APC Precision Chip Resistor

- Precision Thin Film Technology
- Wide Resistance Range 1R - 3M
- Precision tolerance down to ±0.01%
- TCR as low as ±2ppm/ºC
- Tape & Reel packaging



• Standard Electrical Specifications

- Tolerance (Code): ±0.05% (A), ±0.1% (B), ±0.25% (C), ±0.5% (D), ±1% (F)
- TCR (Code): ±25ppm (E), ±50ppm (F)

Type	Power Rating at 70°C	Operating Temp Range	Max Operating Voltage	Max Overload Voltage	Tolerance / Resistance Range					TCR (PPM°C)
					±0.05%	±0.1%	±0.25%	±0.5%	±1%	
APC0201	1/32W	-55 to +155°C	15V	30V	N/A			49.9Ω to 4.99KΩ		±25
								49.9Ω to 33KΩ		±50
APC0402	1/16W	-55 to +155°C	25V	50V	49.9Ω to 12KΩ	10Ω to 255KΩ	4.7Ω to 511KΩ			±25
										±50
APC0603	1/16W	-55 to +155°C	50V	100V	4.7Ω to 332KΩ	4.7Ω to 1MΩ	1Ω to 1MΩ			±25
										±50
APC0805	1/10W	-55 to +155°C	100V	200V	4.7Ω to 1MΩ	4.7Ω to 2MΩ	1Ω to 2MΩ			±25
										±50
APC1206	1/8W	-55 to +155°C	150V	300V	4.7Ω to 1MΩ	4.7Ω to 2.49MΩ	1Ω to 2.49MΩ			±25
APC1210	1/4W									±50
APC2010	1/4W	-55 to +155°C	150V	300V	4.7Ω to 1MΩ	4.7Ω to 3MΩ	1Ω to 3MΩ			±25
APC2512	1/2W									±50

• Special Electrical Specifications

- Tolerance (Code): ±0.01% (T), ±0.05% (A), ±0.1% (B), ±0.25% (C), ±0.5% (D), ±1% (F)
- TCR (Code): ±2ppm (X), ±3ppm (Y), ±5ppm (Z), ±10ppm (B), ±15ppm (A)

Type	Power Rating at 70°C	Operating Temp Range	Max Operating Voltage	Max Overload Voltage	Resistance Range						TCR (PPM°C)
					±0.01%	±0.05%	±0.1%	±0.25%	±0.5%	±1%	
APC0402	1/16W	-55 to +155°C	25V	50V	49.9Ω to 4.99KΩ			N/A			±2, ±3
					49.9Ω to 4.99KΩ						±5
					49.9Ω to 12KΩ		49.9Ω to 60KΩ				±10
							49.9Ω to 69.8KΩ				±15
APC0603	1/16W	-55 to +155°C	50V	100V	24.9Ω to 15KΩ			N/A			±2, ±3
					24.9Ω to 15KΩ						±5
					24.9Ω to 100KΩ	4.7Ω to 332KΩ	4.7Ω to 511KΩ				±10, ±15
APC0805	1/10W	-55 to +155°C	100V	200V	24.9Ω to 30KΩ			N/A			±2, ±3
					24.9Ω to 30KΩ						±5
					24.9Ω to 200KΩ	4.7Ω to 1MΩ					±10, ±15
APC1206	1/8W	-55 to +155°C	150V	300V	24.9Ω to 49.9KΩ			N/A			±2, ±3
					24.9Ω to 49.9KΩ						±5
					24.9Ω to 499KΩ	4.7Ω to 1MΩ					±10, ±15
APC1210	1/4W	-55 to +155°C	150V	300V	24.9Ω to 49.9KΩ			N/A			±2, ±3
					24.9Ω to 49.9KΩ						±5
					24.9Ω to 499KΩ	4.7Ω to 1MΩ					±10, ±15
APC2010	1/4W	-55 to +155°C	150V	300V	24.9Ω to 100KΩ			N/A			±2, ±3
					24.9Ω to 100KΩ						±5
					24.9Ω to 499KΩ	4.7Ω to 1MΩ					±10, ±15
APC2512	1/2W	-55 to +155°C	150V	300V	24.9Ω to 100KΩ			N/A			±2, ±3
					24.9Ω to 100KΩ						±5
					24.9Ω to 499KΩ	4.7Ω to 1MΩ					±10, ±15

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It is the responsibility of the customer to ensure that the component selected from our range is suitable for the intended application. If in doubt please ask ARCOL.

