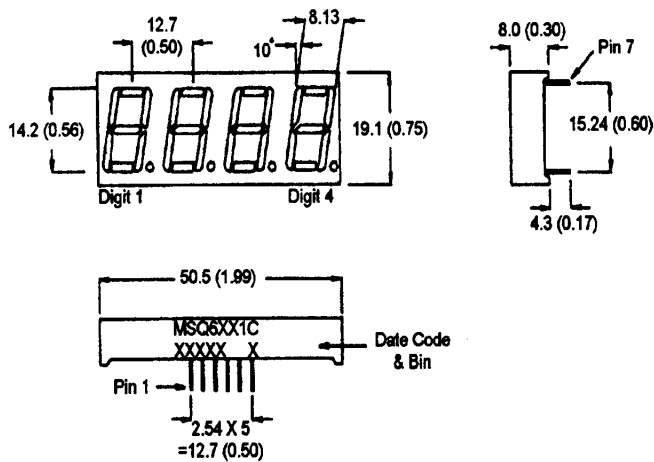


**BRIGHT RED MSQ6111C, MSQ6141C
GREEN MSQ6411C, MSQ6441C
HIGH EFF. RED MSQ6911C, MSQ6941C**

PACKAGE DIMENSIONS



FEATURES

- Easy to read digit
- Common anode or cathode
- Low power consumption
- Highly visible bold segments
- High brightness with high contrast
- White segments on a grey face for MSQ64X1C and MSQ61X1C.
- Red segments and red face for MSQ69X1C
- 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

<u>Part number</u>	<u>Color</u>	<u>Description</u>
MSQ6111C	Bright Red	Common Anode; right hand decimal
MSQ6141C	Bright Red	Common Cathode; right hand decimal
MSQ6411C	Green	Common Anode; right hand decimal
MSQ6441C	Green	Common Cathode; right hand decimal
MSQ6911C	High Efficiency Red	Common Anode; right hand decimal
MSQ6941C	High Efficiency Red	Common Cathode; right hand decimal

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

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

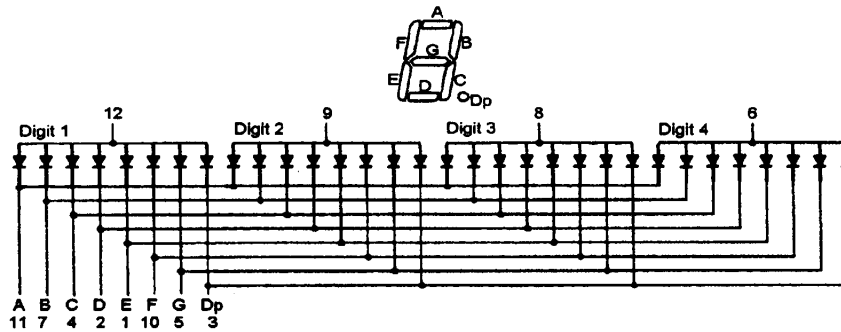
	B.Red MSQ 6111C 6141C	Green MSQ 6411C 6441C	High Eff. Red MSQ 6911C 6941C	Unit
Part number				
Continuous forward current (I_f) Per Segment	15	30	30	mA
Peak forward current per die (I_f) (at $f = 10.0$ KHz, Duty factor = 1/10)	60	90	90	mA
Power dissipation (P_D)	40*	70*	70*	mW
*Derate Linearly from 25°C	0.17	0.33	0.33	mW/ $^\circ\text{C}$
Reverse voltage per dice.....				5V
Operating and Storage temperature range.....				- 25°C to $+85^\circ\text{C}$
Lead soldering time (at 1/16 inch from the bottom of lamp).....				5 seconds @ 230°C

