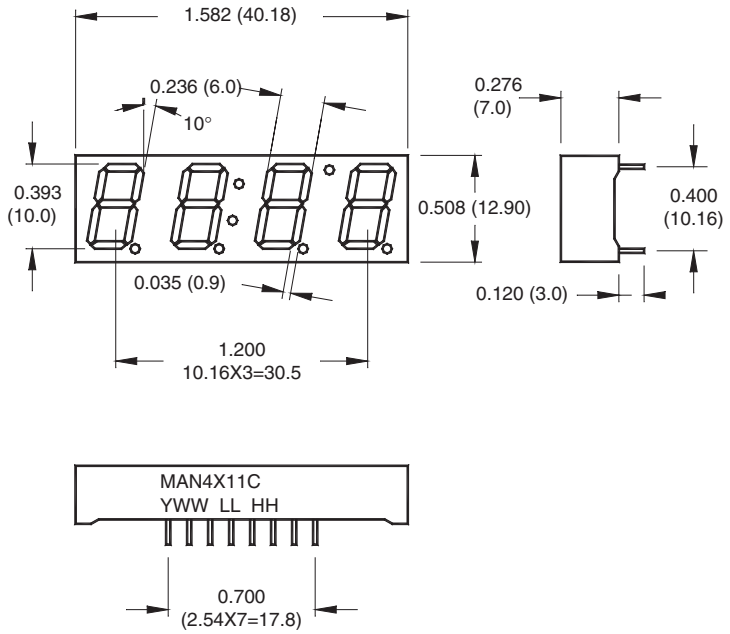
0.4 inch (10.2mm) 4 Digit CLOCK STICK DISPLAY

Bright Red MSQC4111C
High Efficiency MSQC4911C
Green MSQC4411C

PACKAGE DIMENSIONS



Notes:

- Dimensions are in mm (inches)
- Tolerances are ±0.25mm (0.010") unless otherwise stated.

Features

- Bright bold segments
- Common Anode/Cathode
- Low Power Consumption
- Low Current Capability
- Neutral Segments
- Grey Face
- Epoxy Encapsulated PCB
- High Performance
- High Reliability

Applications

- Appliances
- Automotive
- Instrumentation
- Process control

MODELS AVAILABLE

Part Number	Color	Description
MSQC4111C	Bright Red	Four Digit, 12/24 hour Clock Display, CA
MSQC4411C	Green	Four Digit, 12/24 hour Clock Display, CA
MSQC4911C	High Efficiency Red	Four Digit, 12/24 hour Clock Display, CA

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ABSOLUTE MAXIMUM RATINGS[1] (T_A = 25°C, unless otherwise specified)

Part Number Parameter	MSQC411C	MSQC4411C	MSQC4910C	Units
Continuous Forward Current (each segment)	15	25	25	mA
Peak Forward Current (F = 10KHz, D/F = 1/10)	60	100	90	mA
Power Dissipation (P_D)	40	75	70	mW
***Derate Linearly from 25°C**	0.17	0.33	0.33	mW
Reverse Voltage per Die			5 Volts	
Operating and Storage Temperature Range			-40°C to +85°C	
Lead soldering time (1/16 inch from standoffs)			5 seconds @ 230°C	

ELECTRO-OPTICAL CHARACTERISTICS[1] (T_A = 25°C, unless otherwise specified)

Part Number Parameter	MSQC4111C	MSQC4411C	MSQC4911C	Units	Test Condition
Luminous intensity[2] (I_V)					
Minimum (Standard Current)	300	800	800	µcd	I_F = 20mA
Typical (Standard Current)	700	2000	2000	µcd	I_F = 20mA
Minimum (Low Current)	Not Available				
Typical (Low Current)	Not Available				
Forward Voltage (V_F)					
Typical (Standard Current)	2.10	2.10	2.00	V	I_F = 20mA
Maximum (Standard Current)	2.80	2.80	2.80	V	I_F = 20mA
Typical (Low Current)	Not Available				
Maximum (Low Current)	Not Available				
Peak Wavelength	695	570	635	nm	I_F = 20mA
Dominant Wavelength	Not Available				
Spectral Line 1/2 Width	90	30	45	nm	I_F = 10mA
Reverse B[3]. Voltage (V_R)	5	5	5	V	I_R = 100µA

NOTES:
(1) Data per individual LED element
(2) Luminous intensity (µcd) = average light output per segment
(3) B = breakdown

