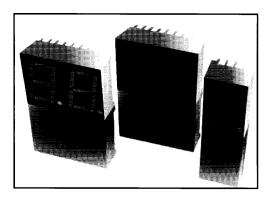


### RED MAN6700 SERIES



# DESCRIPTION

The MAN6700 Series is a family of large digits which includes double and single digits. The series features the sculptured font which minimizes "gappiness" at the segment intersections. Available models include twodigit, one and one-half digits with polarity sign, and single digits. All models have right hand decimal points and are available in common anode or common cathode configuration. Units are constructed with Black face and Red segment color.

## FEATURES

- High performance GaAsP
- Large, easy to read, digits
- Common anode or common cathode models
- Also available in Orange (MAN6600 Series)
- Fast switching excellent for multiplexing
- Low power consumption
- Bold solid segments that are highly legible
- Solid state reliability --- long operation life
- Rugged plastic construction
- Directly compatible with integrated circuits
- High brightness with high contrast
- Categorized for Luminous Intensity (See Note 7)
- Wide viewing angle...150°
- Standard double-dip lead configuration
- Low forward voltage

### APPLICATIONS

For industrial and consumer applications such as:

- Two-digit package simplifies alignment and assembly
- Digital readout displays
- Instrument panels
- Point of sale equipment
- Digital clocks
- TV and radios

MODEL NUMBERS					
PART NUMBER	COLOR	DESCRIPTION	PACKAGE DRAWING	PIN OUT SPECIFICATION	
MAN6710	Red	2 Digit; Common Anode; Rt. Hand Decimal	A	Α	
MAN6730	Red	1½ Digit; Common Anode; Overflow ±1.8; Rt. Hand Decimal	В	В	
MAN6740	Red	2 Digit; Common Cathode; Rt. Hand Decimal	А	С	
MAN6750	Red	1½ Digit; Common Cathode; Overflow ±1.8; Rt. Hand Decimal	в	D	
MAN6760	Red	Single Digit; Common Anode; Rt. Hand Decimal	С	Е	
MAN6780	Red	Single Digit; Common Cathode; Rt. Hand Decimal	Ċ	F	

RECOMMENDED OPTICAL FILTER	18
For optimum ON and OFF contrast, one of the follo	wing filters or equivalents should be used over the display:
DEVICE TYPE	FILTER
MAN6700 Series	Panelgraphic Red 60 Homalite 100-1605



SEMICONDUCTOR

	MIN.	TYP.	MAX.	UNITS	TEST CONDITIONS
Luminous Intensity, digit average (See Note 1)	125	420		μcd	I <sub>F</sub> =10 mA
Peak emission wavelength		650		nm	
Spectral line half width		20		nm	
Forward voltage Segment Decimal point			2.0 2.0	V V	l₅=20 mA l₅=20 mA
Dynamic resistance Segment Decimal point		2 2		$\Omega \Omega$	I⊧=20 mA I⊧=20 mA
Capacitance Segment Decimal point		35 35		pF pF	V=0 V=0
Reverse current Segment Decimal point Segment C or D of "+" (6730/6750)			100 100 100	μΑ μΑ μΑ	$V_{R} = 5.0 V$ $V_{R} = 5.0 V$ $V_{R} = 5.0 V$

ABSOLUTE MAXIMUM RATINGS				
	MAN6710 MAN6740	MAN6730 MAN6750	MAN6760 MAN6780	
Power dissipation at 25°C ambient Derate linearly from 25°C Storage and operating temperature Continuous forward current	960 mW −13.7 mW/°C −40°C to +85°C	840 mW −12.0 mW/°C −40°C to +85°C	480 mW -6.9 mW/°C -40°C to +85°C	
Total. Per segment. Decimal point. Reverse voltage	480 mA 30 mA 30 mA	420 mA 30 mA 30 mA	240 mA 30 mA 30 mA	
Per segment Decimal point Soldering time at 260°C	6.0 V 6.0 V	6.0 V 6.0 V	6.0 V 6.0 V	
(See Notes 3 and 4)	5 sec.	5 sec.	5 sec.	

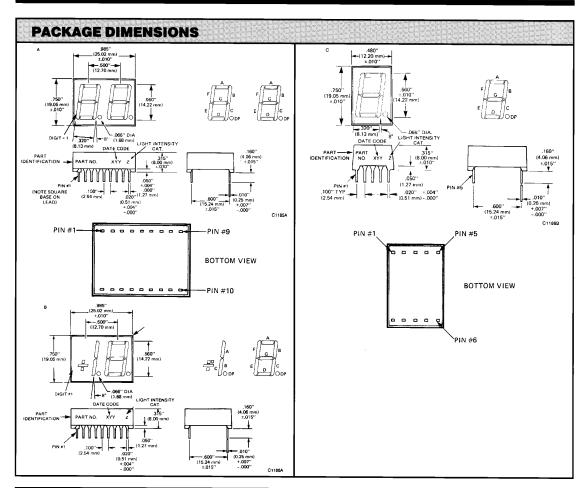
TYPICAL THERMAL CHARACTERISTICS	
Thermal resistance junction to free air $\Phi_{JA}$ Wavelength temperature coefficient (case temperature) Forward voltage temperature coefficient	2 ດໍໂ/໑ຕ 🗌

