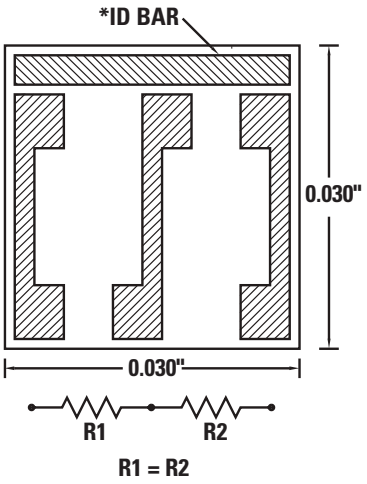
CENTER TAPPED CHIP RESISTORS

CHIP RESISTORS

MSTF 3 SERIES



Layout varies with value.

MECHANICAL DATA

SIZE	0.030" x 0.030" (±0.003") x 0.010" (±0.003")
SUBSTRATE	(S)SILICON, (A)ALUMINA, (Q)QUARTZ, OR (G)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 / Per Side		
SILICON, QUARTZ, GLASS	1Ω TO 1MΩ	1Ω TO 1MΩ
ALUMINA*	1Ω TO 125KΩ	1Ω TO 125KΩ
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.	±25ppm/°C STANDARD OPTIONAL TO ±5ppm/°C (S, Q, G)	±150ppm/°C STANDARD OPTIONAL TO ±10ppm/°C (S, Q, G) OPTIONAL TO±25ppm/°C (A)
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	2pF
ALUMINA	0.06pF
QUARTZ	0.02pF

PART NUMBER DESIGNATION

MSTF 3	X	X	—	XXXXX	X	—	X
SERIES	SUBSTRATE	RESISTIVE FILM		OHMIC VALUE	TOLERANCE		OPTION DESIGNATOR
	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., ±50ppm/°C, Gold Backside.

† Not Available on Alumina
* 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

MINI-SYSTEMS, INC.
THIN FILM DIVISION
20 DAVID ROAD, N. ATTLEBORO, MA 02760
508-695-0203 FAX: 508-695-6076

DCN TF 102-G-0306