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

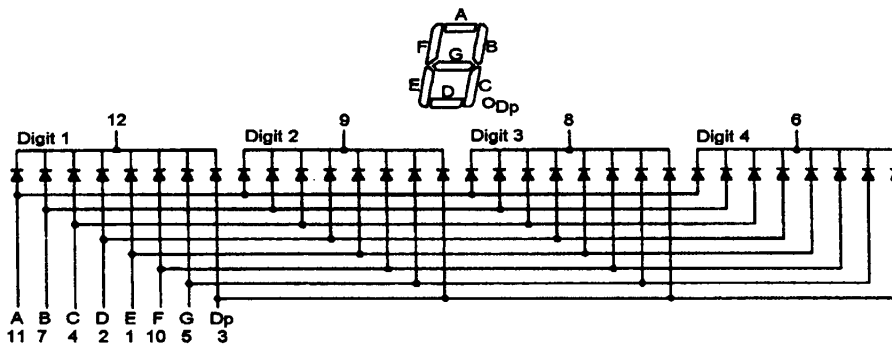
	Bright Red MSQ 6111C 6141C	Green MSQ 6411C 6441C	High Eff. Red MSQ 6911C 6941C	Test Condition
<u>Part number</u>				
Luminous intensity (ucd)				
minimum	300	800	900	$I_f = 20\text{mA}$
typical	700	2200	2200	$I_f = 20\text{mA}$
Forward voltage (V_f)				
typical	2.1	2.1	2.0	$I_f = 20\text{mA}$
maximum	2.6	2.8	2.8	
Peak wavelength (nm)	697	570	635	$I_f = 20\text{mA}$
Spectral line half width (nm)	90	30	45	$I_f = 20\text{mA}$
Reverse breakdown voltage (V_R)	5	5	5	$I_r = 100\mu\text{A}$

PINOUT

MSQ6X11C - Common Anode



MSQ6X41C - Common Cathode



GRAPHICAL DATA - Bright Red ($T_A = 25^\circ\text{C}$ unless otherwise specified)

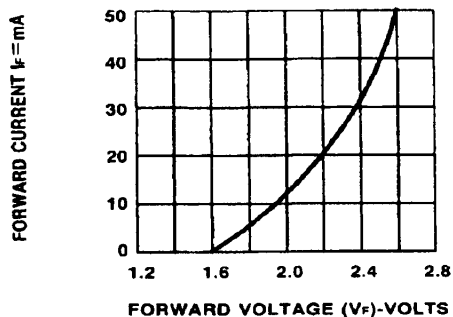


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

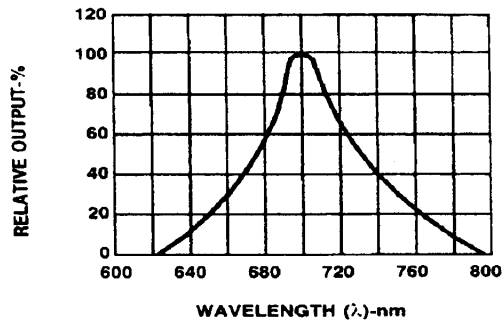


Fig.2 SPECTRAL RESPONSE

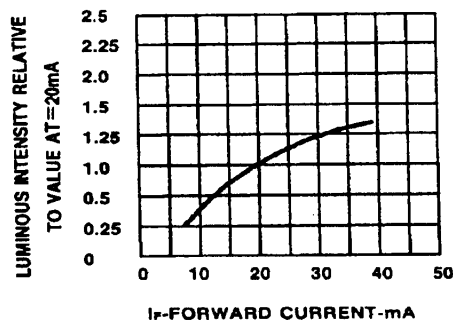


Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

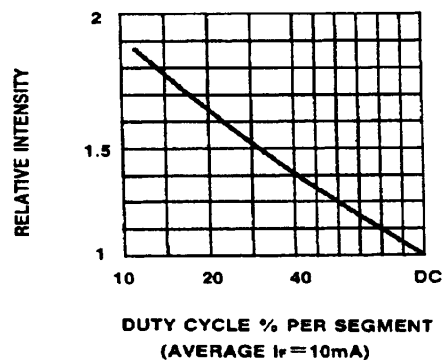


Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE (AVERAGE I_f = 10mA)

