

# 40 Series

## Ohmicone® Silicone-Ceramic Conformal Axial Terminal Wirewound 1% and 5% Tolerance Standard



Ohmite 40 Series resistors are the most economical conformal silicone-ceramic coated resistors offered. These all-welded units are characterized by their low temperature coefficients and resistance to thermal shock, making them ideal for a wide range of electrical and electronic applications.

Units with 1% and 5% tolerances are identical in construction and electrical specifications. Durable but economical 40 Series resistors exceed industry requirements for quality.

### FEATURES

- Economical
- Applications include commercial, industrial and communications equipment
- Stability under high temperature conditions
- All-welded construction
- RoHS compliant; add "E" suffix to part number to specify.

### SERIES SPECIFICATIONS

| Series | Wattage | Ohms      | Voltage |
|--------|---------|-----------|---------|
| 41     | 1.0     | 0.10-6K   | 150     |
| 42     | 2.0     | 0.10-8K   | 100     |
| 43     | 3.0     | 0.10-20K  | 200     |
| 45     | 5.0     | 0.10-70K  | 460     |
| 47     | 7.0     | 0.10-80K  | 670     |
| 40     | 10.0    | 0.10-150K | 1000    |

Non-Inductive versions available. Insert "N" before tolerance code.  
Example: 42NJ27R

### CHARACTERISTICS

|                                |                                                                                                             |
|--------------------------------|-------------------------------------------------------------------------------------------------------------|
| <b>Coating</b>                 | Conformal silicone-ceramic.                                                                                 |
| <b>Core</b>                    | Ceramic.                                                                                                    |
| <b>Terminals</b>               | Solder-coated copper clad axial. RoHS solder composition is 96% Sn, 3.5% Ag, 0.5% Cu                        |
| <b>Derating</b>                | Linearly from 100% @ +25°C to 0% @ +275°C.                                                                  |
| <b>Tolerance</b>               | ±5% (J type), ±1% (F type) (other tolerances available).                                                    |
| <b>Power rating</b>            | Based on 25°C free air rating                                                                               |
| <b>Overload</b>                | Under 5 watts: 5 times rated wattage for 5 seconds. 5 watts and over: 10 times rated wattage for 5 seconds. |
| <b>Temperature coefficient</b> | Under 1Ω: ±90 ppm/°C; 1Ω to 9.99Ω: ±50 ppm/°C; 10Ω and over: ±20 ppm/°C                                     |

### DIMENSIONS

(in./mm max.)



| Series | Wattage | Length       | Diam.        | Lead ga. |
|--------|---------|--------------|--------------|----------|
| 41     | 1.0     | 0.437 / 11.1 | 0.125 / 3.2  | 24       |
| 42     | 2.0     | 0.406 / 10.3 | 0.219 / 5.6  | 20       |
| 43     | 3.0     | 0.593 / 15.1 | 0.219 / 5.6  | 20       |
| 45     | 5.0     | 0.937 / 23.8 | 0.343 / 8.7  | 18       |
| 47     | 7.0     | 1.280 / 32.5 | 0.343 / 8.7  | 18       |
| 40     | 10.0    | 1.900 / 48.3 | 0.406 / 10.3 | 18       |

(continued)

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## Ohmicone® Silicone-Ceramic Conformal Axial Terminal Wirewound 1% and 5% Tolerance Standard

