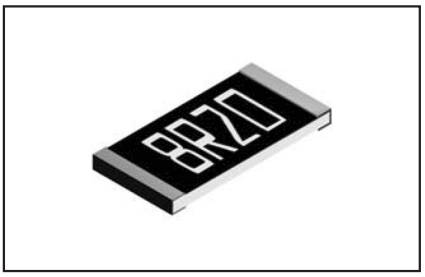
High Precision Chip Resistors

- Thin film passivated NiCr resistor
- Very tight tolerance from ±0.01%~1%
- Extremely low TCR from ±5~±50ppm/℃
- Wide R-value range 1Ω~3MΩ



GENERAL SPECIFICATIONS

Type \ Item	Power Rating at 70℃	Operating Temperature Range	Maximum Operating Voltage	Maximum Overload Voltage	Resistance Range ±0.05%	±0.1%	±0.25%	±0.5%	±1%	TCR (ppm/℃)
AR01 (0201)	1/32W	-55℃~+155℃	15V	30V				49.9Ω~4.99KΩ		±25
								49.9Ω~33KΩ		±50
AR02 (0402)	1/16W		25V	50V	49.9Ω~12KΩ	100Ω~205KΩ				±25
						10Ω~205KΩ		1Ω~205KΩ		±50
AR03 (0603)	1/16W		50V	100V	4.7Ω~332KΩ	4.7Ω~1MΩ	2Ω~1MΩ			±25
							1Ω~1MΩ			±50
AR05 (0805)	1/10W		100V	200V	4.7Ω~511KΩ	4.7Ω~2MΩ	1Ω~2MΩ			±25 ±50
AR06 (1206)	1/8W		150V	300V	4.7Ω~1MΩ	4.7Ω~2.49MΩ	1Ω~2.49MΩ			±25
AR13 (1210)	1/4W									±50
AR10 (2010)	1/4W		150V	300V	4.7Ω~1MΩ	4.7Ω~3MΩ	1Ω~3MΩ			±25
AR12 (2512)	1/2W									±50

Operating Voltage: $\sqrt{P*R}$ or maximum operating voltage listed above, whichever is lower

Overload Voltage: $2.5*\sqrt{P*R}$ or maximum overload voltage listed above, whichever is lower.

■ Optional specifications are also available.

■ Lower Resistance: 1~10Ω

CHARACTERISTICS

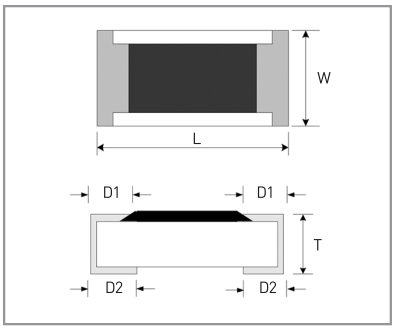
Test	Specification Tol.≤0.05%	Tol.＞0.05%	Test Method
Temperature Coefficient	As Spec.		+25/-55/+25/+125/+25℃
Operating Temperature Range			-55℃~+155℃
Short Time Overload	△R±0.05%	△R±0.2%	RCWV×2.5 or maximum overload voltage for 5seconds
	△R±0.2% for high power rating		
Dielectric Withstand Voltage	By Type		Apply maximum overload voltage for 1minute
Insulation Resistance	＞1000MΩ		Apply 100VDC for 1minute
Thermal Shock	△R±0.05%	△R±0.25%	-55℃~+150℃, 100Cycles
Load Life	△R±0.05%	△R±0.2%	70±2℃, Maximum Working voltage for 1000hours with 1.5hours "ON" and 0.5hours "OFF"
	＞7KΩ △R±0.5%		
	△R±0.5% for high power rating		
Damp Heat with Load	△R±0.05%	△R±0.3%	40±2℃, 90~95%, Maximum working voltage for 1000hours with 1.5hours "ON" and 0.5hours "OFF"
	△R±0.5% for high power rating		
Low Temperature Operation	△R±0.05%	△R±0.2%	1 hours, -65℃, followed by 45 minutes of RCWV
	△R±0.5% for high power rating		
Bending Strength	△R±0.05%	△R±0.2%	Bending amplitude 3mm for 10seconds
Solderability	95% coverage minimum		245±5℃, 3seconds
Resistance to Soldering Heat	△R±0.05%	△R±0.2%	260±5℃, 10±1 seconds

* Storage Temperature: 25±3℃, Humidity < 80% RH

* Reference Standards: MIL-STD-202, JIS-C 5201-1

DIMENSIONS [mm]

