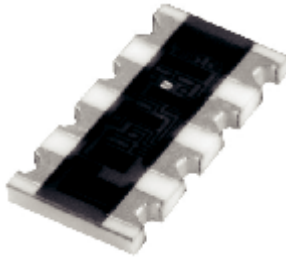




High Precision Resistor Thin Film Network, Surface Mount Leadless Arrays



Product may not be to scale

PR arrays can be used in most applications requiring a matched pair (or set) of resistor elements. The networks provide 2 ppm/°C TCR tracking, a ratio tolerance as tight as 0.02 % and outstanding stability. They are available in 1 mm, 1.35 mm and 1.82 mm pitch.

FEATURES

- Gold terminations over nickel barrier
- High stability passivated nichrome resistive layer
- Tight TCR (10 ppm/°C) and TCR tracking (to 2 ppm/°C)
- Very low noise and voltage coefficient < - 30 dB, 0.1 ppm/V typical
- Ratio tolerance to 0.02 %
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

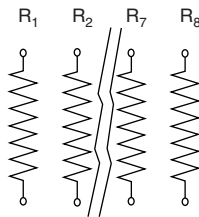


RoHS
COMPLIANT
HALOGEN
FREE

SCHEMATIC

Schematic A: Independent Resistors

Electrical Diagram



Number of Resistors: 2 to 8

$$R_1 = R_2 = \dots R_8$$

| STANDARD ELECTRICAL SPECIFICATIONS | | |
|------------------------------------|---|---------------------|
| TEST | SPECIFICATIONS | CONDITIONS |
| Material | Passivated nichrome | - |
| Pin/Lead Number | - | - |
| Resistance Range | 100 Ω to 200 kΩ (PR100) 100 Ω to 300 kΩ (PR135) 100 Ω to 1 MΩ (PR182) | - |
| TCR: Absolute | ± 10 ppm/°C | - 55 °C to + 125 °C |
| TCR: Tracking | ± 2 ppm/°C | - 55 °C to + 125 °C |
| Tolerance: Absolute | ± 0.1 % to ± 10 % | - |
| Tolerance: Ratio | ± 0.02 % to ± 0.1 % | - |
| Power Rating: Resistor | 100 mW (PR100) 125 mW (PR135) 200 mW (PR182) | At + 70 °C |
| Power Rating: Package | - | - |
| Stability: Absolute | - | - |
| Stability: Ratio | - | - |
| Voltage Coefficient | ≤ 0.1 ppm/V | - |
| Working Voltage | 35 V (PR100) 75 V (PR135) 100 V (PR182) | - |
| Operating Temperature Range | - 55 °C to + 125 °C | - |
| Storage Temperature Range | - 55 °C to + 150 °C | - |
| Noise | ≤ - 30 dB | - |
| Thermal EMF | - | - |
| Shelf Life Stability: Absolute | - | - |
| Shelf Life Stability: Ratio | - | - |

