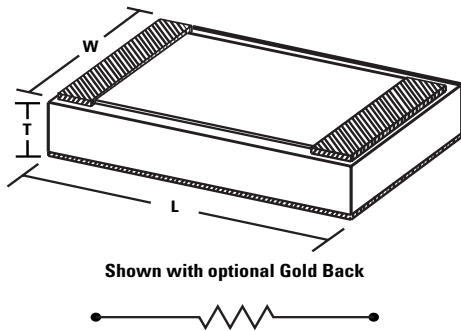


NON-MICROWAVE CHIP RESISTORS

MSTF SERIES



CHIP RESISTORS

MECHANICAL DATA

SERIES	L	W	T	TOLERANCE
MSTF 21	0.020" x	0.010" x	0.010"	(±0.003")
MSTF 110	0.037" x	0.017" x	0.010"	(±0.003")
MSTF 112	0.050" x	0.050" x	0.010"	(±0.003")
MSTF 115	0.050" x	0.025" x	0.010"	(±0.003")
MSTF 118	0.021" x	0.017" x	0.010"	(±0.003")
MSTF 120	0.100" x	0.050" x	0.010"	(±0.003")
MSTF 121	0.100" x	0.100" x	0.010"	(±0.003")
MSTF 122	0.020" x	0.016" x	0.010"	(±0.003")
MSTF 124	0.150" x	0.085" x	0.010"	(±0.003")

ELECTRICAL DATA

SERIES	RESISTANCE RANGE		POWER RATING @ 70°C
	SILICON	ALUMINA	
MSTF 21	2Ω - 150KΩ	2Ω - 20KΩ	50mW
MSTF 110	2Ω - 1MΩ	2Ω - 200KΩ	125mW
MSTF 112	2Ω - 1MΩ	2Ω - 400KΩ	125mW
MSTF 115	2Ω - 1MΩ	2Ω - 250KΩ	125mW
MSTF 118	2Ω - 500KΩ	2Ω - 100KΩ	125mW
MSTF 120	5Ω - 2MΩ	5Ω - 1MΩ	125mW
MSTF 121	10Ω - 3MΩ	10Ω - 1.5MΩ	500mW
MSTF 122	2Ω - 500KΩ	2Ω - 100KΩ	125mW
MSTF 124	10Ω - 3MΩ	10Ω - 1.5MΩ	500mW

ABSOLUTE TOLERANCE 0.01%, 0.02%, 0.05%, 0.1%, 0.5%, 1%, 2%, 5%, 10%
 T.C.R. ±25ppm/°C STANDARD (NiCr); ±150ppm/°C STANDARD (TaN)
 CONSULT SALES FOR OTHER VALUES / TOLERANCES

SERIES DATA

SUBSTRATE MATERIAL	99.6% ALUMINA STANDARD, QUARTZ** OPTIONAL, SILICON
CURRENT NOISE	-20dB TYPICAL
OPERATING VOLTAGE	100 V MAX.
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
STORAGE TEMP	+150°C
STRAY DISTRIBUTED CAPACITANCE	
SILICON	2pF
ALUMINA	0.06pF
QUARTZ	0.02pF

PART NUMBER DESIGNATION

MSTF	XX	XXXXX	X	X
	SUBSTRATE / RESISTIVE FILM	OHMIC VALUE	TOLERANCE	OPTION
21	AT = Alumina / TaN	5-Digit	S = 0.01%	C = ±10ppm/°C
110, 112	AN = Alumina / NiCr	Number: 1st 4	X = 0.02%	D = ±5ppm/°C
115, 118	QT = Quartz / TaN	Digits Are	Q = 0.05%	F = ±100ppm/°C
120, 121	QN = Quartz / NiCr	Significant	B = 0.1%	G = Gold Bond
122, 124	PT = Polished / TaN	With "R" As	D = 0.5%	Pads Std.*
	PN = Polished / NiCr	Decimal	F = 1%	GB = Gold Backside
	SN = Silicon / NiCr	Point When	G = 2%	T = With Solder
	ST = Silicon / TaN	Required.	J = 5%	Bumps
		5th Digit	K = 10%	T3 = Lead-free
		Represents		Solder Bumps
		Number of		
		Zeros.		

EXAMPLE: MSTF 110AN-10001F-GB = 110 Series, Alumina Substrate, 10KΩ, ±1% Tol., ±25ppm/°C, Nichrome, Gold Backside.

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