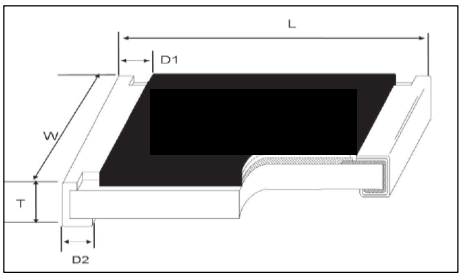
Characteristics

Item	Tol. ≤ 0.05%	Tol. > 0.05%	Method
Short Time Overload	ΔR ±0.05%	ΔR ±0.02%	RCWV*2.5 or Max. Overload Voltage - whichever is lower for 5 secs.
Insulation Resistance	> 1000 MΩ		Apply 100V DC for 1 minute
Endurance	ΔR ±0.05%	ΔR ±0.02%	70 ±2°C RCWV for 1000 hours with 1.5 hrs ON and 0.5 hrs OFF
Thermal Shock	ΔR ±0.05%	ΔR ±0.025%	-55 to +155°C, 100 Cycles
Low Temp Operation	ΔR ±0.05%	ΔR ±0.2%	1 hour, -65°C followed by 45 mins of RCWV

*RCWV (Rated Continuous Working Voltage) = √(P*R) or Max. Operating Voltage - whichever is lower

Dimensions (mm)

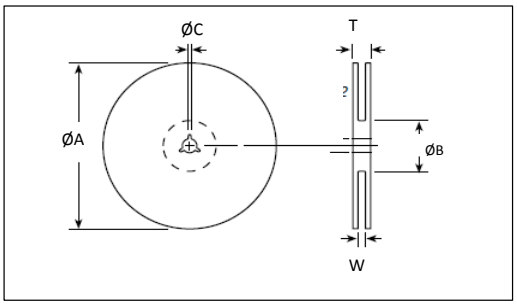
Type	L	W	T	D1	D2
APC0201	0.58 ±0.05	0.29 ±0.05	0.23 ±0.05	0.12 ±0.05	0.15 ±0.05
APC0402	1.00 ±0.05	0.50 ±0.05	0.30 ±0.05	0.20 ±0.05	0.20 ±0.05
APC0603	1.55 ±0.10	0.80 ±0.10	0.45 ±0.10	0.30 ±0.20	0.30 ±0.20
APC0805	2.00 ±0.15	1.25 ±0.15	0.55 ±0.10	0.30 ±0.20	0.40 ±0.20
APC1206	3.05 ±0.15	1.55 ±0.15	0.55 ±0.10	0.42 ±0.20	0.35 ±0.25
APC1210	3.10 ±0.15	2.40 ±0.15	0.55 ±0.10	0.40 ±0.20	0.55 ±0.25
APC2010	4.90 ±0.15	2.40 ±0.15	0.55 ±0.10	0.60 ±0.30	0.50 ±0.25
APC2512	6.30 ±0.15	3.10 ±0.15	0.55 ±0.10	0.60 ±0.30	0.50 ±0.25



Reel Dimensions (mm)

Size	ØA	ØB	ØC	W	T	Qty Per Reel
0201*	178 ±1.0	60 ±1.0	13.5 ±0.7	9.5 ±1.0	11.5 ±1.0	10,000
0402*	178 ±1.0	60 ±1.0	13.5 ±0.7	9.5 ±1.0	11.5 ±1.0	10,000
0603*	178 ±1.0	60 ±1.0	13.5 ±0.7	9.5 ±1.0	11.5 ±1.0	5,000
0805*	178 ±1.0	60 ±1.0	13.5 ±0.7	9.5 ±1.0	11.5 ±1.0	5,000
1206*	178 ±1.0	60 ±1.0	13.5 ±0.7	9.5 ±1.0	11.5 ±1.0	5,000
1210*	178 ±1.0	60 ±1.0	13.5 ±0.7	9.5 ±1.0	11.5 ±1.0	5,000
2010**	178 ±1.0	60 ±1.0	13.5 ±0.7	13.5 ±1.0	15.5 ±1.0	4,000
2512**	178 ±1.0	60 ±1.0	13.5 ±0.7	13.5 ±1.0	15.5 ±1.0	4,000

* Paper Tape
** Plastic Embossed Tape



Ordering Procedure

Standard Resistor: Series, Size, Tol Code, Resistance Value, TCR Code

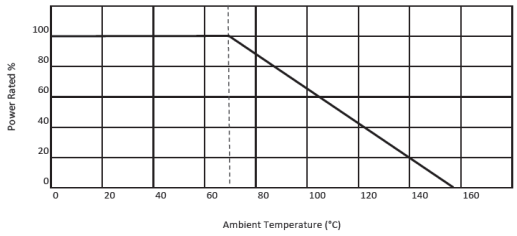
Eg: APC0603A100RB

- APC0603 — 1/16 watt (0603 size)
- A — ±0.05%
- 100R — 100Ω
- B — ±10ppm

Tol: ±0.01% (T), ±0.05% (A), ±0.1% (B), ±0.25% (C), ±0.5% (D), ±1% (F)

TCR: ±2ppm (X), ±3ppm (Y), ±5ppm (Z), ±10ppm (B), ±15ppm (A), ±25ppm (E), ±50ppm (F)

Derating Curve



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