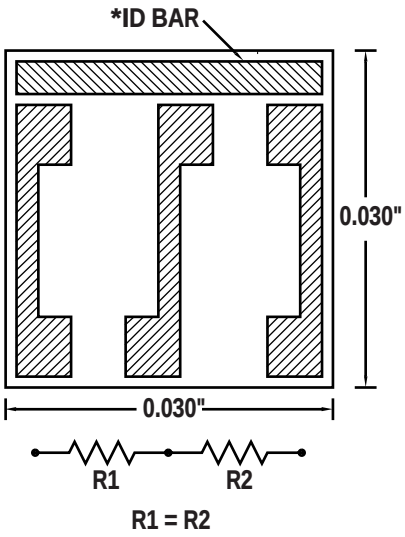
CENTER TAPPED CHIP RESISTORS

MSTF 3 SERIES



R1 = R2

Layout varies with value.

MECHANICAL DATA

SIZE	0.030" x 0.030" (±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

	NICHROME	TANTALUM NITRIDE
RESISTANCE RANGE		
SILICON, QUARTZ, GLASS	2Ω TO 2MΩ	2Ω TO 2MΩ
ALUMINA	2Ω TO 500KΩ	2Ω TO 500KΩ
TOLERANCES	0.1%, 0.5%, 1%, 2%, 5%, 10% TO 0.01% AVAIL. (R1 & R2 trimmed to absolute tolerance when total tolerance <0.100Ω)	0.1%, 0.5%, 1%, 2%, 5%, 10% TO 0.01% AVAIL. (R1 & R2 trimmed to absolute tolerance when total tolerance <0.100Ω)
CENTER TAP RATIO	±1% STANDARD; AVAIL. TO 0.01%	±1% STANDARD; AVAIL. TO 0.01%
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
T.C. TRACKING	±2ppm/°C STANDARD***	±2ppm/°C STANDARD ***

SERIES DATA

CURRENT NOISE	101Ω TO 250KΩ: -40dB ≤ 100Ω, ≥ 250KΩ: -30dB
DIELECTRIC BREAKDOWN	400 V MIN.
INSULATION RESISTANCE	10^{12}Ω MIN.
OPERATING VOLTAGE	100 V MAX.
POWER RATING	
SILICON, ALUMINA	250 mW (70°C DERATED LINEARLY TO 150°C) P = E^2/R
QUARTZ, GLASS	50 mW (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 3	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 RB = ±0.05% Ratio RC = ±0.1% Ratio RD = ±0.5% Ratio

EXAMPLES: MSTF 3SN-50R00F-GB = 0.030" x 0.030", 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.
*** Consult sales for TC Tracking to ±0.5ppm/°C. Value Dependent

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