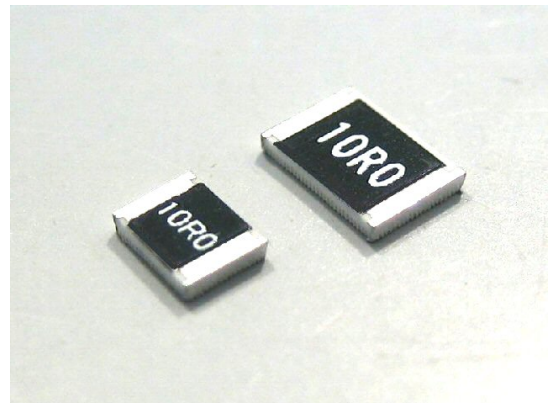


# 精密薄膜チップ抵抗器 (1/8W, 1/4W)

1/8W, 1/4W Precision Chip Resistors

NQA18, NQA14



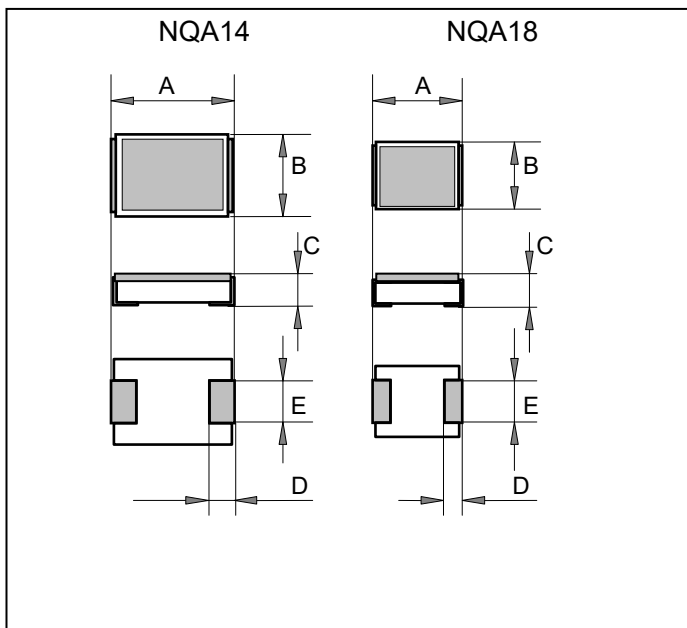
### 特長 用途

抵抗温度係数 5ppm/°C, 抵抗値許容差 0.05%を標準化した精密薄膜チップ抵抗器. 2.5 ppm/°C, 0.05%が製作可能(オプション)です.  
 ニッコームが誇る世界第一級の薄膜プロセスによる精密チップ抵抗器.  
 -55°Cから+155°Cまでの連続温度範囲が可能で特に高温域において優れたTC特性を示します.  
 安定性と精度を要求される計測器, 工業計器, 試験装置など.

### Features and Applications

Thin film precision chip resistor, 5 ppm/°C TCR and 0.05% tolerance is in standard.  
 2.5ppm/°C, 0.05% is available optionally.  
 Ni-Cr alloy thin film resistor, which is made by the advanced Nikkohm process deposited on alumina ceramic substrate and offer the features of long term stability and very low TCR.  
 Application includes Industrial measurement, control electronics and automatic test equipment.

### 寸法 Dimensional Specifications (mm)



	NQA18	NQA14
A	3.2+/-0.2	4.5+/-0.2
B	2.5+/-0.2	3.2+/-0.2
C	1.0max.	1.0max.
D	0.8+/-0.3	1.0+/-0.3
E	1.4+/-0.3	1.4+/-0.3

### 捺印 Marking

- (1) 抵抗器表面の捺印は IEC4 桁の数値で抵抗値を表す.
- (2) 形名, TCR, 抵抗値, 許容差, ロット記号, 製造者記号は包装表面に記載する.
- (1) Marking shall be done with a method of IEC 4digits notation on each resistors.
- (2) Type, TCR, resistance, tolerance, date-code manufacturer marking are print on surface of packaging.



### 形名呼称 Ordering Information

Type NQA14	TCR Z	Resistance 1131	Tolerance A	Code Z01	Note
NQA18	Z (5ppm/K)	E24+ & E96	A (0.05%)	Z01	Tape reel
NQA14		10-33kohm (2)			

注記: (1) この抵抗器は, テープリール梱包 (Z02)にて 2000 個から供給します.  
 (2) 抵抗値 10 ohm – 99 ohm は, TCR, 5ppm/K, 許容差, 0.1% にて供給できます.

Note: (1) Tape reel packing (2000pcs) and tape reel packing are available.  
 (2) TCR and tolerance will be 5ppm-0.1% in resistance 10ohm-99ohm

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1/8W, 1/4W Precision Chip Resistors.

