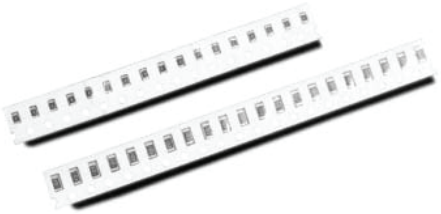
# 5% Thick Film Chip Resistors (RoHS Compliant) CR5-RC Series

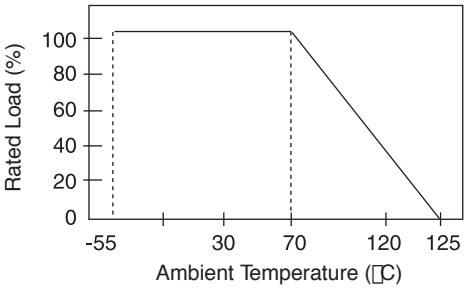
## FEATURES

- Temperature Range: -55°C ~ +125°C
- High purity alumina substrate
- Wave or flow solderable
- Excellent high frequency characteristics
- Wrap around termination
- Inner electrode protection
- Value range 0Ω ~ 10MΩ

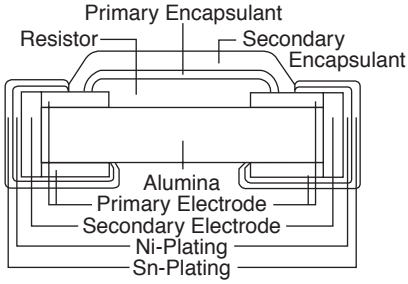
RoHS Compliant

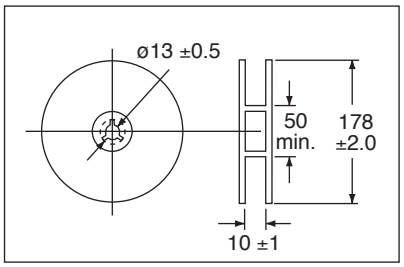


## DERATING CURVE




## REEL DIMENSIONS (mm)



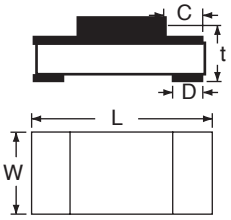




## PART NUMBERING SYSTEM

| 2 | 6 | 0 | - | 1 | 0 | K | - | R | C |
|---|---|---|---|---|---|---|---|---|---|
| Series | | | | Value | | | | Suffix (RoHS Compliant) | |

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

| Series | Case Size | Watts | Voltage (V) (max.) | | Dimensions (mm) | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | W.V. | O.V. | L | W | C | D | t |
| **260** | 0805 | 1/10 | 150 | 300 | 2.0 ± 0.15 | 1.25 ± .15 | 0.4 ± 0.2 | 0.4 ± 0.2 | .55 ± .10 |
| **263** | 1206 | 1/8 | 200 | 400 | 3.1 ± 0.15 | 1.55 ± .15 | 0.45 ± 0.2 | 0.45 ± 0.2 | .55 ± .10 |
| **301** | 0603 | 1/16 | 50 | 100 | 1.60 ± .10 | 0.8 ± .15 | 0.3 ± .20 | 0.30 ± .20 | .45 ± .10 |



