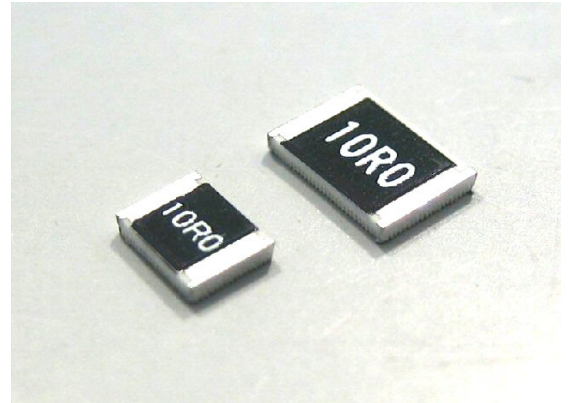


1/8W, 1/4W Precision Chip Resistors

NQA18, NQA14



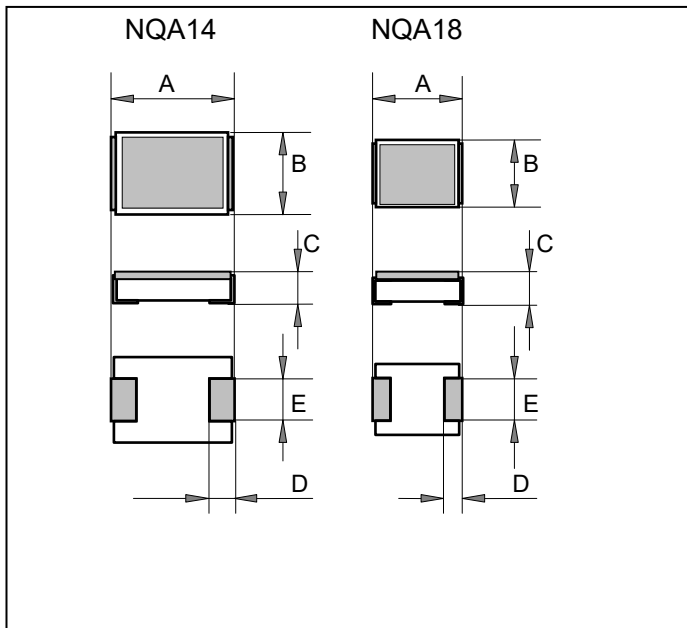
Features and Applications

Thin film precision chip resistor, 5ppm/deg C TCR and 0.05% tolerance is in standard.
2.5ppm/C, 0.05% is available.

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.

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

Marking

- (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.



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)			

Note: (1) Tape reel packing (2000pcs) only.

(2) TCR and tolerance will be 5ppm-0.1% in resistance 10ohm-99ohm

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

NQA18, NQA14

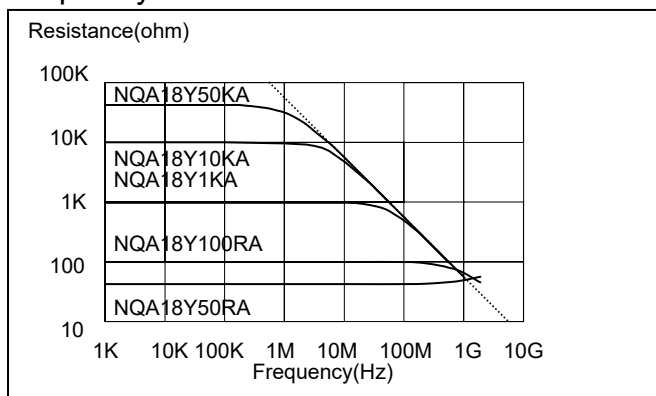
Specifications

Type	NQA18(1)(2)		NQA14(1)(2)	
Resistance	10 - 33K	100 - 33K	10 - 62K	100 - 62K
TCR	5ppm(Z)	5ppm(Z)	5ppm(Z)	5ppm(Z)
Tolerance	0.1%(B)	0.05%(A)	0.1%(B)	0.05%(A)
Resistance Value	E24+, E96	E24+, E96	E24+, E96	E24+, E96
Rating Powers	0.125W		0.25W	
Working Voltages	50VDC or $E = \sqrt{P \cdot R}$		100VDC or $E = \sqrt{P \cdot R}$	
Operating Temp.	-55 to +125 °C		-55 to +125 °C	
Storage Temp.	-55 to +125 °C		-55 to +125 °C	

