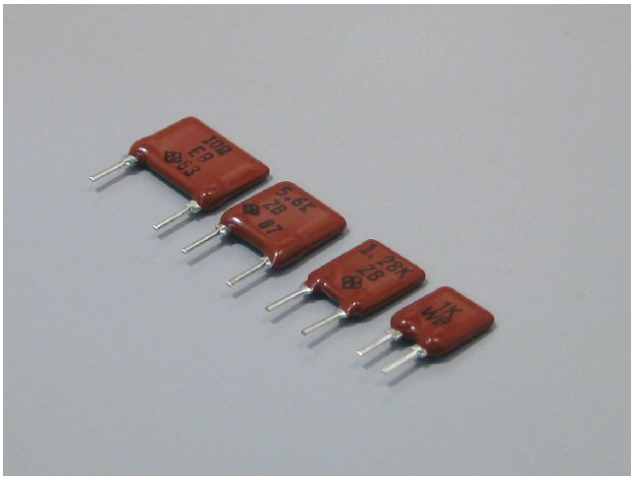


1/4W, Precision Thin Film Resistors

100mil-150mil-200mil-300mil-400mil pitch

RP-48, RP-47, RP-46, RP-45, RP-43

Features and Applications

High precision thin film resistors, typically 2.5ppm/°C TC and 0.05% tolerance made by Ni-Cr alloy spattered on alumina substrate, also 5ppm/°C and 0.05% is standard.

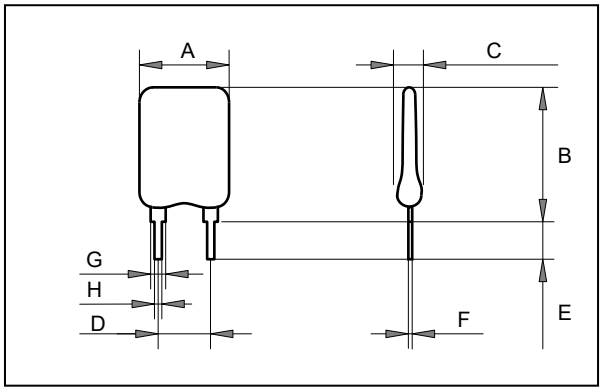
Wide operation temperature range covered from -55 to 125°C and absolutely linear (not bent) proportional dR vs. dT characteristics in the temperature range.

Sufficient rating power, long-term stability, low current noise, low voltage coefficient and low thermal EMF are provided.

Easy to install on precision electronics by leaded style, shorter delivery than another type precision resistors, free from matching and tracking calculation and economical.

Fit for discrete voltage divider and common analog circuit of professional audio, sensor pre-amplifier, industrial measurement, control, medical electronics, ATE, aerospace, reliable power electronics.

Dimension (mm)



(mm)	RP48	RP47	RP46	RP45	RP43
A	5.6max	6.8max	8.0max	10.16max	13.50max
B	8.2max	8.6max	9.0max	9.0max	9.0max
C	2.54max	2.54max	2.54max	2.54max	2.54max
D	2.54+/-0.25	3.81+/-0.25	5.08+/-0.25	7.62+/-0.25	10.16+/-0.25
E	3.3+/-0.5	3.3+/-0.5	3.3+/-0.5	3.3+/-0.5	3.3+/-0.5
F	0.25	0.25	0.25	0.25	0.25
G	1.2	1.2	1.2	1.2	1.2
H	0.5+/-0.05	0.5+/-0.05	0.5+/-0.05	0.5+/-0.05	0.5+/-0.05

Ordering Information

Type	TCR	Resistance	Tolerance	Option Code	Note
RP-46	W	2.61Kohm	A	Z00	Terminal pitch
RP-43	W (2.5ppm/°C)	See table	A(0.05%)	Z00 bulk	RP-43(10.16mm)
RP-45	Z (5.0ppm/°C)		B(0.10%)		RP-45(7.62mm)
RP-46	N (10ppm/°C)		D(0.25%)		RP-46(5.08mm)
RP-47	E (25ppm/°C)				RP-47(3.81mm)
RP-48					RP-48(2.54mm)

Y (2ppm/°C), Q(0.02%) or T(0.01%) are optionally available.

