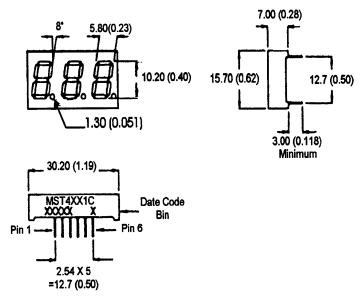


BRIGHT RED MST4111C, MST4141C GREEN MST4411C, MST4441C HIGH EFF. RED MST4911C, MST4941C

PACKAGE DIMENSIONS



FEATURES

Easy to read digits.

3 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.

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

| Part number | <u>Color</u> | <u>Description</u> |
|------------------|-------------------------|--------------------------------|
| MST4111C | Bright Red | 3 Digit, Common Anode, RHDP. |
| MST4141C | Bright Red | 3 Digit, Common Cathode, RHDP. |
| MST4411C | Green | 3 Digit, Common Anode, RHDP. |
| MST4441C | Green | 3 Digit, Common Cathode, RHDP. |
| MST4911C | High Eff. Red | 3 Digit, Common Anode, RHDP. |
| MST4941C | High Eff. Red | 3 Digit, Common Cathode, RHDP. |
| (For other color | options, contact your l | ocal area Sales Office). |



ABSOLUTE MAXIMUM RATING (Ta=25°C unless otherwise specified)

| | B.Red | Green | High Eff. Re | ed | |
|---|-------|-------|--------------|-------|--|
| | MST | MST | MST | | |
| | 4111C | 4411C | 4911C | | |
| Part number | 4141C | 4441C | 4941C | Unit | |
| Continuous forward current (I _f) | | | | | |
| Per Segment | 15 | 25 | 25 | mA | |
| Peak forward current per die (I _f) (at f = 10 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/°C | |
| Reverse voltage per dice Operating and Storage temperature range | | | | | |
| Lead soldering time (at 1/16 inch from the | _ | | | | |

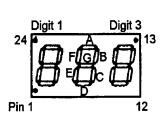
ELECTRO - OPTICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

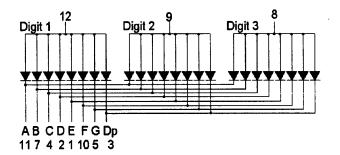
| | B. Red MST | Green MST | High Eff. Re | ed |
|---|---------------|--------------|--------------|--------------------------|
| | 4111C | 4411C | 4911C | Test |
| Part number | 4141C | 4441C | 4941C | Condition |
| Luminous intensity (ucd) | | | | |
| minimum | 320 | 850 | 800 | i, = 20 mA |
| typical | 800 | 2200 | 2200 | l, = 20 mA |
| Forward voltage (V _r) | | | | |
| typical | 2.1 | 2.1 | 2.0 | l, = 20 mA |
| maximum | 2.6 | 2.8 | 2.8 | i, = 20 mA |
| Peak wavelength (nm) | 697 | 570 | 635 | $I_r = 20 \text{ mA}$ |
| Spectral line half width (nm) | 90 | 30 | 45 | I, = 20 mA |
| Reverse breakdown voltage (V _R) | 5 | 5 | 5 | $I_{R} = 100 \text{ uA}$ |



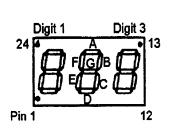
PINOUT

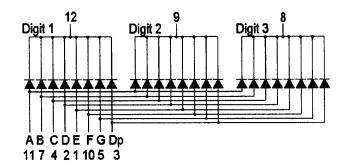
MST4X11C - Common Anode





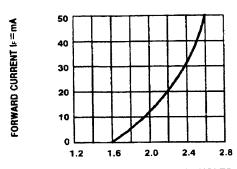
MST4X41C - Common Cathode



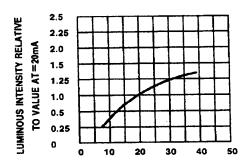




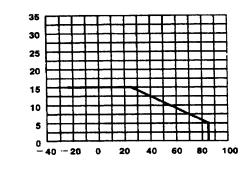
GRAPHICAL DETAIL: Bright Red (T_A = 25°C unless otherwise specified)



