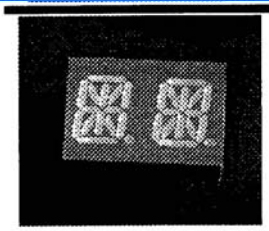
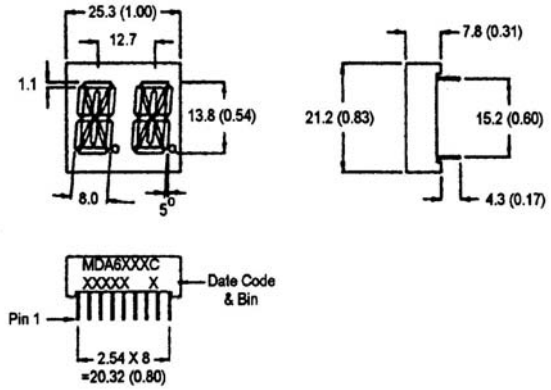
0.54 INCH (13.7MM)
14 SEGMENT,DUAL DIGIT
ALPHA - NUMERIC STICK DISPLAY



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)

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

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

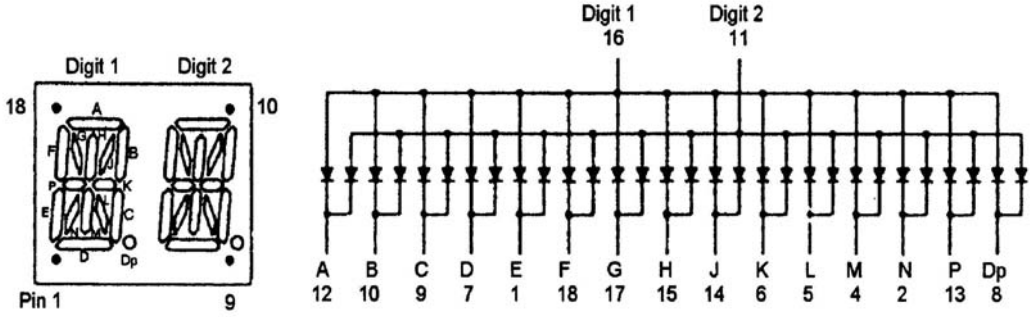
ELECTRO - OPTICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

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

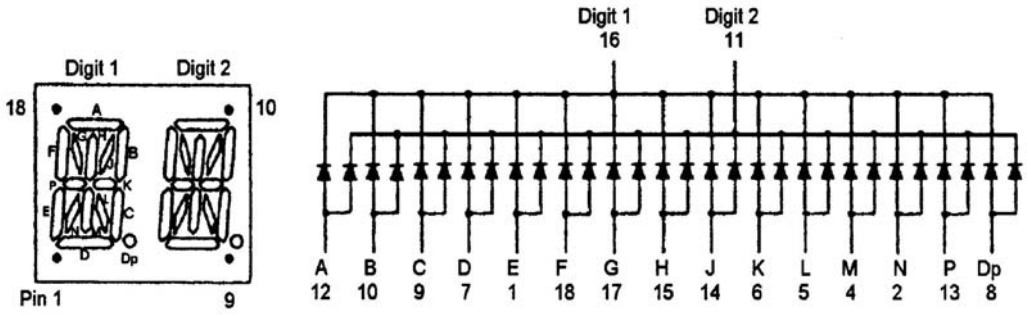
0.54 INCH (13.7MM)
14 SEGMENT,DUAL DIGIT
ALPHA - NUMERIC STICK DISPLAY

PINOUT

MDA6X10C - Common Anode; Pin 3 - no connection

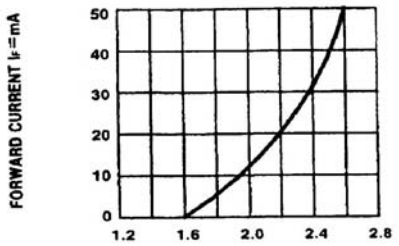


MDA6X40C - Common Cathode; Pin 3 - no connection



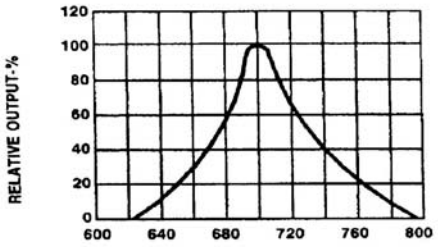
0.54 INCH (13.7MM)
14 SEGMENT,DUAL DIGIT
ALPHA - NUMERIC STICK DISPLAY

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



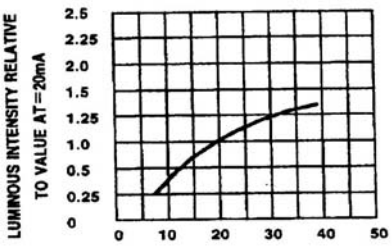
FORWARD VOLTAGE (V_F)-VOLTS

Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE.