### ORDERING INFORMATION

#### Standard part numbers

| Wattage and Tolerance |                                  |   |   |   |    |              |   |   |   |    | Wattage and Tolerance |                                  |   |   |   |    |              |   |   |   |    | Wattage and Tolerance                                               |                                  |   |   |   |    |              |   |   |   |    |
|-----------------------|----------------------------------|---|---|---|----|--------------|---|---|---|----|-----------------------|----------------------------------|---|---|---|----|--------------|---|---|---|----|---------------------------------------------------------------------|----------------------------------|---|---|---|----|--------------|---|---|---|----|
| 1% Tolerance          |                                  |   |   |   |    | 5% Tolerance |   |   |   |    | 1% Tolerance          |                                  |   |   |   |    | 5% Tolerance |   |   |   |    | 1% Tolerance                                                        |                                  |   |   |   |    | 5% Tolerance |   |   |   |    |
| Ohmic value           | Part No.<br>Prefix ▶<br>Suffix ▼ | 1 | 3 | 5 | 10 | 1            | 2 | 3 | 5 | 10 | Ohmic value           | Part No.<br>Prefix ▶<br>Suffix ▼ | 1 | 3 | 5 | 10 | 1            | 2 | 3 | 5 | 10 | Ohmic value                                                         | Part No.<br>Prefix ▶<br>Suffix ▼ | 1 | 3 | 5 | 10 | 1            | 2 | 3 | 5 | 10 |
| 0.1                   | R10                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 68                    | 68R                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 2,200                                                               | 2K2                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  |
| 0.15                  | R15                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 75                    | 75R                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 2,500                                                               | 2K5                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  |
| 0.2                   | R20                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 82                    | 82R                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 2,700                                                               | 2K7                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  |
| 0.25                  | R25                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 100                   | 100                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 3,000                                                               | 3K0                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  |
| 0.3                   | R30                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 120                   | 120                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 3,300                                                               | 3K3                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  |
| 0.33                  | R33                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 125                   | 125                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 3,500                                                               | 3K5                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  |
| 0.4                   | R40                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 150                   | 150                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 3,900                                                               | 3K9                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  |
| 0.5                   | R50                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 180                   | 180                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 4,000                                                               | 4K0                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  |
| 0.75                  | R75                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 200                   | 200                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 4,500                                                               | 4K5                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  |
| 1                     | 1R0                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 220                   | 220                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 4,700                                                               | 4K7                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  |
| 1.5                   | 1R5                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 225                   | 225                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 5,000                                                               | 5K0                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  |
| 2                     | 2R0                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 250                   | 250                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 6,000                                                               | 6K0                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  |
| 2.2                   | 2R2                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 270                   | 270                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 6,800                                                               | 6K8                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  |
| 3                     | 3R0                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 300                   | 300                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 7,000                                                               | 7K0                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  |
| 4                     | 4R0                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 330                   | 330                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 7,500                                                               | 7K5                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  |
| 5                     | 5R0                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 350                   | 350                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 8,000                                                               | 8K0                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  |
| 7.5                   | 7R5                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 390                   | 390                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 9,000                                                               | 9K0                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  |
| 10                    | 10R                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 400                   | 400                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 10,000                                                              | 10K                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  |
| 12                    | 12R                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 450                   | 450                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 12,000                                                              | 12K                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  |
| 15                    | 15R                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 470                   | 470                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 13,000                                                              | 13K                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  |
| 18                    | 18R                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 500                   | 500                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 15,000                                                              | 15K                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  |
| 20                    | 20R                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 560                   | 560                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 17,000                                                              | 17K                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  |
| 22                    | 22R                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 600                   | 600                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 20,000                                                              | 20K                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  |
| 25                    | 25R                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 680                   | 680                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 22,000                                                              | 22K                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  |
| 27                    | 27R                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 750                   | 750                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 25,000                                                              | 25K                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  |
| 30                    | 30R                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 800                   | 800                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 30,000                                                              | 30K                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  |
| 33                    | 33R                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 820                   | 820                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 33,000                                                              | 33K                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  |
| 35                    | 35R                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 900                   | 900                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 35,000                                                              | 35K                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  |
| 39                    | 39R                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 1,000                 | 1K0                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 40,000                                                              | 40K                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  |
| 40                    | 40R                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 1,100                 | 1K1                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 50,000                                                              | 50K                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  |
| 47                    | 47R                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 1,200                 | 1K2                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | ✓ = Standard values                                                 |                                  |   |   |   |    |              |   |   |   |    |
| 50                    | 50R                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 1,500                 | 1K5                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | ✦ = Non-standard values subject to minimum handling charge per item |                                  |   |   |   |    |              |   |   |   |    |
| 56                    | 56R                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 1,800                 | 1K8                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  |                                                                     |                                  |   |   |   |    |              |   |   |   |    |
| 62                    | 62R                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  | 2,000                 | 2K0                              | ✓ | ✓ | ✓ | ✓  | ✓            | ✓ | ✓ | ✓ | ✓  |                                                                     |                                  |   |   |   |    |              |   |   |   |    |

Shaded values involve very fine resistance wire and should not be used in critical applications without burn-in and/or thermal cycling.