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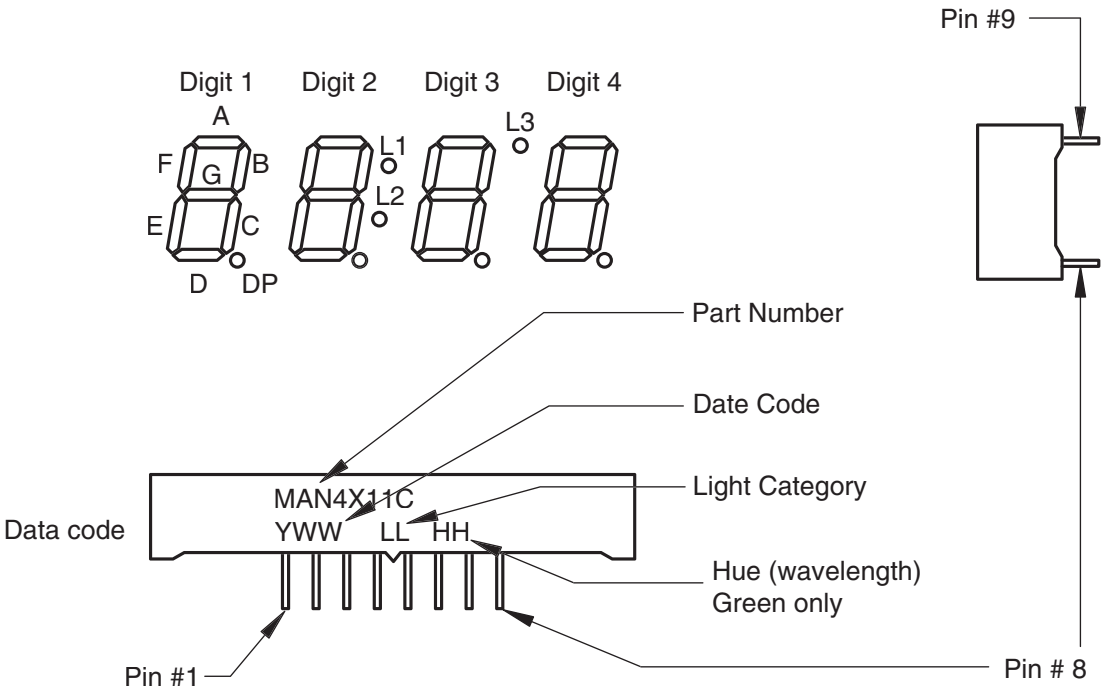
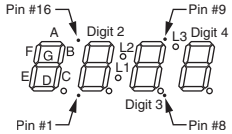
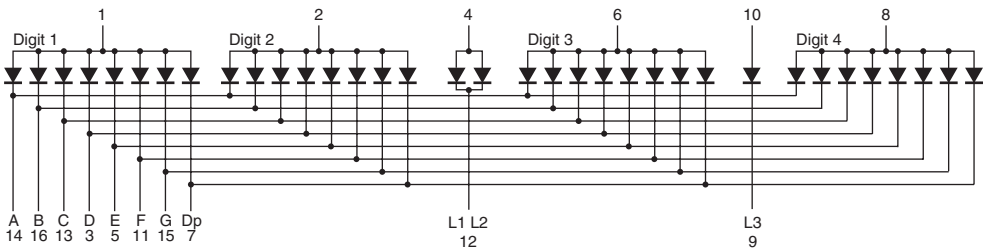
PIN ORIENTATION, SEGMENT IDENTIFICATION, AND PRODUCT MARKING



SCHEMATICS





0.4 inch (10.2mm) 4 Digit CLOCK STICK DISPLAY

Bright Red MSQC4111C
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Green MSQC4411C

GRAPHICAL DATA Bright Red (T_A = 25°C, unless otherwise specified)