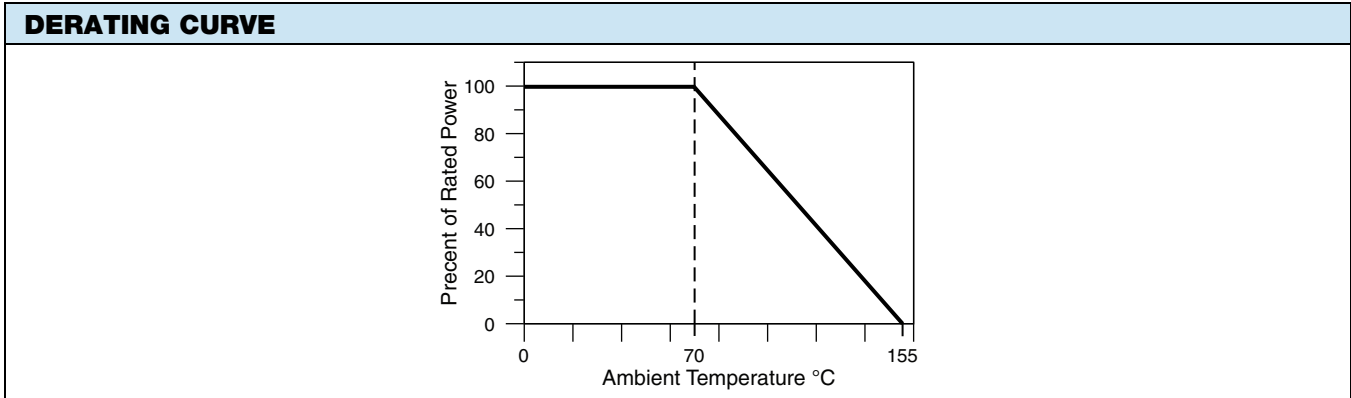


| DIMENSIONS in mils | | | | |
|--------------------|------------------|--------------------------|--------------------------|--------------------------|
| | DIMENSION | PR100 | PR135 | PR182 |
| | A | 64 ± 6 | 72 ± 6 | 118 ± 6 |
| | B | 17 | 20.3 | 23.6 |
| | C | 30 | 43.3 | 61.8 |
| | D | 10 | 10 | 10 |
| | E (1) | $E = (N \times F) \pm 8$ | $E = (N \times F) \pm 8$ | $E = (N \times F) \pm 8$ |
| | F | 40 | 53.3 | 71.8 |
| | G | 15 | 15 | 15 |

Notes

- (1) Where "N" = Number of resistors
- ± 2 mils unless specified

| MECHANICAL SPECIFICATIONS | |
|---------------------------|----------------------------------|
| Substrate | Alumina 99.6 % |
| Technology | Thin Film |
| Film | Passivated nichrome |
| Terminations | Solderable gold (Au) over nickel |



PACKAGING

Waffle-pack or tape and reel

MARKING

On the primary package, printed information includes Vishay trademark series and model, schematic number of resistors, ohmic value, absolute tolerance, ratio tolerance, type of termination



| GLOBAL PART NUMBER INFORMATION | | | | | | | | | | | | | | | |
|---|------------------------|---------------------------------|---|---|---|---|--|---|---|---|---|---|---|---|---|
| New Global Part Numbering: PR100A41002BBGTS | | | | | | | | | | | | | | | |
| P | R | 1 | 0 | 0 | A | 4 | 1 | 0 | 0 | 2 | B | B | G | T | S |
| GLOBAL MODEL | SCHEMATICS | NUMBER OF RESISTORS | RESISTANCE | ABSOLUTE TOLERANCE | RATIO TOLERANCE | TERMINATION | PACKAGING | | | | | | | | |
| PR100 PR135 PR182 | A = Isolated resistors | 2 3 4 5 6 7 8 | First 3 digits are significant figures and the last digit specifies the number of zeros to follow. Example: 1000 = 100 Ω 1001 = 1000 Ω | B = 0.1 % C = 0.25 % D = 0.5 % F = 1 % G = 2 % J = 5 % K = 10 % | P = 0.02 % ⁽¹⁾ W = 0.05 % ⁽²⁾ B = 0.1 % C = 0.25 % D = 0.5 % F = 1 % | G = Wraparound Au over Ni termination e4 epoxy solderable | WS = WAFFLE 100 min., 1 mult TS = TAPE AND REEL ⁽³⁾ 100 min., 1 mult T0 = 100 min., 100 mult T1 = 1000 min., 1000 mult T3 = 300 min., 300 mult T5 = 500 min., 500 mult | | | | | | | | |
| Historical Part Number example: PR100A41002BBGT (for reference purposes only) | | | | | | | | | | | | | | | |
| PR100 | A | 4 | 1002 | B | B | G | T | | | | | | | | |
| SERIES | SCHEMATIC | NUMBER | RESISTANCE | ABSOLUTE TOLERANCE | RATIO TOLERANCE | TERMINATION | PACKAGING | | | | | | | | |

Notes

- (1) > 1 kΩ, max. 4 resistors
- (2) > 100 Ω, up to 8 resistors
- (3) Please refer to below table for tape and reel availability

| TAPE AND REEL AVAILABILITY | | | |
|----------------------------|-----------|-----------|-----------|
| NUMBER OF RESISTORS | PR100 | PR135 | PR182 |
| 2 | Available | Available | Available |
| 3 | •• | Available | •• |
| 4 | Available | Available | Available |
| 5 | •• | Available | Available |
| 6 | Available | Available | •• |
| 7 | •• | Available | •• |
| 8 | Available | •• | •• |

Note

•• Not available, consult factory



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. 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.

Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as Halogen-Free follow Halogen-Free requirements as per JEDEC JS709A standards. Please note that some Vishay documentation may still make reference to the IEC 61249-2-21 definition. We confirm that all the products identified as being compliant to IEC 61249-2-21 conform to JEDEC JS709A standards.