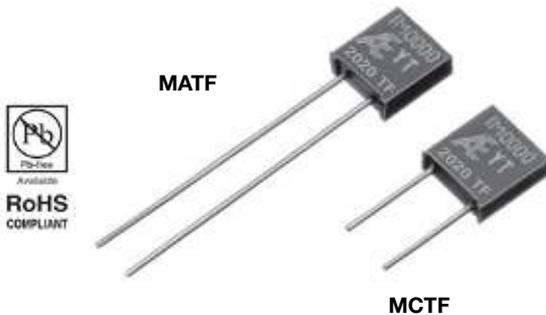


Precision Thin Film Resistor (Transfer Molded)

High accuracy thin film resistor manufactured by Bulk Metal® Foil resistor production to cover high resistance value



COMPOSITION OF TYPE NUMBER

Example:

MATF Z 1M0000 A

MATF: Type
 Z: TCR
 1M0000: Resistance Value
 A: Tolerance

Resistance value, in ohm, is expressed by a series of six characters, five of which represent significant digits. K or M is a dual-purpose letter that designates both the value range (K for kilo-ohm; M for mega-ohm) and the location of the decimal point.

CONFIGURATION (DIMENSIONS IN mm)

Type	MATF	MCTF
L	7.9±0.2	
L ₁	1.0 max.	
W	8.3±0.2	
W ₁	8.0±0.2	
W ₂	0.3 max.	
T	2.8±0.2	2.3±0.2
F	3.81±0.25	5.08±0.25
ℓ	25±10	10±3
d	Dia. 0.65±0.05	

FEATURES

- TCR: 0±1ppm/°C to 0±10ppm/°C
- Available ±1ppm/°C TCR from 1MΩ to 10MΩ by custom
- Wide resistance value range from 200kΩ to 10MΩ
- High reliable transfer molded package
- Inorganic element coating for moisture resistance

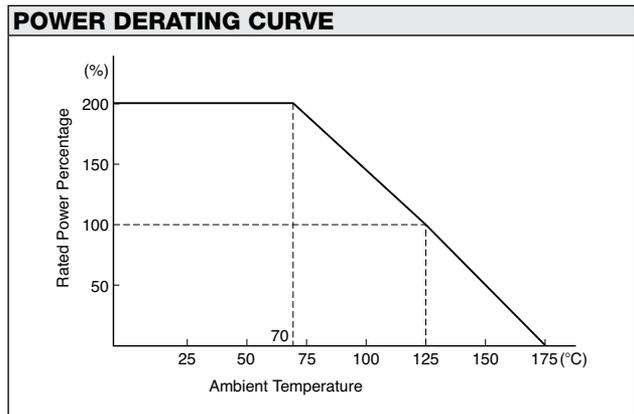
APPLICATION

- Current sense/voltage divider for precision instrumentation, ATE, medical, electric scale, etc.

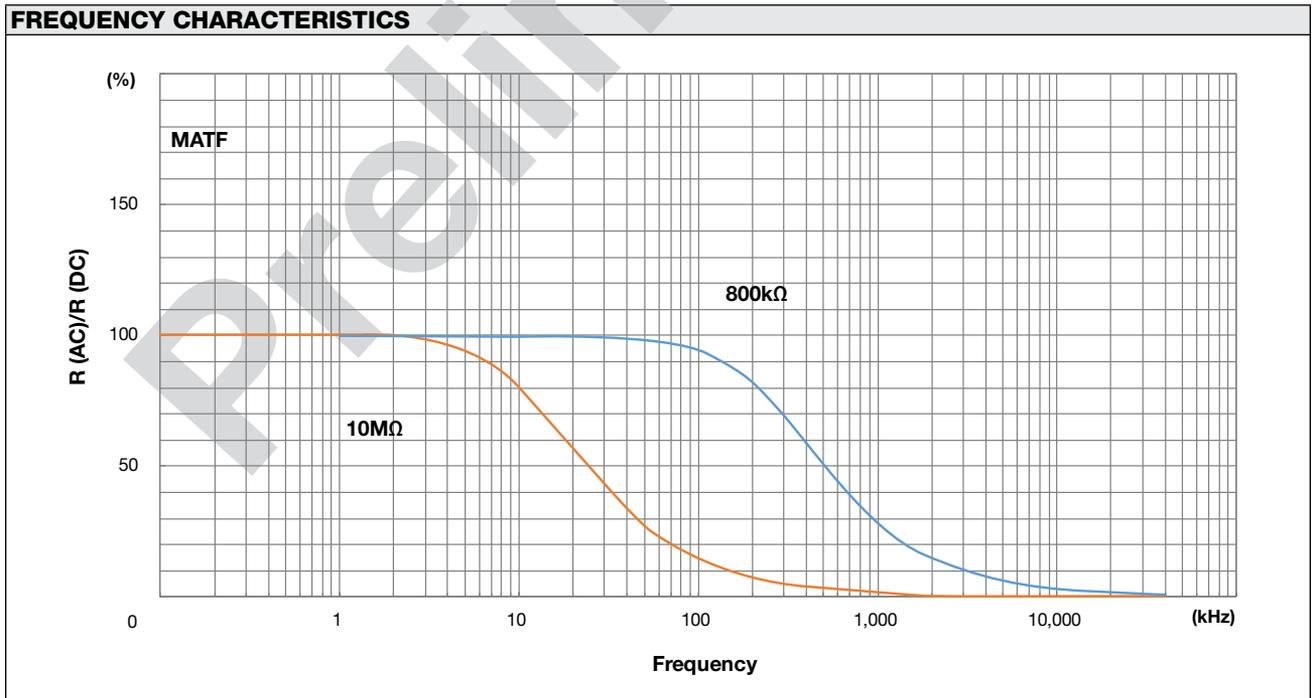
TCR, RESISTANCE RANGE, TOLERANCE, RATED POWER