### NOTES

- The digit average Luminous Intensity is obtained by summing the Luminous Intensity of each segment and dividing by the total number of segments. Intensity will not vary more than ±33.3% between all segments within a digit.
  The curve in Figure 3 is normalized to the brightness at 25°C to indicate the relative efficiency over the operating temperature
- range.
- Leads of the device immersed to 1/16 inch from the body. Maximum device surface temperature is 140°C.
  For flux removal, Freon TF, Freon TE, Isoproponal or water may be used up to their boiling points.
  Pins 3 and 8 on MAN6760 and MAN6780 ar redundant anodes or cathodes.

- 6. All displays are categorized for Luminous Intensity. The Intensity category is marked on each part as a suffix letter to the part number.

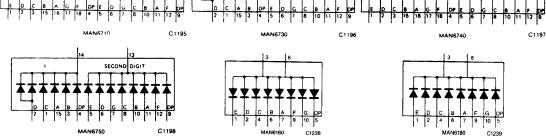




	ELECTRICAL CONNECTIONS					
Pin No.	A MAN6710	B MAN6730	C MAN6740	D MAN6750	E MAN6760	F MAN6780
1	Cathode E 1	Cathode C 1	Anode E 1	Anode C 1	Cathode E	Anode E
2	Cathode D 1	Cathode D 1	Anode D 1	Anode D 1	Cathode D	Anode D
3	Cathode C 1	Cathode B 1	Anode C 1	Anode B 1	Com. Anode	Com. Cathode
4	Cathode D.P. 1	Cathode D.P. 1	Anode D.P. 1	Anode D.P. 1	Cathode C	Anode C
5	Cathode E 2	Cathode E 2	Anode E 2	Anode E 2	Cathode D.P.	Anode D.P.
6	Cathode D 2	Cathode D 2	Anode D 2	Anode D 2	Cathode B	Anode B
7	Cathode G 2	Cathode G 2	Anode G 2	Anode G 2	Cathode A	Anode A
8	Cathode C 2	Cathode C 2	Anode C 2	Anode C 2	Com. Anode	Com. Cathode
9	Cathode D.P. 2	Cathode D.P. 2	Anode D.P. 2	Anode D.P. 2	Cathode F	Anode F
10	Cathode B 2	Cathode B 2	Anode B 2	Anode B 2	Cathode G	Anode G
11	Cathode A 2	Cathode A 2	Anode A 2	Anode A 2		
12	Cathode F 2	Cathode F 2	Anode F 2	Anode F 2		
13	Anode Digit 2	Anode Digit 2	Cathode Digit 2	Cathode Digit 2		
14	Anode Digit 1	Anode Digit 1	Cathode Digit 1	Cathode Digit 1		
15	Cathode B 1	Cathode A 1	Anode B 1	Anode A 1		
16	Cathode A 1	No Connection	Anode A 1	No Connection		
17	Cathode G 1	No Connection	Anode G 1	No Connection		
18	Cathode F 1	No Connection	Anode F 1	No Connection		



SEMICONDUCTOR **TYPICAL CHARACTERISTIC CURVES** 170 100 160 90 MAN6700 SERIES , 150 ⊮ 140 80 70 RELATIVE INTENSITY 130 110 100 80 20 20 60 ¥m - 4 50 40 30 20 10 60 50 ٥ 5 1.0 2.0 50 -25 0 25 50 70 1.5 VF - VOLTS C426 AMBIENT TEMPERATURE - °C C1244 Fig. 1. Forward Current vs. Fig. 2. Relative Luminous Intensity vs. Forward Voltage Temperature (See Note 2) RELATIVE LUMINOUS INTENSITY 000 800 NORMALIZED AT IF 10 mA - MAN 6700 SERIES -MAX PEAK CURRENT IS DUTY CYCLE AN6700 SE 8 ..... 3.0 RELATIVE INTENSITY 20 Aut the 100 80 PEAK I, 50 20 5 10 15 20 DC FORWARD CURRENT 10 11 ٥ 25 30 2 3 5 10 20 50 100 20 40 DC IF mA DUTY CYCLE % C1199A PERCENT DUTY CYCLE C1200 C1702 Fig. 5. Relative Luminous Intensity vs. Forward Current Fig. 3. Max Peak Current vs. Fig. 4. Luminous Intensity vs. Duty Cycle Duty Cycle **INTERNAL CONNECTIONS** FIRST DIGIT SECOND DIGIT SECOND DIGIT FIRST DIGIT SECON X X X Y





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