

# HIGH PRECISION CHIP RESISTOR – AR



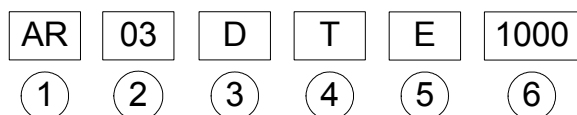
## Features

- Tolerance from  $\pm 0.1\%$ ~ $0.5\%$
- Thin film TaN & Ni/Cr Resistor
- TCR from  $\pm 25\text{ppm}$ ~ $\pm 50\text{ppm}$  for thin film chip R

## Applications

- Medical equipment
- Measurement instrument
- Communication devices
- Converters
- Printer equipment
- Consumer

## Part Numbering



### ① Product Type

Product Type	
AR	High Precision Chip Resistor

### ② Dimensions (LxW)

Codes	Dimensions (LxW)	EIA
06	3.1x1.55mm	1206
05	2.0x1.25mm	0805
03	1.6x0.8mm	0603
02	1.0x0.5mm	0402

### ③ Resistance Tolerance

Codes	Resistance Tolerance
B	$\pm 0.1\%$
C	$\pm 0.25\%$
D	$\pm 0.5\%$

### ④ Packaging

Code	Type
T	Taping Reel

\* Viking has the ability to manufacture following options based on customer's requirement.

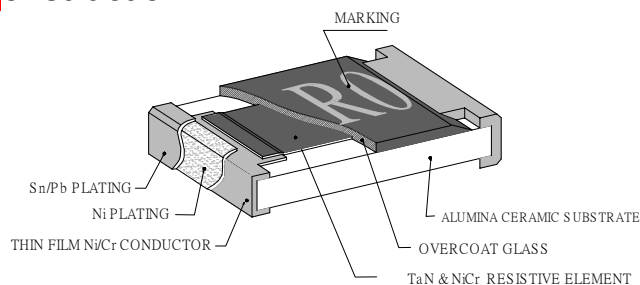
Tighter tolerance:  $\pm 0.05\%$ ,  $\pm 0.01\%$ ;

Resistance: 1~10 $\Omega$ ;

TCR  $\leq 25\text{ppm}$ ;

Other size.

## Construction



### ⑤ TCR

Code	Type
C	$\pm 25\text{ppm}$
D	$\pm 50\text{ppm}$

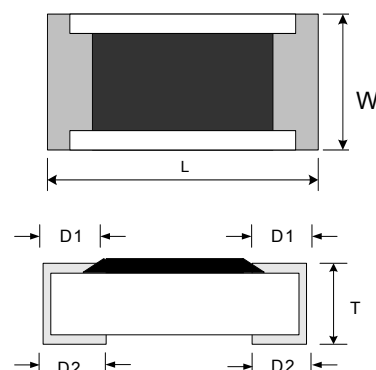
### ⑥ Resistance

Code	Type
1000	100 $\Omega$
2201	2200 $\Omega$
1002	10000 $\Omega$
4992	49900 $\Omega$
1003	100000 $\Omega$

## Dimensions

Unit: mm

SIZE	STYLE	L	W	T	D1	D2
1206	AR06	3.1 $\pm 0.1$	1.6 $\pm 0.1$	0.55 $\pm 0.1$	0.45 $\pm 0.2$	0.4 $\pm 0.2$
0805	AR05	2.0 $\pm 0.15$	1.25 $\pm 0.15$	0.50 $\pm 0.1$	0.35 $\pm 0.2$	0.4 $\pm 0.2$
0603	AR03	1.6 $\pm 0.1$	0.8 $\pm 0.1$	0.45 $\pm 0.1$	0.3 $\pm 0.2$	0.3 $\pm 0.2$
0402	AR02	1.0 $\pm 0.05$	0.5 $\pm 0.05$	0.35 $\pm 0.05$	0.25 $\pm 0.1$	0.2 $\pm 0.1$



**S** Standard electrical specifications

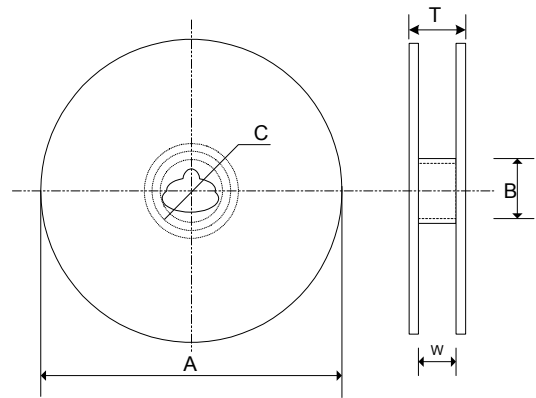
Item Type	Power Rating	Operating Temp. Range	Max Operating Voltage	Max Overloading Voltage	Resistance Tolerance	Resistance Range	TCR
AR06	1/8W	-55 ~ +125°C	150V	300V	±0.1% ±0.25% ±0.5%	10Ω~1MΩ	±25 ±50
AR05	1/10W	-55 ~ +125°C	100V	150V	±0.1% ±0.25% ±0.5%	10Ω~1MΩ	±25 ±50
AR03	1/16W	-55 ~ +125°C	75V	100V	±0.1% ±0.25% ±0.5%	10Ω~332KΩ	±25 ±50
AR02	1/16W	-55 ~ +125°C	25V	75V	±0.1% ±0.25% ±0.5%	10Ω~100KΩ	±25 ±50

