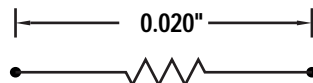
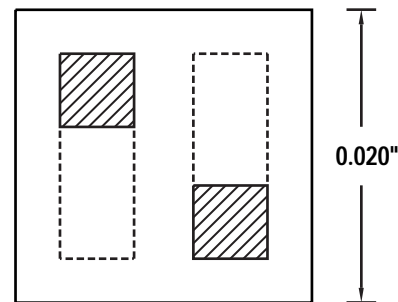


THIN FILM CHIP RESISTORS

MSTF 2 SERIES



---- Minimum bonding area for < 100 Ohm resistance. Layout varies with value.

MECHANICAL DATA

SIZE	0.020" x 0.020" (±0.003") x 0.010" (±0.003")
SUBSTRATE	SILICON, ALUMINA, QUARTZ, OR GLASS
RESISTOR	NICHROME OR TANTALUM NITRIDE
BOND PADS	15,000 Å MINIMUM GOLD 10,000 Å MINIMUM ALUMINUM OPTIONAL
BACKSIDE SURFACE	BARE SUBSTRATE GOLD BACK OPTIONAL

ELECTRICAL DATA

RESISTANCE RANGE	NICHROME	TANTALUM NITRIDE
SILICON, QUARTZ, GLASS	2Ω TO 1.5MΩ	2Ω TO 1.5MΩ
ALUMINA	2Ω TO 300KΩ	2Ω TO 300KΩ
ABSOLUTE TOLERANCE	0.1%, 0.5%, 1%, 2%, 5%, 10% TO 0.01% AVAILABLE	0.1%, 0.5%, 1%, 2%, 5%, 10% TO 0.01% AVAILABLE
T.C.R.		
SILICON, QUARTZ, GLASS	±50ppm/°C STANDARD OPTIONAL TO ±5ppm/°C	±150ppm/°C STANDARD OPTIONAL TO ±10ppm/°C
ALUMINA	±50ppm/°C STANDARD OPTIONAL TO ±25ppm/°C	±150ppm/°C STANDARD OPTIONAL TO ±25ppm/°C

SERIES DATA

CURRENT NOISE	101Ω TO 250KΩ: -40dB ≤ 100Ω, ≥ 250KΩ: -30dB
DIELECTRIC BREAKDOWN	400V MIN.
INSULATION RESISTANCE	10 ¹² Ω MIN.
OPERATING VOLTAGE	100 V MAX.
POWER RATING	
SILICON, ALUMINA	250mW (70°C DERATED LINEARLY TO 150°C) P = E ² /R
QUARTZ, GLASS	50mW (70°C DERATED LINEARLY TO 150°C) P = E ² /R
SHORT TERM OVERLOAD	5X RATED POWER, 25°C, 5 SEC., ±0.25% MAX. ΔR/R: ±0.1% MSI TYPICAL
HIGH TEMP EXPOSURE	150°C, 100 HRS., ±0.25% MAX. ΔR/R: ±0.03% MSI TYPICAL
THERMAL SHOCK	MIL-STD 202, METHOD 107F, ±0.25% MAX. ΔR/R: ±0.1% MSI TYPICAL
MOISTURE RESISTANCE	MIL-STD 202, METHOD 106, ±0.5% MAX. ΔR/R: ±0.1% MSI TYPICAL
STABILITY	1000 HRS., 70°C, 100% POWER, ±0.5% MAX. ΔR/R: ±0.1% MSI TYPICAL
OPERATING TEMP RANGE	-55°C TO +150°C
STRAY DISTRIBUTED CAPACITANCE	
SILICON / NiCr OR TaN	2pF
ALUMINA / NiCr	0.06pF
ALUMINA / TaN	0.08pF
QUARTZ / NiCr	0.02pF
QUARTZ / TaN	0.05pF
GLASS / NiCr	0.04pF
GLASS / TaN	0.06pF

PART NUMBER DESIGNATION

MSTF 2	X	X	—	XXXXX	X	—	X
SERIES	SUBSTRATE	RESISTIVE FILM		OHMIC VALUE	TOLERANCE		OPTION
	A = Alumina G = Glass Q = Quartz S = Silicon	N = Nichrome T = Tantalum Nitride		5-Digit Number: 1st 4 Digits Are Significant With "R" As Decimal Point When Required. 5th Digit Represents Number of Zeros.	S = 0.01%* X = 0.02%* Q = 0.05%* B = 0.1% D = 0.5% F = 1% G = 2% J = 5% K = 10%		A = ±50ppm/°C B = ±25ppm/°C C = ±10ppm/°C D = ±5ppm/°C E = Aluminum Bond Pads F = ±100ppm/°C G = Gold Bond Pads Std.** GB = Gold Backside



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DCN TF 101-D-0698

EXAMPLE: MSTF 2SN-50R00F-GB = 0.020" x 0.020", Silicon Substrate, Nichrome Resistor, 50Ω, ±1% Tol., ±50 ppm/°C, Gold Backside.

* Value dependent on Alumina. Consult sales.

**Always used when no other option is required.

A