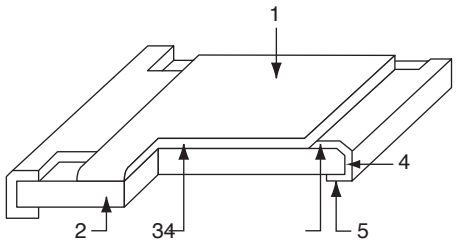

## STANDARD STOCKED VALUES (Ω)

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 2.0 | 4.3 | 9.1 | 20 | 43 | 91 | 200 | 430 | 910 | 2K | 4.3K | 9.1K | 20K | 43K | 91K | 200K | 430K | 820K | 1.8M | 3.9M | 8.2M |
| 1.0 | 2.2 | 4.7 | 10 | 22 | 47 | 100 | 220 | 470 | 1K | 2.2K | 4.7K | 10K | 22K | 47K | 100K | 220K | 470K | 910K | 2M | 4.3M | 9.1M |
| 1.1 | 2.4 | 5.1 | 11 | 24 | 51 | 110 | 240 | 510 | 1.1K | 2.4K | 5.1K | 11K | 24K | 51K | 110K | 240K | 510K | 1M | 2.2M | 4.7M | 10M |
| 1.2 | 2.7 | 5.6 | 12 | 27 | 56 | 120 | 270 | 560 | 1.2K | 2.7K | 5.6K | 12K | 27K | 56K | 120K | 270K | 560K | 1.1M | 2.4M | 5.1M | |
| 1.3 | 3.0 | 6.2 | 13 | 30 | 62 | 130 | 300 | 620 | 1.3K | 3K | 6.2K | 13K | 30K | 62K | 130K | 300K | 620K | 1.2M | 2.7M | 5.6M | |
| 1.5 | 3.3 | 6.8 | 15 | 33 | 68 | 150 | 330 | 680 | 1.5K | 3.3K | 6.8K | 15K | 33K | 68K | 150K | 330K | 660K | 1.3M | 3M | 6.2M | |
| 1.6 | 3.6 | 7.5 | 16 | 36 | 75 | 160 | 360 | 750 | 1.6K | 3.6K | 7.5K | 16K | 36K | 75K | 160K | 360K | 680K | 1.5M | 3.3M | 6.8M | |
| 1.8 | 3.9 | 8.2 | 18 | 39 | 82 | 180 | 390 | 820 | 1.8K | 3.9K | 8.2K | 18K | 39K | 82K | 180K | 390K | 750K | 1.6M | 3.6M | 7.5M | |

## NOTE: RoHS Compliant by Exemption

## CONSTRUCTION

| No. | Part Name |
|---|---|
| 1 | Protective coating: Epoxy |
| 2 | $Al_2O_3$ high purity alumina substrate: Al 96fi |
| 3 | Resistive element: metal film |
| 4 | Termination (Inner): Ag/Pd |
| 5 | Termination (Between): Ni plating film |
| 6 | Termination (Outer): Sn plating film |







Specifications are subject to change without notice. No liability or warranty implied by this information. Environmental compliance based on producer documentation.

# 5% Thick Film Chip Resistors (RoHS Compliant) CR5-RC Series

## CHARACTERISTICS

| Characteristics | Limits | Test Methods ( JIS C 5201-1 ) |
|---|---|---|
| Temperature coefficient | 1Ω ~ 10Ω ≤ ±400 PPM / °C<br>11Ω ~ 10MΩ ≤ ±200 PPM / °C | 5.2 Natural resistance change per temp. degree centigrade.<br>$\frac{R_2-R_1}{R_1(t_2-t_1)} \times 10^6$ (PPM/°C)<br>$R_1$: Resistance value at room temperature ($t_1$)<br>$R_2$: Resistance value at room temp.plus 100°C ($t_2$) |
| Short time overload | Resistance change rate is ± (2.0 % + 0.1Ω) Max. | 5.5 Permanent resistance change after the application of a potential of 2.5 times RCWV for 5 seconds. |
| Insulation resistance | 1,000M Ω or more | 5.6 Apply 500V DC between protective coating and termination for 1 minute |
| Dielectric withstanding voltage | No evidence of flashover mechanical damage,arcing or insulation break down. | 5.7 Apply 500V AC between protective coating and termination for 1 minute |
| Terminal bending | ±(1.0% +0.05Ω) Max. | 6.1.4 Twist of Test Board: Y/X=5/90mm for 10 seconds |
| Temperature cycling | ± (1.0% + 0.05Ω) Max. | 7.4 Resistance change after continuous 5 cycles for duty shown below:<br>Step 1: -55°C ±3°C, 30 mins<br>Step 2: Room temp., 10~15 mins<br>Step 3: +155°C ±2°C, 30 mins<br>Step 4: Room temp., 10~15 mins |
| Load life in humidity | Resistance change rate is ± (3.0% + 0.1Ω) Max. | 7.9 Resistance change after 1,000 hours (1.5 hours "on", 0.5 hour "off") at RCWV in a humidity chamber controlled at 40°C ± 2°C and 90 to 95 % relative humidity |
| Load life | Resistance change rate is ± (3.0% + 0.1Ω) Max. | 7.10 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 |
| Soldering Heat | Electrical characteristics shall be satisfied. Without distinct deformation in appearance. | Solder bath method<br>Pre-Heat: 100 to 105°C, 30 ±5 sec.<br>Temperature: 265 ± 3°C, 5 +1/-0 sec<br>Reflow soldering method<br>Peak: 250 +5/-0°C<br>230°C or higher, 30 ±10Sec.<br>Solder iron method<br>Bit temperature: 350° ±10°C<br>Application time of soldering iron: 3 +1/-0 seconds |
| Solderability | 95% Coverage min. | 6.5 Test temperature of solder: 245° ±3°C<br>Dipping them solder: 2~3 seconds |



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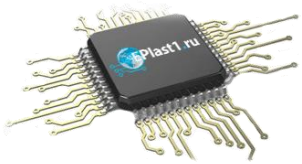
Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

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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