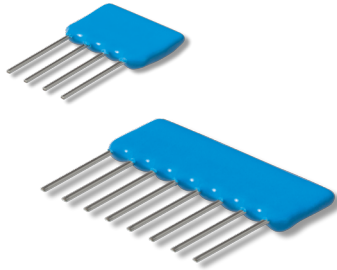


Precision Resistors

Resistor Network

Series MSE



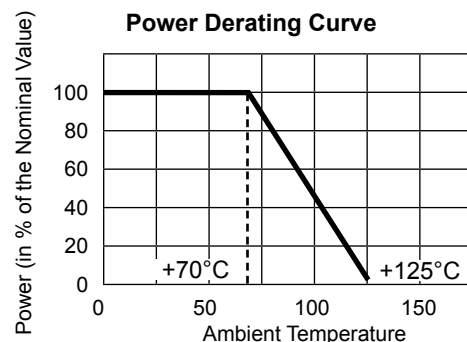
- Up to 10 Resistive Elements / 11 Pin
- Any Resistance from 30Ω to 120kΩ
- Standard TCR from ±5 ppm/K
- Tolerance from 0,01%, Matching from 0,01%
- Rugged Epoxy Housing
- Low Inductive, Low Current Noise

Specification

Resistance Range	30Ω - 120kΩ (max. Total Resistance ≤600kΩ)		
Power	1Watt Total Resistance		
Tolerances	Absolute		Matching
	30Ω - 120kΩ	±0,05%, ±0,1%, ±0,5%, ±1%	±0,01%, ±0,02%, ±0,05%, ±0,1%, ±0,5%, ±1%
Temperature Coefficient	Absolute		Tracking
	0 ±5ppm/K		1 < Rmax./Rmin. ≤10 ±1ppm/K
			10 < Rmax./Rmin. ≤100 ±2ppm/K
			Rmax./Rmin. >100 ±3ppm/K
Operating Temperature Range	-55°C bis 150°C		
Insulation Resistance	>10 GOhm		

Mechanical Data

Housing	Epoxy - Dipped
Resistance Element	NiCr - Foil
Carrier	Steatit
Leads	Copper, Tin Plated



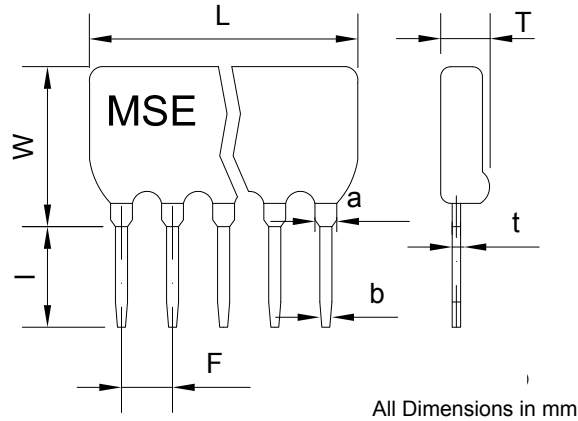
Parameter	Test	Δ Ratio	ΔR
Load Life	90 min ON, 30 min OFF, 1000h at 70°C	±0,05%	±0,1%
Overload	2,5 x Related Voltage, 5 Seconds	±0,01%	±0,05%
Humidity	90 - 98% RH, Related Voltage, 240h, at 40°C	±0,05%	±0,1%
Thermal Shock	-55°C 30 min, +155°C 30min. 5 Cycles	±0,01%	±0,05%
Vibration	20G, 10Hz - 55Hz - 10Hz, X,Y,Z je 1 min, 2h	±0,01%	±0,03%
Shock	100G, 6ms, Saw Tooth, X,Y,Z je 6 Shocks	±0,01%	±0,03%
Soldering Heat Resistance	350°C ±5°C, 3 Seconds	±0,01%	±0,03%
Solderability	245°C ±5°C 5 Seconds	Coverage >95%	
Storage Life	15°C bis 35°C, 15 - 75% RH, load free, 10000h	±0,01%	±0,03%

Precision Resistors

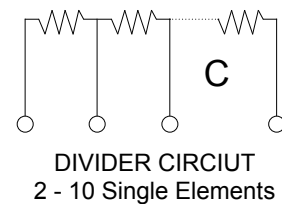
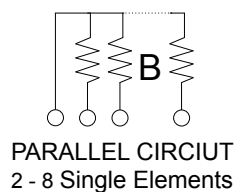
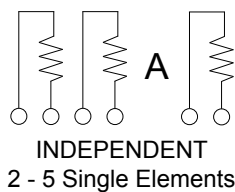
Resistor Network

Series MSE

Technical Drawing



Layout- / Circuit Layouts



As an option the networks in parallel and divider circuit can be divided into 2 independently, electrically isolated circuits. Note: maximum number of pins in parallel circuits is 10 and in divider circuit 11. Please send your circuit layout together with your inquiry.

Ordering Information

MSE Type	WA0,1% Tolerance (absolute)	WM0,1% Tolerance (matching)	TK5 Temp.- Coefficient (absolute)	10k/10k Resistance Value	A Layout
	±0,05%, ±0,1%, ±0,5%, ±1%	±0,01%, ±0,02%, ±0,05%, ±0,1%, ±0,5%, ±1%	±5ppm	(30Ω - 120kΩ) The total resistance must not exceed 120kΩ!	A - Array B - Parallel Circuit C - Divider Circuit