

AR-Series

Thin Film Chip Resistors

Sizes: 0201, 0402, 0603, 0805, 1206, 2010, 2512

Features:

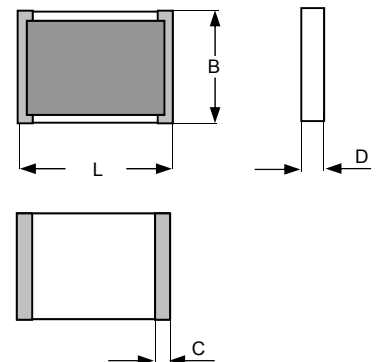
- Chip resistors in thin film technology
- NiCr-resistance element, passivated
- Anti-corrosive version with special passivation available (PR-series)
- Close tolerances - low TCR
- Pb-free terminations - RoHS compliant



Dimensions:

Size	L	B	D	C
0201	0.58 ± 0.05	0.29 ± 0.05	0.23 ± 0.05	0.15 ± 0.50
0402	1.00 ± 0.05	0.50 ± 0.05	0.30 ± 0.05	0.20 ± 0.10
0603	1.55 ± 0.10	0.80 ± 0.10	0.45 ± 0.10	0.30 ± 0.20
0805	2.00 ± 0.15	1.25 ± 0.15	0.55 ± 0.10	0.40 ± 0.20
1206	3.05 ± 0.15	1.55 ± 0.15	0.55 ± 0.10	0.35 ± 0.25
1210	3.10 ± 0.15	2.40 ± 0.15	0.55 ± 0.10	0.55 ± 0.25
2010	4.90 ± 0.15	2.40 ± 0.15	0.55 ± 0.10	0.50 ± 0.25
2512	6.30 ± 0.15	3.10 ± 0.15	0.55 ± 0.10	0.50 ± 0.25

L = length, B = Width, D = Thickness, C = Width wrap around (in mm)



Packaging:

Size	0201	0402	0603	0805	1206	1210	2010	2512
Pieces per tape	10,000		5,000				4,000	
Type of tape	8mm, Paper						12mm, Emb. Plastic	
Reel diameter	178 mm							

Ordering Data:

Type – value – tolerance – TCR (If no requirements for TCR, the highest value in table will be supplied)

Example: AR 2010 2R2 $\pm 0.5\%$ TCR 25

Minimum order quantity: 1 Reel

Anti-corrosive version (PR) is available. Data sheet on request

Technical data - general:

Temperature range	-55°C ... +155°C	
Climatic category acc. to EN 60068-1	55/155/56	
Solderability acc. to MIL-STD-202 Meth. 208H	245°C, 5s	
Max. soldering temperature acc. to MIL-STD-202 Meth. 210E (DIN EN 60068-2-58)	260°C, 10s	
Long term stability ¹⁾	Tol. $\leq 0,05\%$	Tol. $> 0,05\%$
Load Life (70°C, power 1.5h on, 0.5h off, 1000h) acc. to MIL-STD-202 Meth. 108A	$\Delta R < 0.05\%$	$\Delta R < 0.2\%$
Short time overload (2.5x rated power, 5s)	$\Delta R < 0.05\%$	$\Delta R < 0.2\%$
Humidity (40°C, 95%RH, 1.5h on, 0.5h off, 1000h) acc. to MIL-STD-202 Meth. 103B	$\Delta R < 0.05\%$	$\Delta R < 0.3\%$
Thermal Shock (100x -55°C...150°C) acc. to MIL-STD-202 Meth. 107G	$\Delta R < 0.05\%$	$\Delta R < 0.25\%$

¹⁾ For High Power Rating: $\Delta R < 0.5\%$

Specifications subject to change without notice

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Technical data – depending on size and value:

Size		Power rating P ₇₀ (mW)	Max. operating Voltage ²⁾	Max. overload Voltage	TCR (ppm/K)	Resistance range					
						0.01%	0.05%	0.1%	0.25%	0.5%	1%
Standard Specification	0201	31.25	15 V	30 V	25					49R9 ... 4K99	
					50					49R9 ... 33K0	
	0402	62.5	25 V	50 V	5	49R9 ... 4K99					
					10	49R9 ... 12k0					
					15	49R9...12k0		49R9 ... 69k8			
					25		49R9...12k0	10R ... 205K		1R ... 205K	
					50			10R ... 205K			
					0603	62.5	50 V	100 V	5	24R9 ... 15k	
	10 / 15	24R9...15k	4R7 ... 332k								
	25		4R7...332k	4R7 ... 1M					2R ... 1M		
	50								1R ... 1M		
	0805	100	100 V	200 V	5	24R9 ... 30k					
					10 / 15	24R9...200k	4R7 ... 511k				
					25 / 50		4R7...511k	4R7 ... 1M	1R0 ... 2M		
	1206	125	150 V	300 V	5	24R9 ... 49k9					
					10 / 15	24R9...499k	4R7 ... 1M				
					25 / 50		4R7 ... 1M	4R7...2M49	1R ... 2M49		
	1210	250	150 V	300 V	5	24R9 ... 49k9					
					10 / 15	24R9...499k	4R7 ... 1M				
					25 / 50		4R7 ... 1M	4R7...2M49	1R ... 2M49		
	2010	250	150 V	300 V	5	24R9 ... 100k					
					10 / 15	24R9...499k	4R7 ... 1M				
					25 / 50		4R7 ... 1M	4R7 ... 3M	1R ... 3M		
	2512	500	150 V	300 V	5	24R9 ... 100k					
					10 / 15	24R9...499k	4R7 ... 1M				
					25 / 50		4R7 ... 1M	4R7 ... 3M	1R ... 3M		
					0.01%	0.05%	0.1%	0.25%	0.5%	1%	
Higher Power Rating Specification	0603	100	75 V	150 V	5	24R9 ... 15k					
					10 / 15	24R9...100k	4R ... 332k	4R7 ... 332k			
					25 / 50			4R7 ... 1M			
	0805	125	150 V	300 V	5	24R9 ... 30k					
					10	24R9...200k	4R7...511k	4R7 ... 511k			
					15			4R7 ... 1M			
					25 / 50			4R7 ... 1M	1R0 ... 2M		
	1206	250	200 V	400 V	5	24R9 ... 49k9					
					10 / 15	24R9...499k	4R7 ... 1M				
					25 / 50						
	1210	333	200 V	400 V	5	24R9 ... 49k9					
					10 / 15	24R9...499k	4R7 ... 1M				
					25 / 50						
	2010	333	200 V	400 V	5	24R9 ... 49k9					
					10 / 15	24R9...499k	4R7 ... 1M				
25 / 50											
2512	750	200 V	400 V	10 / 15	24R9...2k0	4R7 ... 2k0		1R0 ... 2k0			
				25 / 50							

²⁾ Operating voltage: $U = \sqrt{P \cdot R}$

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