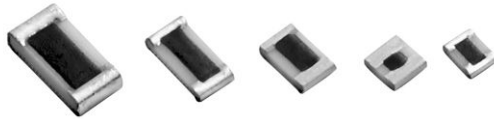


Thick Film Chip Resistors, Alternate Terminations



FEATURES

- Suitable for solderable, epoxy bondable, or wire bondable applications
- Termination: Gold, palladium silver, platinum gold, platinum silver or platinum palladium gold available
- Multiple styles, termination materials and configurations, allow wide design flexibility
- Non-magnetic terminations
- Flow solderable
- Custom sizes available
- Burn-in data available
- Automatic placement capability
- Available with either wraparound terminations or as a single termination flip chip
- Tape and reel packaging available
- Internationally standardized sizes
- Compliant to RoHS Directive 2002/95/EC
- Halogen-free according to IEC 61249-2-21 definition



Note

* Pb containing terminations are not RoHS compliant, exemptions may apply

| STANDARD ELECTRICAL SPECIFICATIONS | | | | | | | |
|------------------------------------|---------------------|---|---|---|-----------------------|--|--|
| GLOBAL MODEL | CASE SIZE | POWER RATING $P_{70^\circ\text{C}}$ W | MAXIMUM WORKING VOLTAGE ⁽¹⁾ V | RESISTANCE RANGE ⁽²⁾ Ω | TOLERANCE $\pm \%$ | TEMPERATURE COEFFICIENT ⁽³⁾ (-55°C to $+150^\circ\text{C}$) \pm ppm/ $^\circ\text{C}$ | |
| RC0540 | 0504 | 0.100 | 40 | 10 to 500K | 1, 2, 5, 10, 20 | 100 | |
| RC0550 | 0505 | 0.100 | 50 | 10 to 500K | 1, 2, 5, 10, 20 | 100 | |
| RC0575 | 0705 ⁽⁴⁾ | 0.200 | 70 | 10 to 1M | 1, 2, 5, 10, 20 | 100 | |
| RC5100 | 1005 | 0.250 | 100 | 10 to 1M | 1, 2, 5, 10, 20 | 100 | |
| RC1100 | 1010 | 0.450 | 100 | 10 to 1M | 1, 2, 5, 10, 20 | 100 | |
| RC1206 | 1206 | 0.300 | 100 | 10 to 1M | 1, 2, 5, 10, 20 | 100 | |
| RC5150 | 1505 | 0.325 | 125 | 10 to 1M | 1, 2, 5, 10, 20 | 100 | |
| RC7225 | 2208 | 0.525 | 200 | 10 to 1M | 1, 2, 5, 10, 20 | 100 | |
| RC2010 | 2010 | 0.575 | 200 | 10 to 1M | 1, 2, 5, 10, 20 | 100 | |

Notes

- (1) Continuous working voltage shall be $\sqrt{P \times R}$ or maximum working voltage, whichever is less.
- (2) Higher values available. Please consult factory.
- (3) ± 100 ppm/ $^\circ\text{C}$ standard thru 1 M Ω , ± 200 ppm/ $^\circ\text{C}$ offered from 1.1 M Ω to 10 M Ω .
- (4) MIL case size 0705 and EIA case size 0805 are dimensionally the same.

| GLOBAL PART NUMBER INFORMATION | | | | | | | | | | | | | | | |
|--|--|--|---|---|---|--|--|--|---|---|---|---|---|---|---|
| New Global Part Numbering: RC0540AA1K00FKSB (preferred part number format) | | | | | | | | | | | | | | | |
| R | C | 0 | 5 | 4 | 0 | A | A | 1 | K | 0 | 0 | F | K | S | B |
| GLOBAL MODEL | SIZE | TERM STYLE | TERM MATERIAL | RESISTANCE VALUE | TOLERANCE | TCR | SOLDER TERMINATION | PACKAGING | | | | | | | |
| RC | 0540 0550 0575 5100 1100 1206 5150 7225 2010 | A = 3-sided B = Top only C = 5-sided | A = Palladium silver B = Platinum gold C = Gold D = Platinum silver E = Platinum palladium gold | R = Ω K = k Ω M = M Ω 100R = 100 Ω 1K00 = 1 k Ω 1M00 = 1 M Ω | F = $\pm 1\%$ G = $\pm 2\%$ J = $\pm 5\%$ K = $\pm 10\%$ M = $\pm 20\%$ | K = 100 ppm L = 150 ppm N = 200 ppm W = 350 ppm | D = Sn95/Ag5, HSD S = Sn62/Pb36/Ag2, HSD N = No solder | B = Bulk F = T/R (full reel) 1 = T/R (1000 pcs) 5 = T/R (500 pcs) T = T/R (250 pcs min.) W = Waffle | | | | | | | |
| Historical Part Numbering: CR1AA1001F100S2 (will continue to be accepted) | | | | | | | | | | | | | | | |
| CR | 1 | A | A | 1001 | F | 100 | S2 | | | | | | | | |
| HISTORICAL MODEL | SIZE | TERM STYLE | TERM MATERIAL | RESISTANCE VALUE | TOLERANCE | TCR | SOLDER TERMINATION | | | | | | | | |

