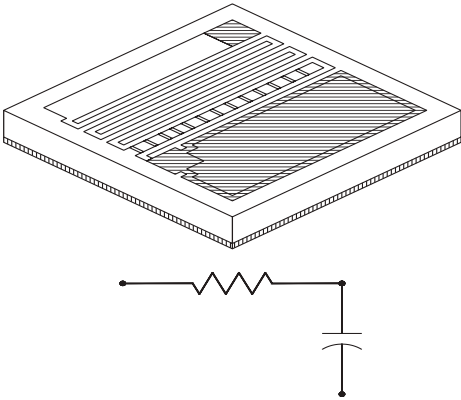


THIN FILM RC NETWORKS

MRCN SERIES

The MRCN series offers the high stability, low noise, and low T.C.R./T.C.C. tracking of thin film resistors combined with MOS capacitors. This combination provides greater flexibility to the hybrid designer.



MECHANICAL DATA

SUBSTRATE
DIELECTRIC
RESISTOR
BOND PADS

BACKSIDE SURFACE

SILICON
SILICON OXIDE
TANTALUM NITRIDE
10,000 Å MINIMUM: ALUMINUM OR
15,000 Å MINIMUM: GOLD
GOLD; SUITABLE FOR EUTECTIC OR
CONDUCTIVE EPOXY ATTACH

ELECTRICAL DATA

VALUES
TOLERANCES
RATIO TOLERANCE
T.C.R.

T.C. TRACKING
T.C.C.

RESISTORS

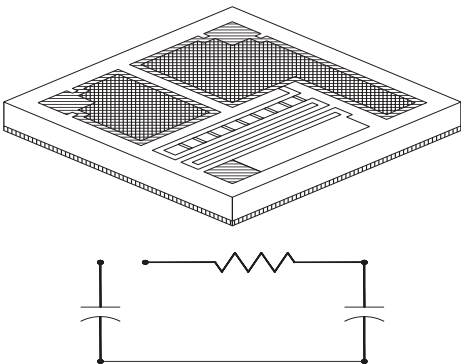
2Ω TO 1.2MΩ
0.1%, 0.5%, 1%, 2%,
AVAILABLE TO ±0.1%
±150ppm/°C STANDARD
OPTIONAL TO ±100ppm/°C
±2ppm/°C

CAPACITORS

4.7pF TO 1000pF
5%, 10%, 20%
(±0.5pF < 20pF)

+45ppm/°C, ±25ppm/°C

Consult sales for other values and tolerances.



SERIES DATA

OPERATING TEMP RANGE -55°C TO +125°C

RESISTORS

CURRENT NOISE

101Ω TO 250KΩ: -40dB
≤ 100Ω, ≥ 250KΩ: -30dB

DIELECTRIC BREAKDOWN
INSULATION RESISTANCE
OPERATING VOLTAGE

400 V MIN.
10¹²Ω MIN.
100 V MAX.

POWER RATING
SHORT TERM OVERLOAD
HIGH TEMP EXPOSURE
THERMAL SHOCK
MOISTURE RESISTANCE
STABILITY

250 mW (70°C DERATED LINEARLY TO 150°C) P = E²/R
5X RATED POWER, 25°C, 5 SEC., ±0.25% MAX. ΔR/R: ±0.1% MSI TYPICAL
150°C, 100 HRS., ±0.25% MAX. ΔR/R: ±0.03% MSI TYPICAL
MIL-STD 202, METHOD 107F, ±0.25% MAX. ΔR/R: ±0.1% MSI TYPICAL
MIL-STD 202, METHOD 106, ±0.5% MAX. ΔR/R: ±0.1% MSI TYPICAL
1000 HRS., 70°C, 100% POWER, ±0.5% MAX. ΔR/R: ±0.1% MSI TYPICAL

CAPACITORS

INSULATION RESISTANCE
SHORT TERM OVERLOAD

@ WORKING VOLTAGE, 10⁹Ω
1.5X WORKING VOLTAGE, 5 SEC.,
ΔC: ±0.5pF OR 1% ΔC MAX WHICH EVER IS GREATER
150°C, 100 HRS., ΔC: ±0.5pF OR ±1% ΔC MAX., WHICH EVER IS GREATER
MIL-STD 202, METHOD 107F, ΔC: ±0.5pF MAX., ±0.1pF MSI TYPICAL
MIL-STD 202, METHOD 106, ΔC: ±1pF OR ±2% ΔC MAX.,
WHICH EVER IS GREATER

HIGH TEMP EXPOSURE
THERMAL SHOCK
MOISTURE RESISTANCE

1000 HRS., 70°C, @ WORKING VOLTAGE, ΔC; ±2.5pF OR ±2.5% MAX.,
WHICH EVER IS GREATER

STABILITY

DISSIPATION FACTOR
Q

1KHz, 1Vrms, 25°C, 0.1%
1MHz, 50Vrms, 25°C, 1000 MIN.

Consult Sales for part numbers.

MSI
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THIN FILM DIVISION

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