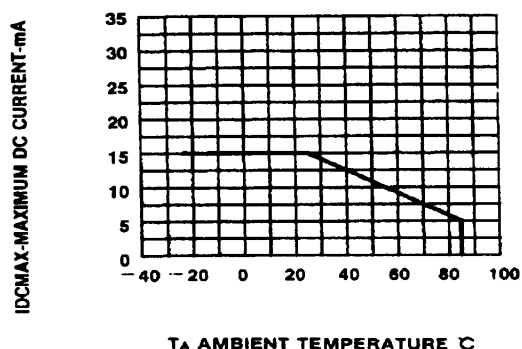


Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT VS. A FUNCTION OF AMBIENT TEMPERATURE.

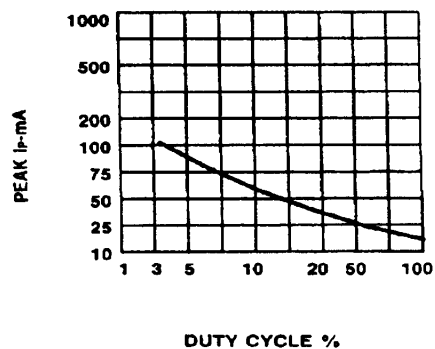


Fig. 6 MAX PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE f = 1 KHz)

GRAPHICAL DATA - Green ($T_A = 25^\circ\text{C}$ unless otherwise specified)

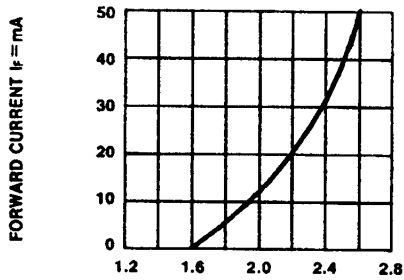


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

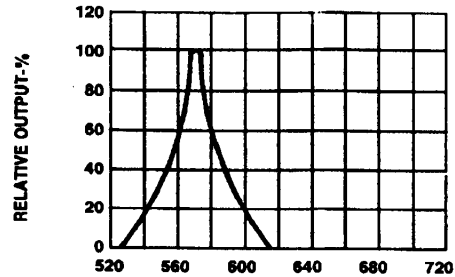


Fig.2 SPECTRAL RESPONSE

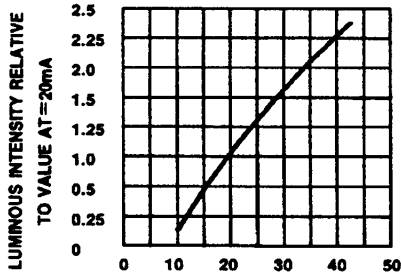


Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

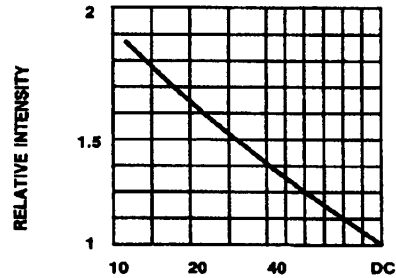


Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE

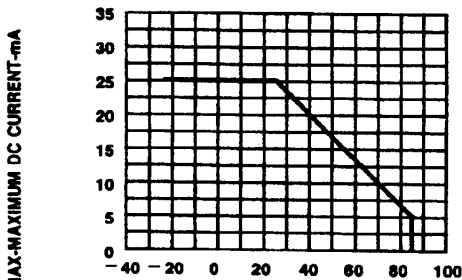


Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT CS. A FUNCTION OF AMBIENT TEMPERATURE.

