

# 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                                     |
| <b>Operating temp. range</b>   | -55°C to 275°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)

# 40 Series

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

40 Series  
Ohmicone®  
Silicone Ceramic  
Conformal Axial  
Term. Wirewound

Non-Inductive  
Winding  
optional  
(blank= std.  
winding)

RoHS  
Compliant

**41NJR10E-T** — Tape & reel  
optional  
pc/reel:

Wattage  
1 = 1W  
2  
3  
5  
7  
0 = 10W

Tolerance  
F = 1%  
J = 5%

Resistance  
R10 = 0.10Ω  
1R0 = 1.0Ω  
10R = 10.0Ω  
250 = 250Ω  
1K0 = 1,000Ω  
4K5 = 4,500Ω  
50K = 50,000Ω

41: 5000  
42: 1250  
43: 1250  
45: 1000  
47: 500  
40: 500