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1/4W, Precision Thin Film Resistors RP-48, RP-47, RP-46, RP-45, RP-43

Specifications

Type	RP48, RP47					Notes
Resistance Range (Ω)	100-20K	100-150K	100-150 K	50-150K	10-150K	
Absolute TCR (+/-ppm/C)	1(X)(*)	2(Y), 2.5(W)	5(Z)	10(N)	25(E)	-55 to +125°C
Absolute Tolerance (+/-%)	0.01(T)(*)	0.02(Q)	0.05(A)	0.1(B)	0.1(B)	-55 to +125°C
Standard Resistance	E96** and E24**, include 2.5 and 5.0 / any resistance value*					
Rating Power (Watts)	0.25W					-55 to+70°C
Max Working Voltages (V)	$\sqrt{P \cdot R}$					

Type	RP46, RP45, RP43					Notes
Resistance Range (Ω)	100-20K	100-150K	100-150 K	50-510K	10-1M	
Absolute TCR (+/-ppm/C)	1(X)(*)	2(Y), 2.5(W)	5(Z)	10(N)	25(E)	-55 to +125°C
Absolute Tolerance (+/-%)	0.01(T)(*)	0.02(Q)	0.05(A)	0.1(B)	0.1(B)	-55 to +125°C
Standard Resistance	E96** and E24**, include 2.5 and 5.0 / any resistance value*					
Rating Power (Watts)	0.25W					-55 to+70 °C
Max Working Voltages (V)	$\sqrt{P \cdot R}$					

(*) Precision resistor, tighter than 2ppm/°C - 0.02% is optionally supplied with additional / unstable lead-time.

(**) 4 or more significant resistance and odd resistance, please call factory about printing method.

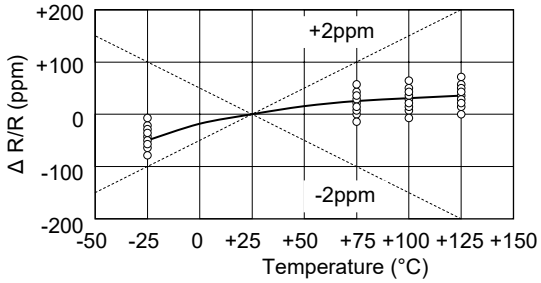
Performances

	Specification	Conditions and Note
Noise	< -45dB	
Voltage Coefficient	< 0.1ppm/V	THD at rating power < -140dB
Thermal EMF	0.05 uV/°C	
Temperature Cycle	+/-0.05%	-55 deg C30min, +120 deg C30min, 20cycles.
Short Time Over Load	+/-0.05%	Rating Power×2.5, 5seconds
Solder ability	Covered 95%	235 °C, 2seconds
Solvent	No damage	IPA test
Terminal Strength	+/-0.05%	
Withstanding Voltage	+/-0.03%	Old JIS C 5202 5.7. 500V-60seconds
Soldering Heat	+/-0.03%	350°C, 3seconds.
Vibration	Not specified	
Load Life	+/-0.05%	1000 hours
Humidity	+/-0.05%	1000 hours
Shelf Life Stability	+/-0.03%	One year at 25 °C
Operating Temp	-55 to +125°C	
Storage Temp. Range	-55 to +125°C	

TCR and Tolerance

TCR and Symbols		Tolerance and Symbols	
X	+/-1 ppm/°C	T	+/-0.01%
Y	+/-2 ppm/°C	Q	+/-0.02%
W	+/-2.5 ppm/°C	A	+/-0.05%
Z	+/-5 ppm/°C	B	+/-0.10%
E	+/-25 ppm/°C	B	+/-0.10%
C	+/-50 ppm/°C	F	+/-1.00%

Typical temperature depend



Resistance Value, E24+

1.0	1.1	1.2	1.3	1.5	1.6	1.8	2.0	2.2	2.4	2.5	2.7	3.0
3.3	3.6	3.9	4.3	4.7	5.0	5.1	5.6	6.2	6.8	7.5	8.2	9.1

Resistance Value, E96

1.00	1.21	1.47	1.78	2.15	2.61	3.16	3.83	4.64	5.62	6.81	8.25
1.02	1.24	1.50	1.82	2.21	2.67	3.24	3.92	4.75	5.76	6.98	8.45
1.05	1.27	1.54	1.87	2.26	2.74	3.32	4.02	4.87	5.90	7.15	8.66
1.07	1.30	1.58	1.91	2.32	2.80	3.40	4.12	4.99	6.04	7.32	8.87
1.10	1.33	1.62	1.96	2.37	2.87	3.48	4.22	5.11	6.19	7.50	9.09
1.13	1.37	1.65	2.00	2.43	2.94	3.57	4.32	5.23	6.34	7.68	9.31
1.15	1.40	1.69	2.05	2.49	3.01	3.65	4.42	5.36	6.49	7.87	9.53
1.18	1.43	1.74	2.10	2.55	3.09	3.74	4.53	5.49	6.65	8.06	9.76

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