



# 5% Anti-Surge Thick Film Chip Resistors

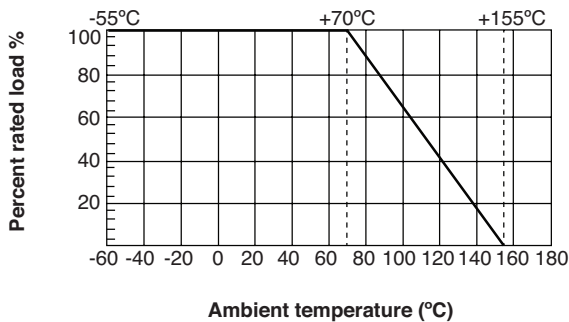
# AS-RC SERIES

## (RoHS Compliant)

### FEATURES

- Temperature Range:-55°C ~ +155°C (derated over 70°C)
- ±5% tolerance
- Wave or Flow solderable
- Other values may be available on request

### DERATING CURVE

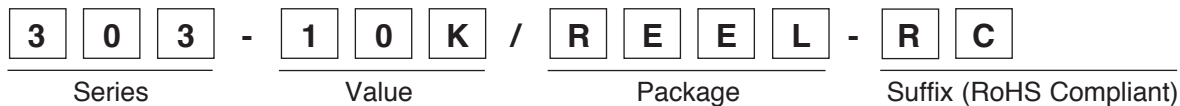


LEAD-FREE

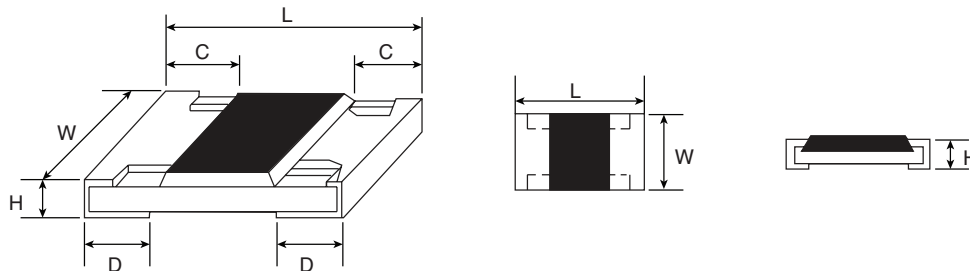


RoHS Compliant

### PART NUMBERING SYSTEM



### SERIES, SIZE, WATTAGE, VOLTAGE, AND DIMENSIONS



| Series | Case Size | Watts (W) | Voltage (Max.) @ 70°C |      | Dimension (mm) |            |           |           |           |
|--------|-----------|-----------|-----------------------|------|----------------|------------|-----------|-----------|-----------|
|        |           |           | W.V.                  | O.V. | L              | W          | H         | C         | D         |
| 303    | 0603      | 1/4       | 50                    | 100  | 1.60 ± .10     | .80 ± .10  | .45 ± .10 | .30 ± .20 | .30 ± .20 |
| 305    | 0805      | 1/2       | 150                   | 300  | 2.00 ± .15     | 1.25 ± .15 | .55 ± .10 | .40 ± .20 | .40 ± .20 |
| 306    | 1206      | 3/5       | 200                   | 400  | 3.10 ± .15     | 1.25 ± .15 | .55 ± .10 | .40 ± .20 | .40 ± .20 |
| 307    | 1206      | 3/4       | 200                   | 500  | 3.10 ± .10     | 2.60 ± .20 | .55 ± .10 | .50 ± .25 | .50 ± .20 |
| 310    | 2010      | 3/4       | 200                   | 500  | 5.00 ± .10     | 2.50 ± .15 | .55 ± .10 | .60 ± .25 | .50 ± .20 |
| 312    | 2512      | 1.5       | 250                   | 500  | 6.35 ± .10     | 3.20 ± .15 | .55 ± .10 | .60 ± .25 | .50 ± .20 |

### STANDARD VALUES (Ω)

|     |     |     |     |      |      |      |      |      |
|-----|-----|-----|-----|------|------|------|------|------|
| 1.0 | 4.7 | 30  | 270 | 1K   | 5.6K | 30K  | 470K | 200M |
| 2.0 | 5.6 | 47  | 390 | 2K   | 6.8K | 33K  | 20M  | 470M |
| 2.2 | 10  | 56  | 430 | 2.0K | 10K  | 100K | 47M  |      |
| 2.4 | 15  | 100 | 470 | 3.0K | 22K  | 220K | 50M  |      |
| 3.0 | 22  | 220 | 560 | 4.7K | 27K  | 330K | 100M |      |

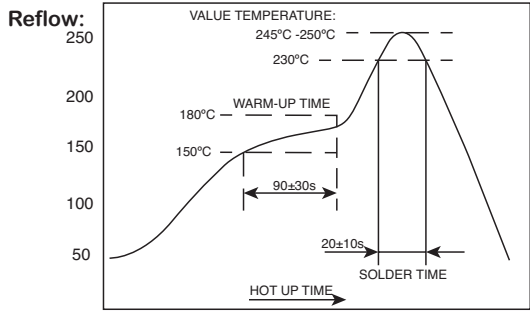




# 5% Anti-Surge Thick Film Chip Resistors

# AS-RC SERIES

(RoHS Compliant)