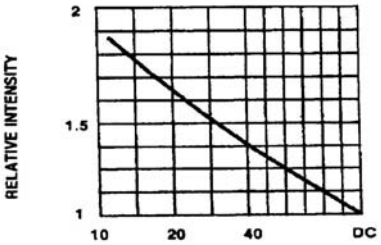
WAVELENGTH (λ)-nm

Fig.2 SPECTRAL RESPONSE



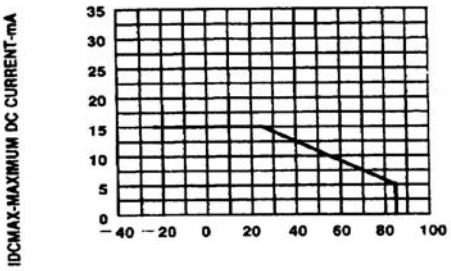
I_F-FORWARD CURRENT-mA

Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



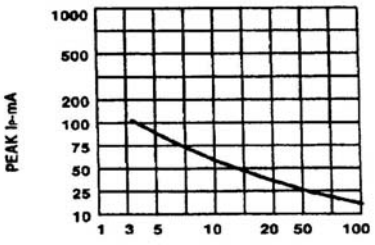
DUTY CYCLE % PER SEGMENT (AVERAGE I_F=10mA)

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.

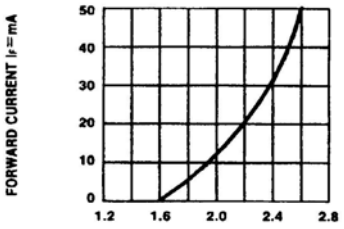


DUTY CYCLE %

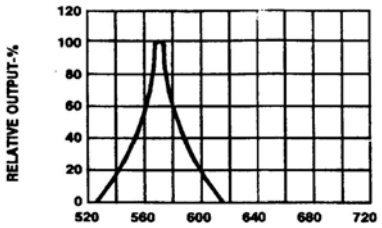
Fig. 6 MAX PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE f=1 KHz)

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

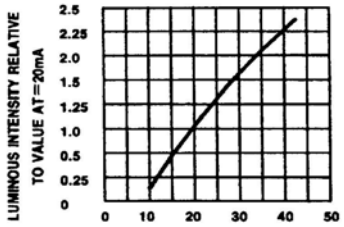
GRAPHICAL DETAIL: Green (T_A = 25°C unless otherwise specified)



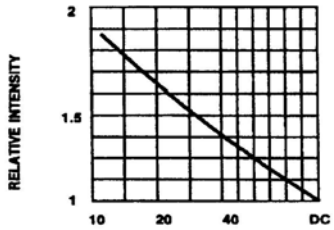
FORWARD VOLTAGE (VF)-VOLTS
Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE.



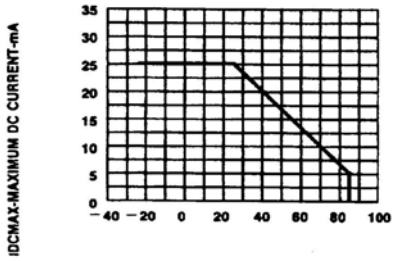
WAVELENGTH (λ)-nm
Fig.2 SPECTRAL RESPONSE



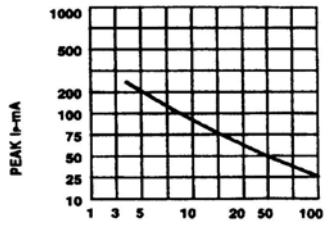
IF-FORWARD CURRENT-mA
Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



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



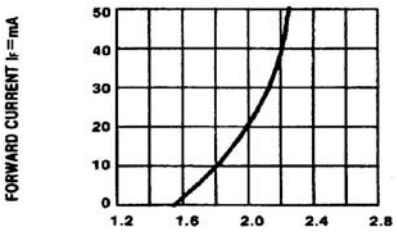
TA AMBIENT TEMPERATURE °C
Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT CS. A FUNCTION OF AMBIENT TEMPERATURE.



