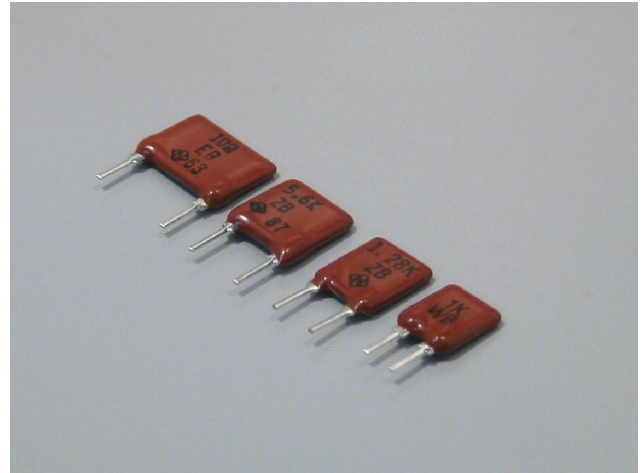


## 精密抵抗器 (1/4W)

1/4W, Precision Thin Film Resistors

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

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



### 特長 用途

世界最初の 1ppm/°Cクラスの直線的な抵抗温度係数の薄膜抵抗器。量子物性を追求した抵抗材料とプロセスで完成した超精密薄膜抵抗器。

標準性能は温度係数±2ppm/°C, 許容差±0.02%.

リードピッチ 2.54mm(RP-48), 3.81mm(RP-47),

5.08mm(RP-46), 7.62mm(RP-45)、定格電力 1/4W.

使用温度範囲-55°Cから+125°C.

長期安定性, 発生雑音, 電圧係数, 熱起電力など精密抵抗器に求められる特性をすべて備え, しかも優れた経済性と納期安定性. 製作抵抗値はE24+とE96.

工業計器, 半導体試験装置, 電子負荷装置, 計測器, 医用電子機器, 宇宙航空用電子機器などの

高精度分圧回路, オペアンプ帰還抵抗器, ADC 基準電源, その他のアナログ回路.

### Features and Applications

High precision thin film resistors, typically 2ppm/C TC made by Ni-Cr alloy sputtered on alumina substrate, also 5ppm/C and 0.05% is standard.

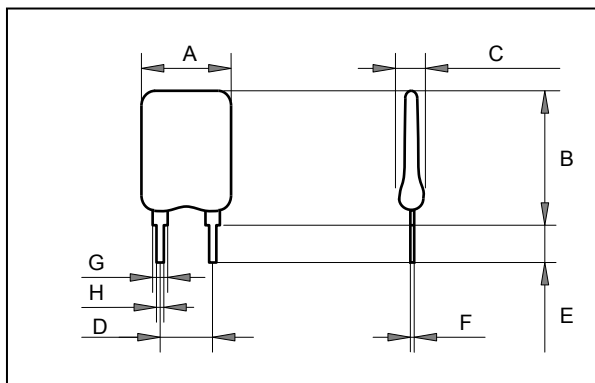
Wide operation temperature range covered from -55 to 125°C and absolutely linear (not bent) proportional dR vs. dT characteristics in the temperature range.

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.

### 寸法 Dimension (mm)



(mm)	RP48	RP47	RP46	RP45
A	5.6max	6.8max	8.0max	10.16max
B	8.2max	8.6max	9.0max	9.0max
C	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
E	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
G	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

### 形名称 Ordering Information

Type	TCR	Resistance	Tolerance	Option Code	Note
RP-46	W	2.61Kohm	A	Z00	Terminal pitch
RP-45	Y (2.0ppm/K)	See table	T(0.01%)	Z00 bulk	7.62mm
RP-46	W (2.5ppm/K)		Q(0.02%)		5.08mm
RP-47	Z (5.0ppm/K)		A(0.05%)		3.81mm
RP-48	N (10ppm/K)		B(0.10%)		2.54mm
	E (25ppm/K)		D(0.25%)		

精密抵抗器 (1/4W)

