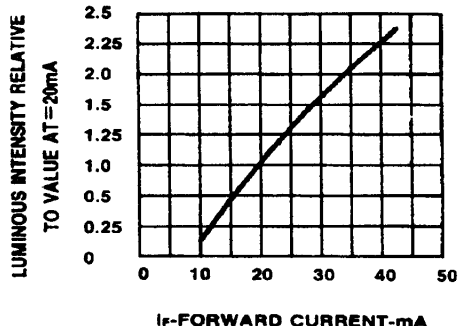


Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

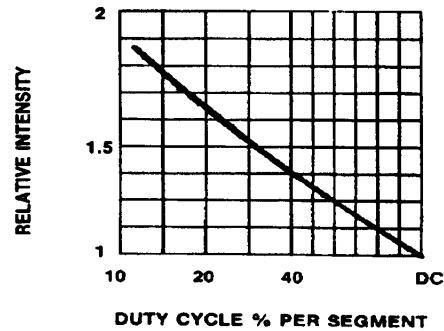


Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE

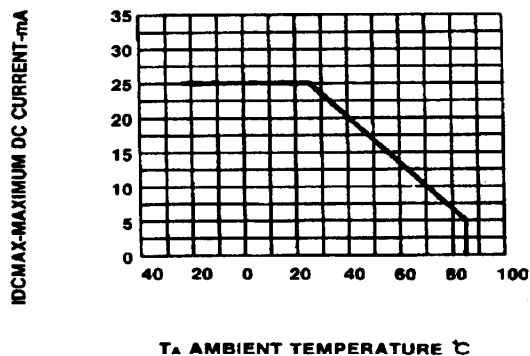


Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT VS. A FUNCTION OF AMBIENT TEMPERATURE.

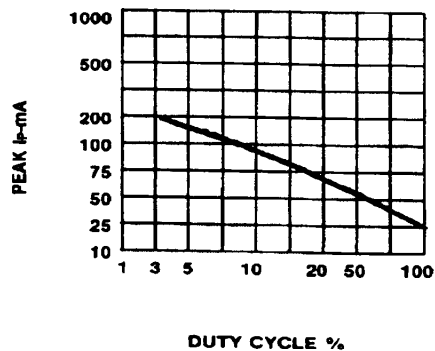


Fig. 6 MAX PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE  $f=1\text{ KHz}$ )

The logo features the word "FAIRCHILD" in a bold, black, sans-serif font, centered between two thick, horizontal red bars.

**FAIRCHILD**

**SEMICONDUCTOR™**

**0.30 INCH (7.6MM)  
TWO DIGIT STICK DISPLAY**

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