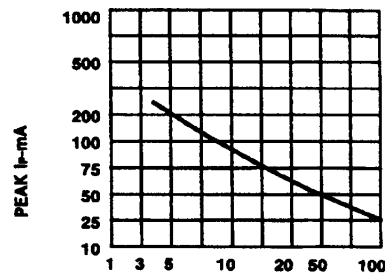


Fig. 6 MAX PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE $f=1\text{ KHz}$)

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

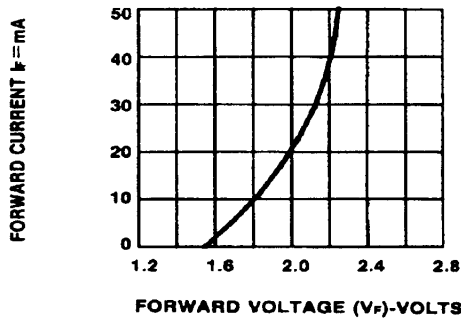


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

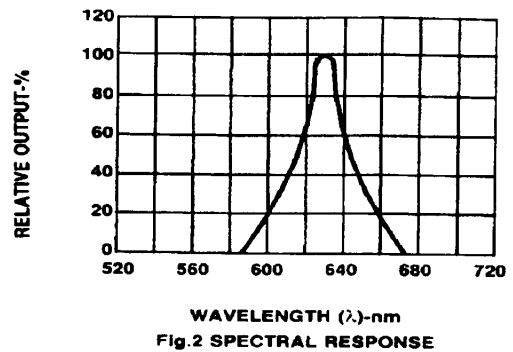


Fig.2 SPECTRAL RESPONSE

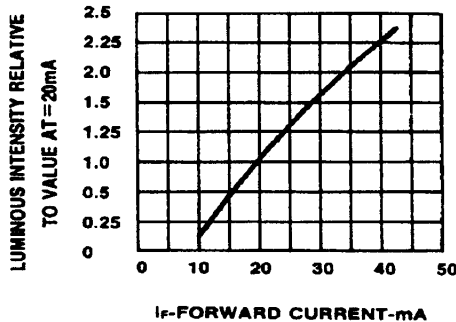


Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

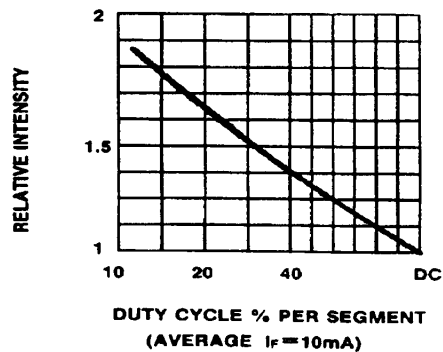


Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE

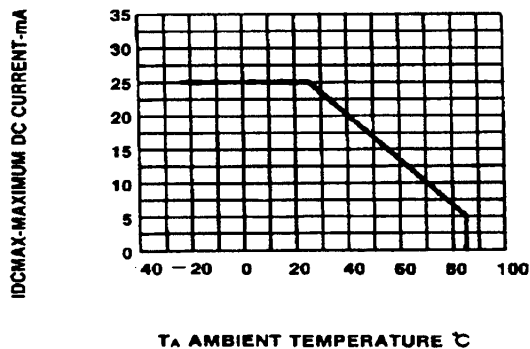


Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT VS. A FUNCTION OF AMBIENT TEMPERATURE.

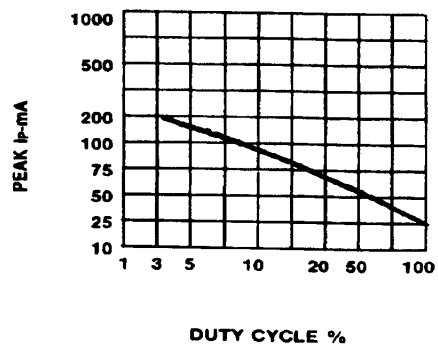


Fig. 6 MAX PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE $f = 1 \text{ KHz}$)

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