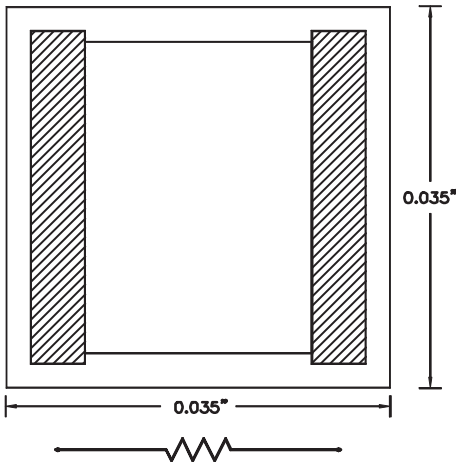


# THIN FILM RESISTORS

## MSTF 35 WIRE BONDABLE



### MECHANICAL DATA

SIZE	0.035" x 0.035" x 0.010" ( $\pm 0.003$ ")
SUBSTRATE	99.6% ALUMINA, QUARTZ, GLASS (BeO OR AlN AVAILABLE)
RESISTOR	NICHROME, TANTALUM NITRIDE, SICHROME
BOND PADS	15,000 Å MINIMUM GOLD
BOND PAD SIZE	0.009" x 0.025" TYPICAL; SUITABLE FOR MULTIPLE TIE POINTS
BACKSIDE SURFACE	BARE SUBSTRATE; GOLD BACK OPTIONAL

### ELECTRICAL DATA

RESISTANCE RANGE	2Ω TO 150KΩ STANDARD RANGE; TO 10MΩ IN SiCr AVAILABLE
ALUMINA	2Ω TO 2MΩ STANDARD RANGE; TO 25MΩ IN SiCr AVAILABLE
QUARTZ, GLASS	0.01%, 0.05%, 0.1%, 0.5%, 1%, 2%, 5%, 10%
TOLERANCES	
T.C.R.	
NICHROME	$\pm 25$ ppm/°C STANDARD; $\pm 5$ ppm/°C OPTIONAL *
TANTALUM NITRIDE	$\pm 150$ ppm/°C STANDARD; $\pm 50$ ppm/°C, $\pm 25$ ppm/°C OPTIONAL
SICHROME	$\pm 300$ ppm/°C STANDARD; $\pm 250$ ppm/°C, $\pm 100$ ppm/°C OPTIONAL

### SERIES DATA

CURRENT NOISE	101Ω TO TO 250KΩ: -40dB ≤ 100Ω, ≥ 250KΩ: -30dB
DIELECTRIC BREAKDOWN	400 V MIN.
INSULATION RESISTANCE	10 <sup>12</sup> Ω MIN.
OPERATING VOLTAGE	100 V MAX.
POWER RATING	
ALUMINA	250 mW (70°C DERATED LINEARLY TO 150°C) P = E <sup>2</sup> /R
QUARTZ / GLASS	50 mW (70°C DERATED LINEARLY TO 150°C) P = E <sup>2</sup> /R
SHORT TERM OVERLOAD	5X RATED POWER, 25°C, 5 SEC., $\pm 0.25\%$ MAX. ΔR/R: $\pm 0.1\%$ MSI TYPICAL
HIGH TEMP EXPOSURE	150°C, 100 HRS., $\pm 0.25\%$ MAX. ΔR/R: $\pm 0.03\%$ MSI TYPICAL
THERMAL SHOCK	MIL-STD 202, METHOD 107F, $\pm 0.25\%$ MAX. ΔR/R: $\pm 0.1\%$ MSI TYPICAL
MOISTURE RESISTANCE	MIL-STD 202, METHOD 106, $\pm 0.5\%$ MAX. ΔR/R: $\pm 0.1\%$ MSI TYPICAL
STABILITY	1000 HRS., 70°C, 100% POWER, $\pm 0.5\%$ MAX. ΔR/R: $\pm 0.1\%$ MSI TYPICAL
OPERATING TEMP RANGE	-55°C TO +125°C
STRAY DISTRIBUTED CAPACITANCE	
ALUMINA	0.06pF
QUARTZ	0.02pF

### ARRAY DATA

#### ISOLATED OR COMMON BUSSED SERIES RESISTOR PAIR AND MULTIPLE CONFIGURATIONS

TC TRACKING	$\pm 3$ ppm/°C MAX. STANDARD; $\pm 1$ ppm/°C AVAILABLE
RATIO MATCHING	$\pm 1\%$ STANDARD; TO $\pm 0.01\%$ Available
STABILITY RATIO	$\pm 0.1\%$ MAX ΔR/R STANDARD; $\pm 0.05\%$ ΔR/R OPTIONAL
FREQUENCY	TO 20 GHz; (RESISTOR GEOMETRY DEPENDENT)

### PART NUMBER DESIGNATION

MSTF 35	X	X	XXXXX	X	X
SERIES	SUBSTRATE	RESISTIVE FILM	OHMIC VALUE	TOLERANCE	OPTION DESIGNATOR
MSTR 35 (SiCr only)	A = Alumina G = Glass Q = Quartz	N = Nichrome T = Tantalum Nitride S = Sichrome	5-Digit Number: 1st 4 Digits Are Significant With "R" As Decimal Point When Required. 5th Digit Represents Number of Zeros.	S = 0.01% ** Q = 0.05% ** B = 0.1% ** D = 0.5% F = 1% G = 2% J = 5% K = 10%	A = $\pm 50$ ppm/°C B = $\pm 25$ ppm/°C C = $\pm 10$ ppm/°C*** D = $\pm 5$ ppm/°C * E = Aluminum Bond Pads GB = Gold Backside F = $\pm 100$ ppm/°C G = Gold Bond Pads (always used when no other option is required)

EXAMPLES: MSTF 35 AT-10001F-G = 10KΩ,  $\pm 1\%$  STANDARD T.C.R.

\* Available on Glass or Quartz only

\*\* Value Dependent, please consult Sales

\*\*\* Not available on Alumina



MINI-SYSTEMS, INC.

THIN FILM DIVISION

20 DAVID ROAD, N. ATTLEBORO, MA 02780  
508-695-0203 FAX: 508-695-6076

DCN TF 106-F-0306

CHIP  
RESISTORS