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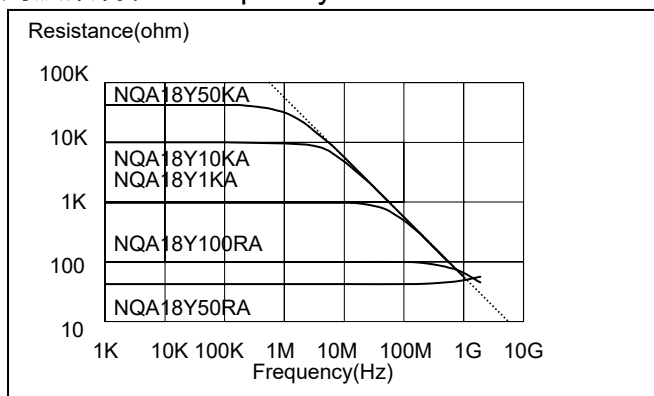
## 仕様 Specifications

Type		NQA18(1)(2)		NQA14(1)(2)	
抵抗値範囲	Resistance	10-33K	100-33K	10-62K	100-62K
温度係数	TCR	5ppm(Z)	5ppm(Z)	5ppm(Z)	5ppm(Z)
抵抗値許容差	Tolerance	0.1%(B)	0.05%(A)	0.1%(B)	0.05%(A)
公称抵抗値	Resistance Value	E24+, E96	E24+, E96	E24+, E96	E24+, E96
定格電力	Rating Powers	0.125W		0.25W	
最高使用電圧	Working Voltages	50VDC or $E = \sqrt{P \cdot R}$		100VDC or $E = \sqrt{P \cdot R}$	
使用温度範囲	Operating Temp.	-55 to +125 °C		-55 to +125 °C	
保存温度範囲	Storage Temp.	-55 to +125 °C		-55 to +125 °C	

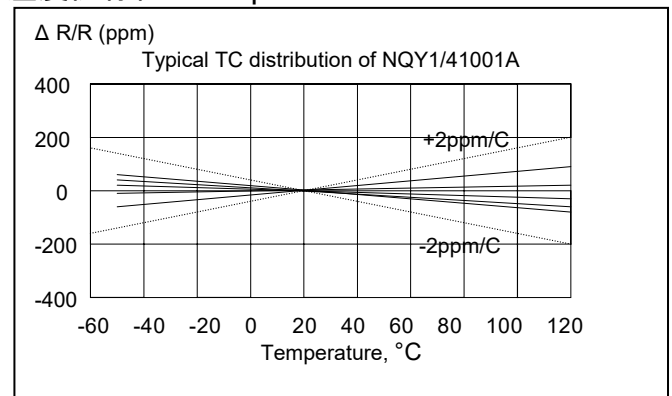
## 性能 Performances

項目	Term	NQA18	NQA14	条件 Conditions
短時間過負荷	Short Time Overload	+/- 0.05%	+/- 0.05%	2.5 times rated power, 5seconds.
絶縁耐電圧	Insulating Voltage	+/- 0.01%	+/- 0.01%	
絶縁耐電圧	Withstanding Voltage	+/- 0.01%	+/- 0.01%	
温度サイクル	Heat Shock	+/- 0.05%	+/- 0.05%	
耐振性	Vibration	+/- 0.01%	+/- 0.01%	
はんだ耐熱性	Soldering Heat	+/- 0.05%	+/- 0.05%	260 °C, 10+/-1seconds.
はんだ付性	Solder ability	---	---	
耐溶剤性	Solvent	---	---	
端子強度	Terminal Strength	+/- 0.05%	+/- 0.05%	
耐湿性	Humidity	+/- 0.05%	+/- 0.05%	40°C, 90-95 RH, DC0.1W, 1000hours
負荷寿命	Load Life	+/- 0.05%	+/- 0.05%	70°C, Rated Power, 90min ON, 30min OFF, 1000hours
熱起電力	Thermal EMF	---	---	
PCT	PCT	+/-0.05%	+/-0.05%	100H, Typical
長期安定性	Long Term Stability	+/-50ppm/year	+/-50ppm/year	Room Temperature, Typical

## 周波数特性 Frequency Characteristics



## 温度依存性 Temperature Characteristics



ご注意：この抵抗器をはんだ実装する場合は銀 3%を含有する SAC はんだを使ってください。低銀はんだをお使いになると銅拡散を生じ端子が断線することがあります

Note: When soldering this resistor, please use SAC solder containing 3% silver. If you use low silver solder, copper diffusion may occur and the terminals happen to break.