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

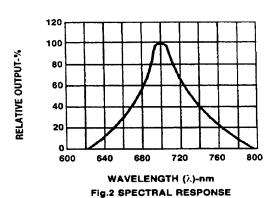


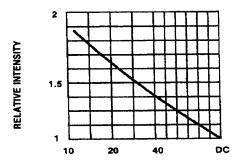
IF-FORWARD CURRENT-MA
Fig.3 RELATIVE LUMINOUS INTENSITY
VS. FORWARD CURRENT



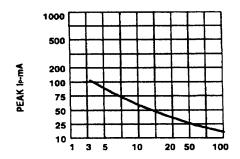
IDCMAX-MAXIMUM DC CURRENT-MA

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





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

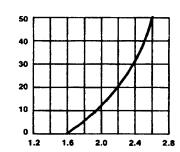


DUTY CYCLE %
Fig. 6 MAX PEAK CURRENT VS. DUTY CYCLE %
(REFRESH RATE != 1 KHz)



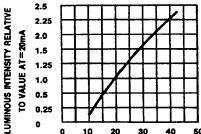
GRAPHICAL DETAIL: Green (T_A = 25°C unless otherwise specified)





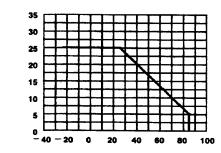
FORWARD VOLTAGE (Vr)-VOLTS
Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE.





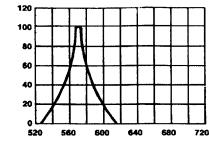
IF-FORWARD CURRENT-MA
Fig.3 RELATIVE LUMINOUS INTENSITY
VS. FORWARD CURRENT



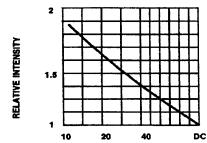


TA AMBIENT TEMPERATURE C Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT CS. A FUNCTION OF AMBIENT TEMPERATURE.

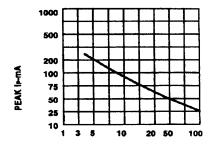




WAVELENGTH (λ)-nm Fig.2 SPECTRAL RESPONSE



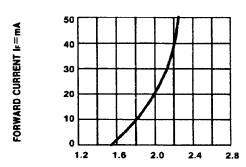
DUTY CYCLE % PER SEGMENT
(AVERAGE Is=10mA)
Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE



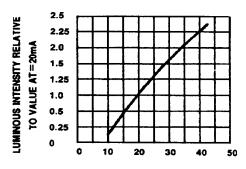
DUTY CYCLE %
Fig. 6 MAX PEAK CURRENT VS. DUTY CYCLE %
(REFRESH RATE !=1 KHz)



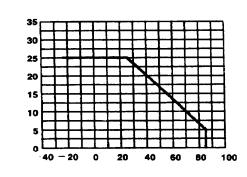
GRAPHICAL DETAIL: High Efficiency Red (T_A = 25°C unless otherwise specified)



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

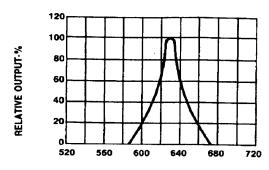


IF-FORWARD CURRENT-MA
Fig.3 RELATIVE LUMINOUS INTENSITY
VS. FORWARD CURRENT

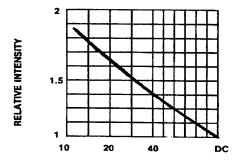


IDCMAX-MAXIMUM DC CURRENT-mA

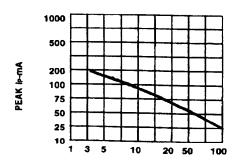
TA AMBIENT TEMPERATURE C Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT VS. A FUNCTION OF AMBIENT TEMPERATURE.



WAVELENGTH (λ)-nm Fig.2 SPECTRAL RESPONSE



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



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



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