

APC Precision Chip Resistor



- Precision Thin Film Technology
- Wide Resistance Range 1R - 3M
- Precision tolerance down to $\pm 0.01\%$
- TCR as low as $\pm 2\text{ppm}/^\circ\text{C}$
- Tape & Reel packaging



- Standard Electrical Specifications
- Tolerance (Code): $\pm 0.05\%$ (A), $\pm 0.1\%$ (B), $\pm 0.25\%$ (C), $\pm 0.5\%$ (D), $\pm 1\%$ (F)
- TCR (Code): $\pm 25\text{ppm}$ (E), $\pm 50\text{ppm}$ (F)

| Type | Power Rating at 70°C | Operating Temp Range | Max Operating Voltage | Max Overload Voltage | Tolerance / Resistance Range | | | | | TCR (PPM°C) |
|---------|----------------------|----------------------|-----------------------|----------------------|------------------------------|----------------|---------------|-------------|-----------|----------------------|
| | | | | | $\pm 0.05\%$ | $\pm 0.1\%$ | $\pm 0.25\%$ | $\pm 0.5\%$ | $\pm 1\%$ | |
| APC0201 | 1/32W | -55 to +155°C | 15V | 30V | N/A | | | | | ± 25 ± 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): $\pm 0.01\%$ (T), $\pm 0.05\%$ (A), $\pm 0.1\%$ (B), $\pm 0.25\%$ (C), $\pm 0.5\%$ (D), $\pm 1\%$ (F)
- TCR (Code): $\pm 2\text{ppm}$ (X), $\pm 3\text{ppm}$ (Y), $\pm 5\text{ppm}$ (Z), $\pm 10\text{ppm}$ (B), $\pm 15\text{ppm}$ (A)

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

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The information contained herein does not form part of a contract and is subject to change without notice. ARCOL operate a policy of continual product development, therefore, specifications may change.

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 | $\Delta R \pm 0.05\%$ | $\Delta R \pm 0.02\%$ | RCWV*2.5 or Max. Overload Voltage - whichever is lower for 5 secs. |
| Insulation Resistance | > 1000 M Ω | | Apply 100V dc for 1 minute |
| Endurance | $\Delta R \pm 0.05\%$ | $\Delta R \pm 0.02\%$ | 70 $\pm 2^{\circ}\text{C}$ RCWV for 1000 hours with 1.5 hrs ON and 0.5 hrs OFF |
| Thermal Shock | $\Delta R \pm 0.05\%$ | $\Delta R \pm 0.025\%$ | -55 to +155 $^{\circ}\text{C}$, 100 Cycles |
| Low Temp Operation | $\Delta R \pm 0.05\%$ | $\Delta R \pm 0.2\%$ | 1 hour, -65 $^{\circ}\text{C}$ followed by 45 mins of RCWV |

*RCWV (Rated Continuous Working Voltage) = $\sqrt{P \cdot R}$ 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 | ϕA | ϕB | ϕC | 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
 $\pm 10\text{ppm}$
 100 Ω
 $\pm 0.05\%$
 1/16 watt
 (0603 size)

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

TCR: $\pm 2\text{ppm}$ (X), $\pm 3\text{ppm}$ (Y), $\pm 5\text{ppm}$ (Z), $\pm 10\text{ppm}$ (B), $\pm 15\text{ppm}$ (A), $\pm 25\text{ppm}$ (E), $\pm 50\text{ppm}$ (F)

Derating Curve



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Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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