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抵抗温度係数と抵抗値許容差記号(参考) TCR and Tolerance Notation (for reference)

抵抗温度係数 TCR	
TCR	Symbols
+/- 1.0 ppm/C	X
+/- 2.0 ppm/C	Y
+/-2.5 ppm/C	W
+/- 5.0 ppm/C	Z
+/-10 ppm/C	N

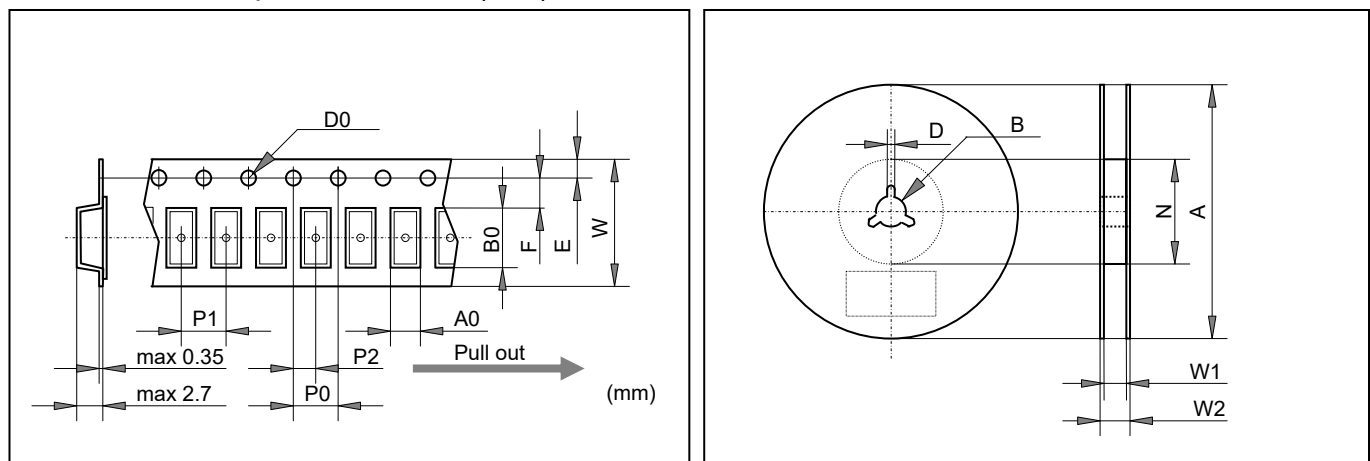
抵抗値許容差 Tolerance	
Tolerance	Symbols
+/- 0.01 %	T
+/- 0.02 %	Q
+/- 0.025 %	---
+/- 0.05 %	A
+/-0.10 %	B

標準抵抗値 Resistance Value, Standard

E24+ (includes 2.5 and 5.0)												
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

E96												
1.00	1.02	1.05	1.07	1.10	1.13	1.15	1.18	1.21	1.24	1.27	1.30	1.33
1.37	1.40	1.43	1.47	1.50	1.54	1.58	1.62	1.65	1.69	1.74	1.78	1.82
1.87	1.91	1.96	2.00	2.05	2.10	2.15	2.21	2.26	2.32	2.37	2.43	2.49
2.55	2.61	2.67	2.74	2.80	2.87	2.94	3.01	3.09	3.16	3.24	3.32	3.40
3.48	3.57	3.65	3.74	3.83	3.92	4.02	4.12	4.22	4.32	4.42	4.53	4.64
4.75	4.87	4.99	5.11	5.23	5.36	5.49	5.62	5.76	5.90	6.04	6.19	6.34
6.49	6.65	6.81	6.98	7.15	7.32	7.50	7.68	7.87	8.06	8.25	8.45	8.66
8.87	9.09	9.31	9.53	9.76								

テーピング寸法 Tape Dimensions (mm)



Tape (mm)

Type	A0	B0	W	F	E	P1	P2	P0	D0
NQA18	2.8+/-0.2	3.9+/-0.2	8.0+/-0.3	5.5+/- 005	1.75+/- 0.1	4.0+/- 0.1	2.0+/- 0.05	4.0+/- 0.1	D 1.5+/- 0.1
NQA14	3.45+/- 0.2	5.1+/- 0.2	8.0+/- 0.3	5.5+/- 005	1.75+/- 0.1	8.0+/- 0.1	2.0+/- 0.05	4.0+/- 0.1	D 1.5+/-0.1

Reel (mm)

Type	A	N	B	D	W1	W2	Qty/reel
NQA18	D 178+/- 0.2	Min .D 60	dia13+/- 0.5	2+/- 05	12.4+/- 2.0	Max.18.4	2000pcs
NQA14	D 254+/-0.2	Min. D 80	dia13+/- 0.5	2+/- 05	12.4+/- 2.0	Max.18.4	2000pcs