

# 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	±0,05%..±0,1%		
Power rating @ 70°C (0W @ +155°C)	0,125W	0,25W	
Max. working voltage	250V	300V	
TCR-rate	±2,5ppm/°C, ±5ppm/°C		
Working temperature range (max.)	-25..+125°C (-25..+155°C)		

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

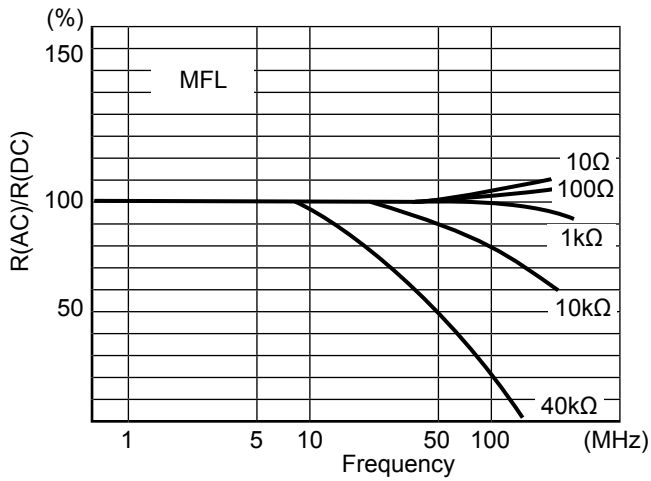
Parameters	Test Conditions	Specification
Short time overload	6,25 x rated power, 5 sec.	ΔR ±0,0025%
Life span (biased)	70°C, rated power, 90 min. on 30 min. off, 1000 h	ΔR ±0,01%
High temperature / humidity	+65°C..-10°C, 90..98% RH rated voltage, 10 cycles, 240h	ΔR ±0,015%
Temperature shock	-25°C (30 min.), +25°C (5 min.), +155°C (30 min), 5 cycles	ΔR ±0,01%
High temperature exposure	+155°C, no load 1000 h	ΔR ±0,01%
Solderability	235°C, 2 sec.	Coverage > 75%
Resistance to soldering heat	350°C, 3 sec.	ΔR ±0,0025%
Isolation resistance	100 VDC, 1 min.	>10000MΩ
Dielectric strength	Atmo. Pres.: 300 VAC, 1 min.	ΔR ±0,0025%
Shock	50G, 11 ms, halfsine, X, Y, Z each 3 shocks	ΔR ±0,005%
Vibration	20G, 10Hz zu 55Hz zu 10Hz, 1 min. X, Y, Z each 2 h	ΔR ±0,005%
Current noise		-42 dB

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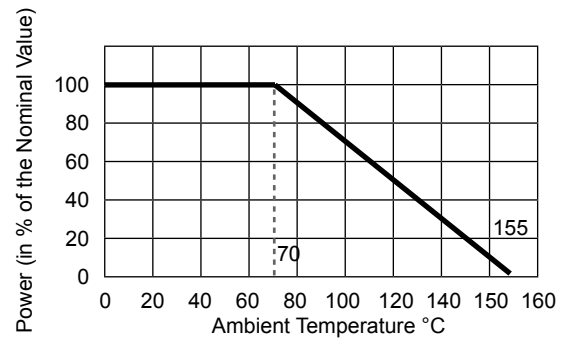
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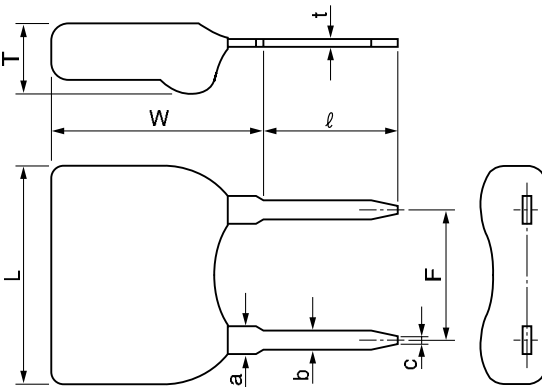
## Frequency Characteristics



## Power Derating Curve



## Technical 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 options=grey/cursive			
<b>Series:</b>	<b>MFL</b>				
<b>Type / size:</b> 501 (max. 100kΩ) 502 (max. 150kΩ) 503 (max. 200kΩ)		<b>501</b> <b>502</b> <b>503</b>			
<b>Resistance tolerance:</b> ±1% @ R = 10..30Ω ±0,5% @ R = 10..100Ω ±0,1% @ R = 30..max.Ω ±0,05% @ R = 100..max.Ω <i>Option nur 503 ±0,1 @ R = 30Ω..max.Ω</i> <i>Option nur 503 ±0,05 @ R = 30Ω..max.Ω</i> <i>Option nur 503 ±0,02 @ R = 30Ω..max.Ω</i> <i>Option nur 503 ±0,01 @ R = 100Ω..max.Ω</i>			<b>W1%</b> <b>W0,5%</b> <b>W0,1%</b> <b>W0,05%</b> <i>W0,1%</i> <i>W0,05%</i> <i>W0,02%</i> <i>W0,01%</i>		
<b>Temperature coefficient:</b> ±2,5ppm/°C ±5ppm/°C				<b>TK2,5</b> <b>TK5</b>	
<b>Resistance value - please choose:</b> From 10Ω to ≤ see type					<b>xxxkxxx</b>

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