| Characteristics                 | Limits   | Test Methods<br>(JIS C 5201-1)  |      |             |      |   |                 |         |   |            |            |   |                  |         |   |            |            |
|---------------------------------|--|---|------|-------------|------|---|-----------------|---------|---|------------|------------|---|------------------|---------|---|------------|------------|
| Dielectric withstanding voltage | No evidence of flashover mechanical damage, arcing or insulation break down  | Clamped in the trough of a 90°C metallic v-block and shall be tested at ac potential respectively specified in the type for 60-70 seconds   |      |             |      |   |                 |         |   |            |            |   |                  |         |   |            |            |
| Temperature Coefficient         | 1Ω-10Ω : $\leq \pm 400 \text{PPM}/^\circ\text{C}$<br>11Ω-10MΩ : $\leq \pm 100 \text{PPM}/^\circ\text{C}$<br>(2010, 2512) 1Ω-10Ω : $\leq \pm 200 \text{PPM}/^\circ\text{C}$ | Natural resistance change per temp. degree centigrade.<br>R2-R1<br>$\frac{\quad}{R1(t2-t1)} \times 10 \text{ (PPM}/^\circ\text{C)}$<br><br>R1: Resistance value at room temperature (T1)<br>R2: Resistance value at room temp. plus 100 °C(T2)<br>Test Pattern: room temp. (T1), room temp. +100°C(T2)  |      |             |      |   |                 |         |   |            |            |   |                  |         |   |            |            |
| Short Time Overload             | Resistance change rate is $\pm (1.0\% + 0.1\Omega) \text{ Max.}$   | Permanent resistance change after the application of a potential of 2.5 times RCWV for 5 seconds  |      |             |      |   |                 |         |   |            |            |   |                  |         |   |            |            |
| Solderability                   | 95% coverage Min.  | Wave Solder:<br>Test temperature of solder:<br>245°C $\pm$ 3°C dipping time in solder: 2-3 seconds<br><br>   |      |             |      |   |                 |         |   |            |            |   |                  |         |   |            |            |
| Soldering Heat                  | Resistance change rate is: $+(1\%+0.05\Omega) \text{ Max.}$  | Dip the resistor into a solder bath having a temperature of 260°C $\pm$ 3°C and hold it for 10 $\pm$ 1 seconds.   |      |             |      |   |                 |         |   |            |            |   |                  |         |   |            |            |
| Temperature cycling             | Resistance change rate is $\pm (0.5\% + 0.05\Omega) \text{ Max.}$  | Resistance change after continuous 5 cycles for duty cycle specified below: <table border="1" data-bbox="954 1304 1433 1486"> <thead> <tr> <th>Step</th> <th>Temperature</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-55°C <math>\pm</math> 3°C</td> <td>30 mins</td> </tr> <tr> <td>2</td> <td>Room temp.</td> <td>10~15 mins</td> </tr> <tr> <td>3</td> <td>+155°C <math>\pm</math> 2°C</td> <td>30 mins</td> </tr> <tr> <td>4</td> <td>Room temp.</td> <td>10~15 mins</td> </tr> </tbody> </table> | Step | Temperature | Time | 1 | -55°C $\pm$ 3°C | 30 mins | 2 | Room temp. | 10~15 mins | 3 | +155°C $\pm$ 2°C | 30 mins | 4 | Room temp. | 10~15 mins |
| Step                            | Temperature  | Time  |      |             |      |   |                 |         |   |            |            |   |                  |         |   |            |            |
| 1                               | -55°C $\pm$ 3°C  | 30 mins   |      |             |      |   |                 |         |   |            |            |   |                  |         |   |            |            |
| 2                               | Room temp.   | 10~15 mins  |      |             |      |   |                 |         |   |            |            |   |                  |         |   |            |            |
| 3                               | +155°C $\pm$ 2°C   | 30 mins   |      |             |      |   |                 |         |   |            |            |   |                  |         |   |            |            |
| 4                               | Room temp.   | 10~15 mins  |      |             |      |   |                 |         |   |            |            |   |                  |         |   |            |            |
| Humidity                        | Resistance change rate is $\pm (3.0\% + 0.1\Omega) \text{ Max.}$   | Temporary resistance change after 240 hours exposure in a humidity test chamber controlled at 40 $\pm$ 2°C and 90-95% relative humidity   |      |             |      |   |                 |         |   |            |            |   |                  |         |   |            |            |
| Load life in humidity           | Resistance change rate is $\pm (3.0\% + 0.1\Omega) \text{ Max.}$   | Resistance change after 1000 hours (1.5 hours "on", 0.5 hour "off") at RCWV in a humidity controlled at 40°C $\pm$ 2°C and 90 to 95% relative humidity  |      |             |      |   |                 |         |   |            |            |   |                  |         |   |            |            |
| Load Life                       | Resistance change rate is $\pm (3.0\% + 0.1\Omega) \text{ Max.}$   | Permanent resistance change after 1,000 hours operating at RCWV, with duty cycle of (1.5 hours "on", 0.5 hour "off") at 70°C + 2°C ambient  |      |             |      |   |                 |         |   |            |            |   |                  |         |   |            |            |
| Terminal bending                | Resistance change rate is $\pm (1.0\% + 0.05\Omega) \text{ Max.}$  | Twist of Test Board:<br>Y/X = 3/90 mm for 60 seconds  |      |             |      |   |                 |         |   |            |            |   |                  |         |   |            |            |





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

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- 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);
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- 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

**Телефон:** 8 (812) 309 58 32 (многоканальный)

**Факс:** 8 (812) 320-02-42

**Электронная почта:** [org@eplast1.ru](mailto:org@eplast1.ru)

**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.