**P**ackaging

Packaging Quantity

Unit: pcs

Packaging Series	Paper Tape
AR06	5,000
AR05	5,000
AR03	5,000
AR02	10,000

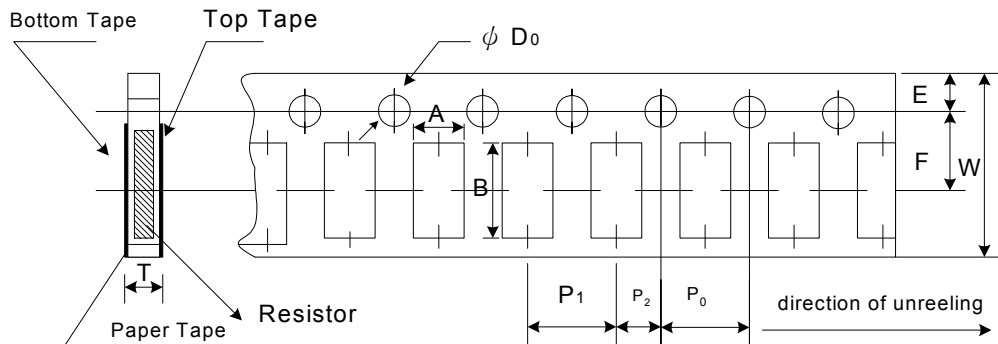


Reel Specifications

Unit: mm

Series	ΦA	ΦB	ΦC	W	T
AR06	180 <sup>+0</sup> <sub>-3</sub>	60min.	13.0±1.0	9.0±1.0	11.4±2.0
AR05	180 <sup>+0</sup> <sub>-3</sub>	60min.	13.0±1.0	9.0±1.0	11.4±2.0
AR03	180 <sup>+0</sup> <sub>-3</sub>	60min.	13.0±1.0	9.0±1.0	11.4±2.0
AR02	180 <sup>+0</sup> <sub>-3</sub>	60min.	13.0±1.0	9.0±1.0	11.4±2.0

Paper Tape Specifications



Unit: mm

Series	A	B	W	F	E	P <sub>1</sub>	P <sub>2</sub>	P <sub>0</sub>	ϕ D <sub>0</sub>	T
AR06	2.00±0.15	3.6±0.2	8.0 ±0.2	3.50 ±0.05	1.75 ±0.01	4.00 ±0.01	2.00 ±0.05	4.00 ±0.10	1.50 <sup>+0.01</sup> <sub>-0</sub>	0.75 ±0.1
AR05	1.6±0.15	2.4±0.2								0.75 ±0.1
AR03	1.1±0.1	1.9±0.1								0.64 ±0.1
AR02	0.65±0.15	1.15±0.2								0.7 ±0.1

## Environmental Characteristics

Item	Specification	Test Method
1	Temperature Coefficient of Resistance 25ppm./50ppm	MIL-STD-202, Method 304 +25/-55/+25/+125/+25°C
2	Thermal Shock $\pm(0.5\%+0.05\Omega)$	MIL-STD-202, Method 107 -55°C~125°C, 100 cycles
3	Short Time Overload $\pm(2.0\%+0.05\Omega)$	MIL-R-55342D 4.7.5 RCWV*2.5 or Max Overloading Voltage, 5 seconds
4	High Temperature Exposure $\pm(1.0\%+0.05\Omega)$	MIL-R-55342D 4.7.6 1000 hours @ +125°C without load
5	Load Life $\pm(1.0\%+0.05\Omega)$	MIL-STD-202 M108 RCWV, 70°C, 1.5 hours on, 0.5 hours off 1000~1048 hours
6	Resistance to Soldering Heat $\pm(0.5\%+0.05\Omega)$	MIL-R-55342D 4.7.7 260±5°C, 10±1second
7	Moisture Resistance $\pm(1.0\%+0.05\Omega)$	MIL-STD-202, Method 106 40°C, 90~95%RH, 1000 hours
8	Low Temperature Operation $\pm(0.5\%+0.05\Omega)$	MIL-R-55342D 4.7.4 1hour, -55°C, followed by 45minutes of RCWV