

Data Sheet for Precision Resistor

Metal Foil Resistor

Series MFL



- Very good long term stability
- Resistance range from 10Ω..200kΩ
- Resistance tolerance up to 0.05%
- Temperature coefficient up to ± 2.5 ppm/°C
- Low current noise

Electrical Specification	MFL 501	MFL 502	MFL 503
Resistance range	10Ω..100kΩ	10Ω..150kΩ	10Ω..200kΩ
Resistance tolerance	$\pm 0,05\%.. \pm 0.1\%$		
Power rating @ 70°C (0W @ +155°C)	0.125W	0.25W	
Max. working voltage	250V	300V	
TCR-rate	± 2.5 ppm/°C, ± 5 ppm/°C		
Working temperature range (max.)	-25 °C up to +125 °C (-25..+155°C)		

Mechanical Specification	
Resistance technology / material	Metal foil
Housing material	Epoxy moulded
Connections	Radial cooper tinned

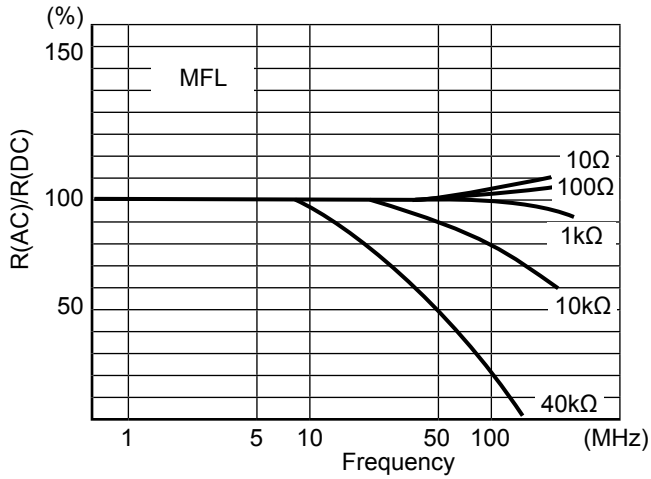
Parameters	Test Conditions	Specification
Short time overload	2.5 x rated power, 5 sec.	$\Delta R \pm 0.0025\%$
Life span (biased)	70°C, rated power, 90 min. on 30 min. off, 1000 h	$\Delta R \pm 0.01\%$
High temperature / humidity	+65°C..-10°C, 90..98% RH rated voltage, 10 cycles, 240h	$\Delta R \pm 0.015\%$
Temperature shock	-25 °C (30 min.), +25°C (5 min.), +155 °C (30 min), 5 cycles	$\Delta R \pm 0.01\%$
High temperature exposure	+155 °C, no load 1000 h	$\Delta R \pm 0.01\%$
Solderability	235°C, 2 sec.	Coverage > 75%
Resistance to soldering heat	350°C, 3 sec.	$\Delta R \pm 0.0025\%$
Isolation resistance	100 VDC, 1 min.	>10000MΩ
Dielectric strength	Atmo. Pres.: 300 VAC, 1 min.	$\Delta R \pm 0.0025\%$
Shock	50G, 11 ms, halfsine, X, Y, Z each 3 shocks	$\Delta R \pm 0.005\%$
Vibration	20G, 10Hz to 55Hz to 10Hz, 1 min. X, Y, Z each 2 h	$\Delta R \pm 0.005\%$
Current noise		-42 dB

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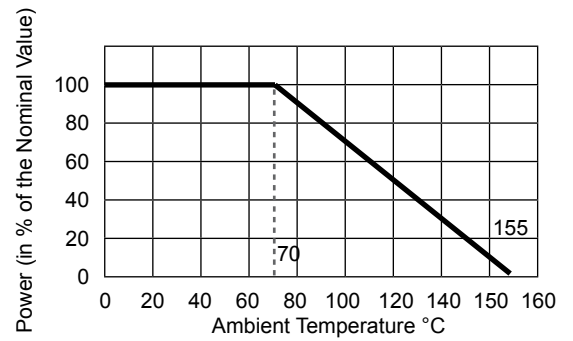
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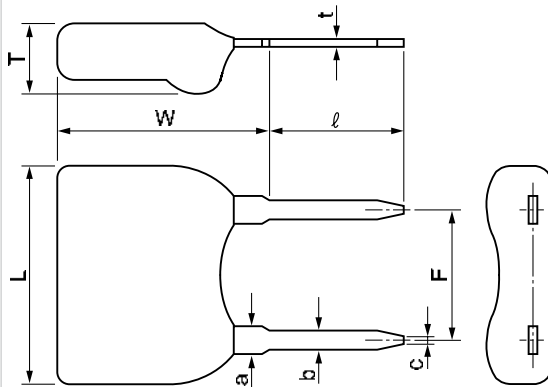
Frequency Characteristics



Power Derating Curve



Drawing



Type	MFL 501	MFL 502	MFL 503
L	5.6±0.5		7.5±0.5
W	6.2±0.5	8.2±0.5	6.2±0.5
T	2.2±0.5		
F	2.54±0.25		5.08±0.25
l	5±1		
t	0.3±0.05		
a	1.0±0.05		
b	0.65±0.05		
c	0.4±0.05		

Dimensions in mm

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Order code					
Description	Selection: standard=black/bold , possible <i>options=grey/italic</i>				
Series:	MFL				
Type / size: 501 (max. 100kΩ) 502 (max. 150kΩ) 503 (max. 200kΩ)		501 502 503			
Resistance tolerance: ±1% @ R = 10..30Ω ±0.5% @ R = 10..100Ω ±0.1% @ R = 30..max.Ω ±0.05% @ R = 100..max.Ω <i>Option only 503 ±0.1 @ R = 30Ω...200kΩ</i> <i>Option only 503 ±0.05 @ R = 30Ω...200kΩ</i> <i>Option only 503 ±0.02 @ R = 30Ω...200kΩ</i> <i>Option only 503 ±0.01 @ R = 100Ω...200kΩ</i>			W1% W0,5% W0,1% W0,05% <i>W0,1%</i> <i>W0,05%</i> <i>W0,02%</i> <i>W0,01%</i>		
Temperature coefficient: ±2.5ppm/°C ±5ppm/°C				TK2,5 TK5	
Resistance value - please choose: From 10Ω to ≤ see type					xxxxxxx

Order Example	Series	Type	Resistance tolerance	Temperature coefficient	Resistance value
Choice	MFL	501	±0.1%	5ppm/°C	10.1kΩ
Code	MFL	501	W0.1%	TK5	10k100