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

仕様 Specifications

形名	Type	RP48, RP47					Notes
抵抗値範囲	Resistance Range (Ω)	100-20K	100-150K	100-150 K	50-150K	10-150K	
抵抗温度係数	Absolute TCR (+/-ppm/C)	1(X)(*)	2(Y), 2.5(W)	5(Z)	10(N)	25(E)	-55 to +125°C
抵抗値許容差	Absolute Tolerance (+/-%)	0.01(T)(*)	0.02(Q)	0.05(A)	0.1(B)	0.1(B)	-55 to +125°C
製作抵抗値	Standard Resistance	E96** and E24**, include 2.5 and 5.0 / any resistance value*					
定格電力	Rating Power (Watts)	0.25W					-55 to +70°C
最高使用電圧	Max Working Voltages (V)	$\sqrt{P \cdot R}$					

形名	Type	RP46, RP45					Notes
抵抗値範囲	Resistance Range (Ω)	100-20K	100-150K	100-150 K	50-510K	10-1M	
抵抗温度係数	Absolute TCR (+/-ppm/C)	1(X)(*)	2(Y), 2.5(W)	5(Z)	10(N)	25(E)	-55 to +125°C
抵抗値許容差	Absolute Tolerance (+/-%)	0.01(T)(*)	0.02(Q)	0.05(A)	0.1(B)	0.1(B)	-55 to +125°C
製作抵抗値	Standard Resistance	E96** and E24**, include 2.5 and 5.0 / any resistance value*					
定格電力	Rating Power (Watts)	0.25W					-55 to +70 °C
最高使用電圧	Max Working Voltages (V)	$\sqrt{P \cdot R}$					

\* 有効数字が4桁以上の端数抵抗値については、表記方法等について工場に問合せください。\* 4 or more significant resistance and odd resistance, please call factory about printing method.

(\*) 精度1ppm/deg C-0.01%の抵抗器は、特殊品であって、個別データ付きで製品を供給します。

(\*) Resistor, 1ppm/deg C-0.01% is optionally supplied attached with data one by one.

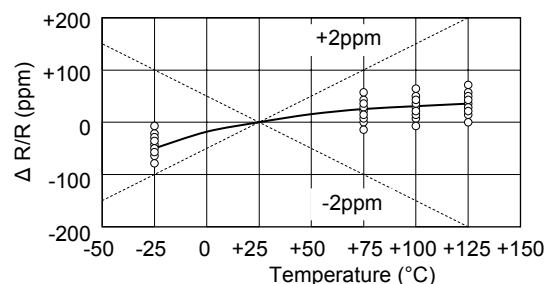
性能 Performances

Items	Specification	Conditions and Note
発生雑音	Noise	< -45dB
電圧係数	Voltage Coefficient	< 0.1ppm/V
熱起電力	Thermal EMF	0.05 μV/°C
熱衝撃	Temperature Cycle	+/-0.05%
短時間過負荷	Short Time Over Load	+/-0.05%
はんだ付け性	Solder ability	Covered 95%
耐溶剤性	Solvent	No damage
端子強度	Terminal Strength	+/-0.05%
絶縁耐電圧	Withstanding Voltage	+/-0.03%
はんだ耐熱性	Soldering Heat	+/-0.03%
耐振性	Vibration	Not specified
負荷寿命	Load Life	+/-0.05%
耐湿負荷寿命	Humidity	+/-0.05%
長期安定性	Shelf Life Stability	+/-0.03%
使用温度範囲	Operating Temp	-55 to +125 °C
保存温度範囲	Storage Temp. Range	-55 to +125°C

温度係数と許容差記号, TCR and Tolerance

TCR and Symbols		Tolerance and Symbols	
X	+/-1ppm/C	T	+/-0.01%
Y	+/-2ppm/C	Q	+/-0.02%
W	+/-2.5ppm/C	A	+/-0.05%
Z	+/-5ppm/C	B	+/-0.10%
E	+/-25ppm/C	B	+/-0.10%
C	+/-50ppm/C	F	+/-1.0%

代表的温度依存性, Typical temperature depend



製作抵抗値 E24+ 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

製作抵抗値 E96 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