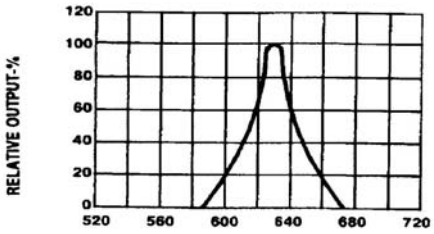
DUTY CYCLE %
Fig. 6 MAX PEAK CURRENT VS. DUTY CYCLE %
(REFRESH RATE f=1 KHz)

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

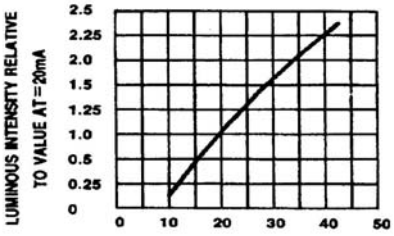
GRAPHICAL DETAIL: High Efficiency Red (T_A = 25°C unless otherwise specified)



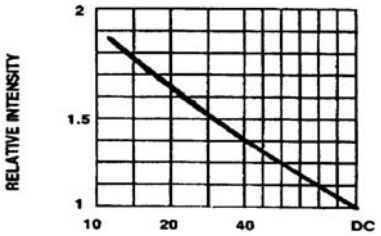
FORWARD VOLTAGE (V_F)-VOLTS
Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE.



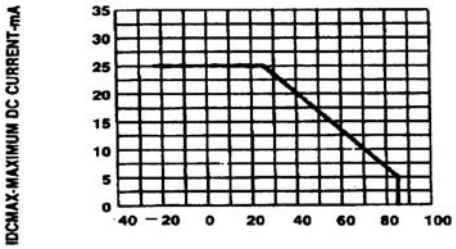
WAVELENGTH (λ)-nm
Fig.2 SPECTRAL RESPONSE



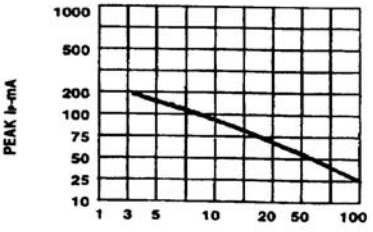
I_F-FORWARD CURRENT-mA
Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



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



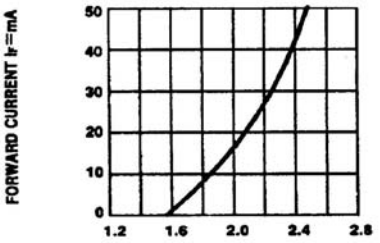
T_A AMBIENT TEMPERATURE °C
Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT VS. A FUNCTION OF AMBIENT TEMPERATURE.



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

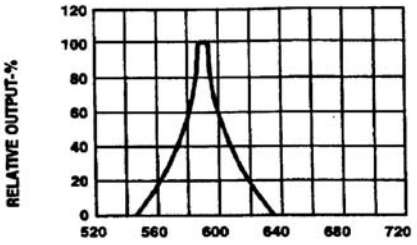
0.54 INCH (13.7MM)
14 SEGMENT,DUAL DIGIT
ALPHA - NUMERIC STICK DISPLAY

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



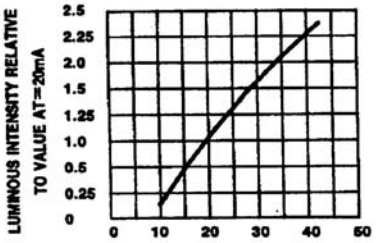
FORWARD VOLTAGE (Vr)-VOLTS

Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE.



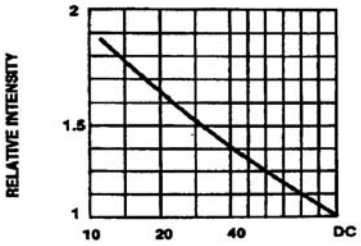
WAVELENGTH (λ)-nm

Fig.2 SPECTRAL RESPONSE



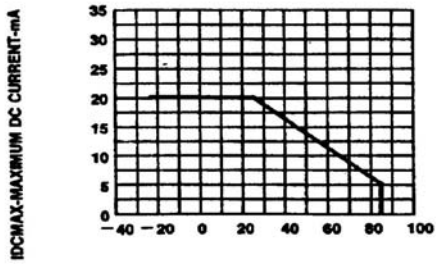
IF-FORWARD CURRENT-mA

Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



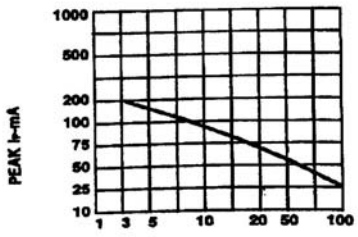
DUTY CYCLE % PER SEGMENT (AVERAGE IF=10mA)

Fig.5 LUMINOUS INTENSITY VS.DUTY CYCLE



TA 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)

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