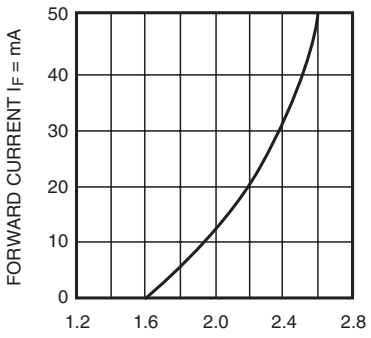

Fig. 1 FORWARD CURRENT VS. FORWARD VOLTAGE

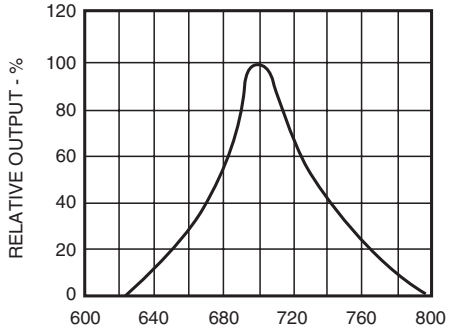

Fig. 2 SPECTRAL RESPONSE

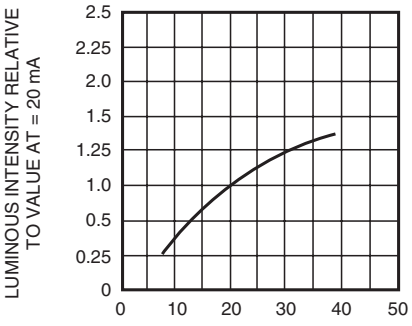

Fig. 3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

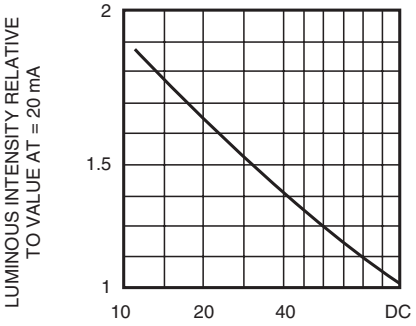

Fig. 5 LUMINOUS INTENSITY VS. DUTY CYCLE

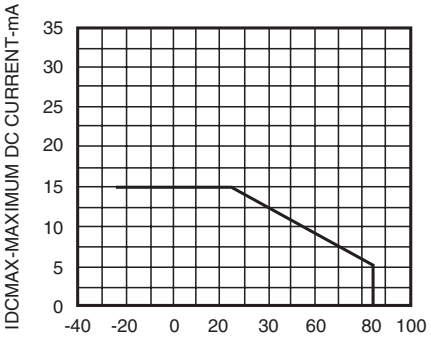

Fig. 4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT VS. A FUNCTION OF AMBIENT TEMPERATURE

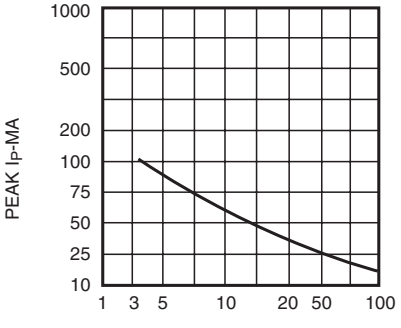

Fig. 6 MAX PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE f = 1 KHz)

0.4 inch (10.2mm) 4 Digit CLOCK STICK DISPLAY

Bright Red MSQC4111C
High Efficiency MSQC4911C
Green MSQC4411C

GRAPHICAL DATA Green (T_A = 25°C, unless otherwise specified)

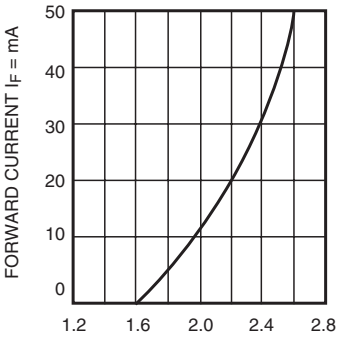

Fig. 1 FORWARD CURRENT VS. FORWARD VOLTAGE

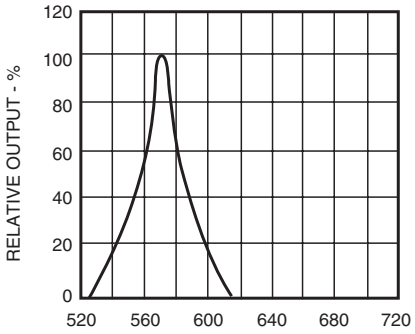

Fig. 2 SPECTRAL RESPONSE

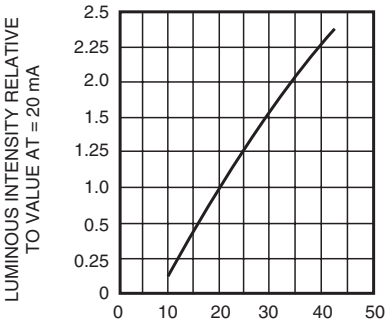

Fig. 3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

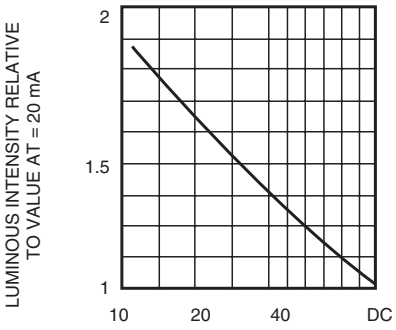

Fig. 5 LUMINOUS INTENSITY VS. DUTY CYCLE

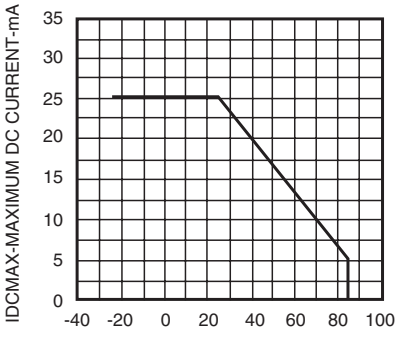

Fig. 4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT VS. A FUNCTION OF AMBIENT TEMPERATURE