| MECHANICAL SPECIFICATIONS | |
|---------------------------|---|
| Resistive element | Ruthenium oxide |
| Encapsulation | Glass |
| Substrate | 96 % alumina |
| Termination | Gold, palladium silver, platinum gold, platinum silver, platinum palladium gold terminations available. |
| Solder finish | Base metallization without a solder finish standard. Hot solder dipped tin/silver or tin/lead/silver solder alloys available. |

ENVIRONMENTAL SPECIFICATIONS
Operating Temperature: - 55 °C to + 150 °C

Moisture Resistance: Less than 0.5 % change when tested per method 106 of MIL-STD-202

Life: Less than 1 % change when tested per method 108D (+ 85 °C) of MIL-STD-202

Short Time Overload: Less than 0.5 % ΔR

| DIMENSIONS in inches (millimeters) | | | | | | |
|---|---|---|--------|--|---|---|
| Termination Style A (3-sided wraparound) | Termination Style B (Top conductor only) | Termination Style C (5-sided wraparound) | MODEL | LENGTH (L) ⁽¹⁾ ± 0.006 (0.152) | WIDTH (W) ⁽¹⁾ ± 0.006 (0.152) | THICKNESS (T) ⁽¹⁾ ± 0.005 (0.127) |
| | | | RC0540 | 0.050 (1.27) | 0.040 (1.02) | 0.020 (0.508) |
| | | | RC0550 | 0.050 (1.27) | 0.050 (1.27) | 0.020 (0.508) |
| | | | RC0575 | 0.075 (1.90) | 0.050 (1.27) | 0.020 (0.508) |
| | | | RC5100 | 0.100 (2.54) | 0.050 (1.27) | 0.020 (0.508) |
| | | | RC1100 | 0.100 (2.54) | 0.100 (2.54) | 0.020 (0.508) |
| | | | RC1206 | 0.125 (3.18) | 0.062 (1.57) | 0.025 (0.635) |
| | | | RC5150 | 0.150 (3.81) | 0.050 (1.27) | 0.020 (0.508) |
| | | | RC7225 | 0.225 (5.72) | 0.075 (1.90) | 0.020 (0.508) |
| | | | RC2010 | 0.200 (5.08) | 0.100 (2.54) | 0.025 (0.635) |

Note
⁽¹⁾ All dimensions are before solder coating.

| TYPE | TERMINATION MATERIAL | TERMINATION STYLE | TERMINATION STYLE/ MATERIAL CODE | SOLDER TERMINATION CODE |
|----------------------------------|---------------------------------|----------------------|-------------------------------------|---|
| Wire bondable/ solderable | Platinum palladium gold | 3-sided (wraparound) | AE | N (standard); D or S (optional) ⁽²⁾ |
| | | Top only (flip chip) | BE | |
| | | 5-sided (wraparound) | CE | |
| Wire bondable/ Epoxy bondable | Gold | 3-sided (wraparound) | AC | N |
| | | Top only (flip chip) | BC | |
| | | 5-sided (wraparound) | CC | |
| Epoxy bondable | Palladium silver ⁽³⁾ | 3-sided (wraparound) | AA | N |
| | | Top only (flip chip) | BA | |
| | | 5-sided (wraparound) | CA | |
| | Platinum gold | 3-sided (wraparound) | AB | |
| | | Top only (flip chip) | BB | |
| | | 5-sided (wraparound) | CB | |
| | Platinum silver | 3-sided (wraparound) | AD | |
| | | Top only (flip chip) | BD | |
| | | 5-sided (wraparound) | CD | |

Notes
⁽²⁾ Use solder termination N for applications requiring wire bondable mounting, and solder terminations D or S for applications requiring solderable mounting.

⁽³⁾ While not recommended, palladium silver terminations could be used for solderable applications when using a solder alloy containing silver.



Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and/or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk and agree to fully indemnify and hold Vishay and its distributors harmless from and against any and all claims, liabilities, expenses and damages arising or resulting in connection with such use or sale, including attorneys fees, even if such claim alleges that Vishay or its distributor was negligent regarding the design or manufacture of the part. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.

Material Category Policy

Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as RoHS-Compliant fulfill the definitions and restrictions defined under Directive 2011/65/EU of The European Parliament and of the Council of June 8, 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (EEE) - recast, unless otherwise specified as non-compliant.

Please note that some Vishay documentation may still make reference to RoHS Directive 2002/95/EC. We confirm that all the products identified as being compliant to Directive 2002/95/EC conform to Directive 2011/65/EU.