Model	Size (inch)	Dimensions [mm]				
		L	W	T	D1	D2
AR01	0201	0.58±0.05	0.29±0.05	0.23±0.05	0.21±0.05	0.15±0.05
AR02	0402	1.00±0.05	0.50±0.05	0.30±0.05	0.20±0.10	0.20±0.10
AR03	0603	1.55±0.10	0.80±0.10	0.45±0.10	0.30±0.20	0.30±0.20
AR05	0805	2.00±0.15	1.25±0.15	0.55±0.10	0.30±0.20	0.40±0.25
AR06	1206	3.05±0.15	1.55±0.15	0.55±0.10	0.42±0.20	0.35±0.25
AR13	1210	3.10±0.15	2.40±0.15	0.55±0.10	0.40±0.20	0.55±0.25
AR10	2010	4.90±0.15	2.40±0.15	0.55±0.10	0.60±0.30	0.50±0.25
AR12	2512	6.30±0.15	3.10±0.15	0.55±0.10	0.60±0.30	0.50±0.25

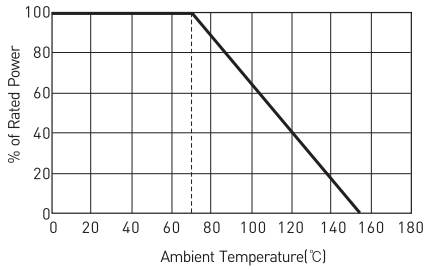


SPECIAL SPECIFICATIONS

Model	Power Rating At 70℃	Operating Temp. Range	Max Operating Voltage	Max Overloading Voltage	Resistance Range			TCR (ppm/℃)
					±0.01%	±0.05%	±0.1%	
AR02 (0402)	1/16W	-55℃ ~ +155℃	25V	50V		49.9Ω~4.99KΩ		±5
						49.9Ω~12KΩ		±10
					49.9Ω~12KΩ		49.9Ω~69.8KΩ	±15
AR03 (0603)	1/16W		50V	100V		24.9Ω~15KΩ		±5
					24.9Ω~100KΩ	4.7Ω~332KΩ		±10, ±15
AR05 (0805)	1/10W		100V	200V		24.9Ω~30KΩ		±5
					24.9Ω~200KΩ	4.7Ω~411KΩ		±10, ±15
AR06 (1206)	1/8W		150V	300V		24.9Ω~49.9KΩ		±5
					24.9Ω~499KΩ	4.7Ω~1MΩ		±10, ±15
AR13 (1210)	1/4W		150V	300V		24.9Ω~49.9KΩ		±5
					24.9Ω~499KΩ	4.7Ω~1MΩ		±10, ±15
AR10 (2010)	1/4W		150V	300V		24.9Ω~100KΩ		±5
					24.9Ω~499KΩ	4.7Ω~1MΩ		±10, ±15
AR12 (2512)	1/2W		150V	300V		24.9Ω~100KΩ		±5
					24.9Ω~499KΩ	4.7Ω~1MΩ		±10, ±15

Operating Voltage: $\sqrt{P*R}$ or maximum operating voltage listed above, whichever is lower
Overload Volatge: $2.5*\sqrt{P*R}$ or maximum overload voltage listed above, whichever is lower.

DERATING CURVE



ORDERING PROCEDURE EXAMPLE

AR 12 | C | T | N | T | 1001 | N

Model #
AR01: 0201
AR02: 0420
AR03: 0603
AR05: 0805
AR06: 1206
AR13: 1210
AR10: 2010
AR12: 2512

Resistance Tolerance
T: ±0.01%
A: ±0.05%
B: ±0.10%
C: ±0.25%
D: ±0.50%
F: ±1.0%

Packaging
T: Taping Reel
B: Bulk

TCR
S: ±5ppm/℃
B: ±10ppm/℃
N: ±15ppm/℃
C: ±25ppm/℃
D: ±50ppm/℃

Power Rating None=Standard/Special
T: 1W
Q: 3/4W
U: 1/2W
O: 1/3W
V: 1/4W
P: 1/5W
M: 1/6W
W: 1/8W
X: 1/10W
Y: 1/16W

Resistance
0010: 1Ω
4R70: 4.7Ω
1001: 1KΩ
1004: 1MΩ

Marking
None=Standard Marking for E96/E24
N: No Marking

RECOMMENDED LAND PATTERN [mm]

Model	Dimension [mm]		
	A	B	C
AR01	0.25	0.30	0.40±0.2
AR02	0.50	0.50	0.60±0.2
AR03	0.80	1.00	0.90±0.2
AR05	1.00	1.00	1.35±0.2
AR06	2.00	1.15	1.70±0.2
AR10	3.60	1.40	2.50±0.2
AR12	4.90	1.60	3.10±0.2
AR13	2.00	1.15	2.56±0.2