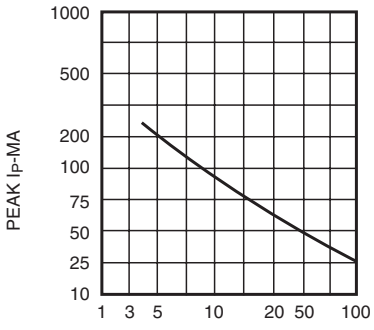

Fig. 6 MAX PEAK CURRENT VS. DUTY CYCLE %
(REFRESH RATE f = 1 KHz)

0.4 inch (10.2mm) 4 Digit CLOCK STICK DISPLAY

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Green MSQC4411C

GRAPHICAL DATA High Efficiency Red (T_A = 25°C, unless otherwise specified)

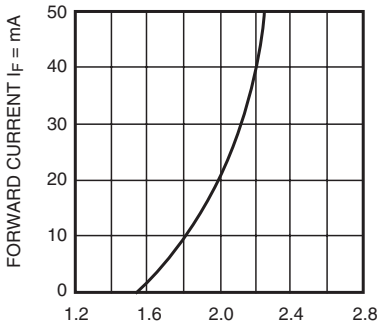
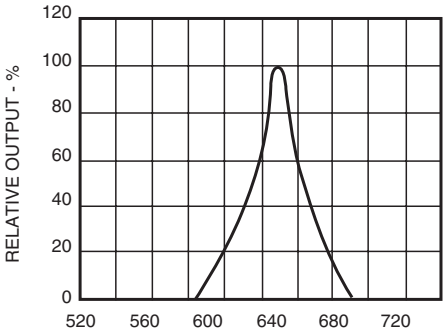


Fig. 1 FORWARD CURRENT VS. FORWARD VOLTAGE



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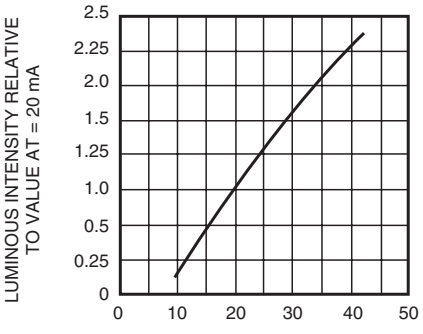
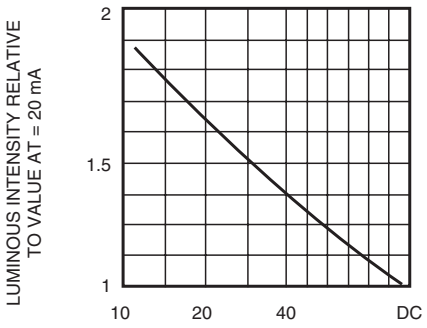


Fig. 3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



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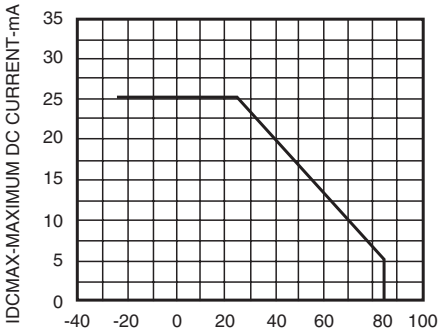

Fig. 4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT VS. A FUNCTION OF AMBIENT TEMPERATURE

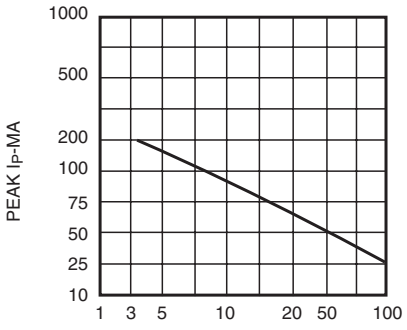

Fig. 6 MAX PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE f = 1 KHz)

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2. A critical component in any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.