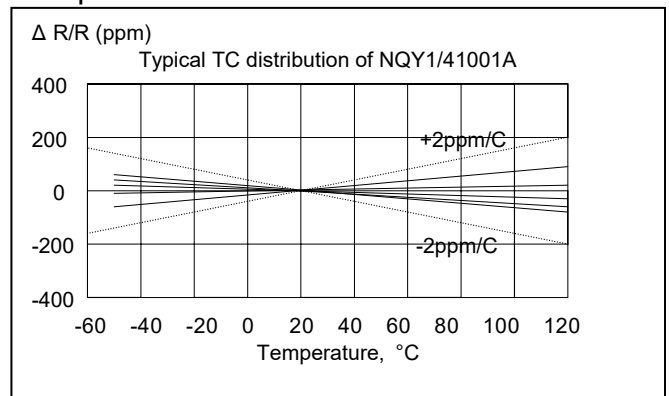
Performances

Term	NQA18	NQA14	Conditions
Short Time Overload	+/- 0.05%	+/- 0.05%	2.5 times rated power, 5seconds.
Insulating Voltage	+/- 0.01%	+/- 0.01%	
Withstanding Voltage	+/- 0.01%	+/- 0.01%	
Heat Shock	+/- 0.05%	+/- 0.05%	
Vibration	+/- 0.01%	+/- 0.01%	
Soldering Heat	+/- 0.05%	+/- 0.05%	260°C, 10+/-1seconds.
Solder ability	---	---	
Solvent	---	---	
Terminal Strength	+/- 0.05%	+/- 0.05%	
Humidity	+/- 0.05%	+/- 0.05%	40°C, 90-95RH, DC0.1W, 1000hours
Load Life	+/- 0.05%	+/- 0.05%	70°C, Rated Power, 90min ON, 30min OFF, 1000hours
Thermal EMF	---	---	
PCT	+/-0.05%	+/-0.05%	100H, Typical
Long Term Stability	+/-50ppm/year	+/-50ppm/year	Room Temperature, Typical

Frequency Characteristics



Temperature Characteristics



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.

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

NQA18, NQA14

TCR and Tolerance Notation (for reference only)

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

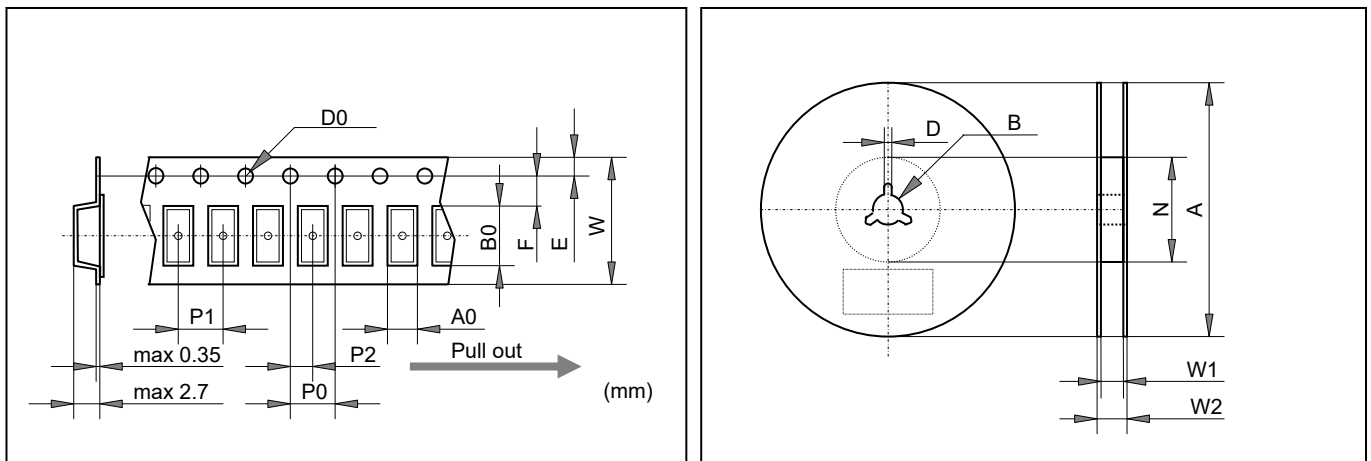
Tolerance	
Tolerance	Symbols
+/- 0.01 %	T
+/- 0.02 %	Q
+/- 0.025 %	---
+/- 0.05 %	A
+/-0.10 %	B

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								

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