Type	TCR (ppm/°C) -55°C to +125°C*	Resistance Range (Ω)	Resistance Tolerance (%)	Rated Power (W) at 125°C
MATF MCTF	0±1(Z)** 0±2.5(Y) 0±5(X) 0±10(C)	200k to 1M	±0.01(T) ±0.02(Q) ±0.05(A) ±0.1(B)	0.2
	0±2.5(Y)*** 0±5(X) 0±10(C)	1M to 10M	±0.05(A)*** ±0.1(B)	

* Symbols in parentheses are for type number composition.
 ** (Z) is available for temperature range between 0°C to 60°C.
 *** Please contact for customizing TCR/tolerance over 1MΩ.



PERFORMANCE			
Parameters	Test Condition	MIL-PRF-55182/9 Specification	ALPHA Typical Test Data
Maximum Rated Operating Temperature Working Temperature Range Maximum Working Voltage		125°C -65°C to +175°C 300V	
Power Conditioning Thermal Shock Overload	125°C, Rated Power, 100 hrs. -65°C/30 min. ↔ +150°C/30 min., 5 cycles Rated Power x 6.25, 5 sec.	±(0.20%+0.01Ω) ±0.05% 0.05%	±0.005% ±0.005% ±0.005%
Solderability Resistance to Solvents	Steam Aging 8 hrs., 245°C, 5 sec. ● Isopropyl Alcohol + Mineral Spirits ● Water + Butyl Cellosolve + Monoethanolamine	over 95% coverage no damage	over 95% coverage no damage
Low Temperature Storage Low Temperature Operation Terminal Strength	-65°C, 24 hrs. -65°C, Rated Voltage, 45 min. 0.908 kg (2 pounds), 10 sec.	±0.05% ±0.05% ±0.02%	±0.0025% ±0.0025% ±0.0025%
Dielectric Withstanding Voltage Insulation Resistance Resistance to Soldering Heat Moisture Resistance	Atmo.Pres.: 300V rms. Baro. Pres. 8 mHg: 200V rms. DC 100V, 2 min. +260°C, 10 sec. +65°C to -10°C, 90% RH to 98% RH, Rated Voltage, 10 cycles (240 hrs.)	±0.02% over 10,000MΩ ±0.02% ±0.05%	±0.0025% over 10,000MΩ ±0.0025% ±0.01%
Life	125°C, Rated Voltage, 1.5 hr. – ON, 0.5 hr. – OFF, 2,000 hrs.	±0.05%	±0.01%
Life 70°C (Rated Power x2)	70°C, Rated Voltage x 2, 1.5 hr. – ON, 0.5 hr. – OFF, 2,000 hrs	±0.05%	±0.01%
High Temperature Exposure	175°C, No Load, 2,000 hrs.	±0.05%	±0.01%
Storage Life	15°C to 35°C, 15% RH to 75% RH, No Load, 10,000 hrs.	±0.005%	±0.0025%



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