

# 80 Series

Commercial Grade Acrasil®, Silicone-Ceramic  
Conformal Axial Terminal Wirewound  
1% Tolerance (5% available)

# RW Series

Military Grade 80 Series MIL-R-26 Qualified

Ohmite's highest quality conformal axial terminal silicone-ceramic coated resistors for applications requiring high precision and stability. These resistors have a low temperature coefficient and maintain a high degree of stability under demanding conditions.



## FEATURES

- Designed for precision power applications
- All-welded construction
- RW Series "Mil" value resistors marked with "Mil" in accordance with MIL-R-26 specifications

## SERIES SPECIFICATIONS

| Commercial Grade | Military Grade | Watts | Ohms     | Voltage |
|------------------|----------------|-------|----------|---------|
| 81F              | RW70U          | 1     | 0.1-6K   | 150     |
| 82               |                | 2     | 0.1-8K   | 100     |
| 83F              | RW79U          | 3     | 0.1-20K  | 200     |
| 83J              | RW69V          |       |          |         |
| 85F              | RW74U          | 5     | 0.1-75K  | 460     |
| 85J              | RW67V          |       |          |         |
| 80F              | RW78U          | 10    | 0.1-150K | 1000    |
| 80J              | RW68V          |       |          |         |

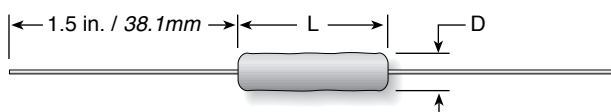
Non-Inductive versions available. Insert "N" before tolerance code. Example: 83NF2K21

## CHARACTERISTICS

|                                        |                                                                                                            |
|----------------------------------------|------------------------------------------------------------------------------------------------------------|
| <b>Coating</b>                         | Silicone-ceramic                                                                                           |
| <b>Core</b>                            | Ceramic                                                                                                    |
| <b>Terminals</b>                       | Solder-coated copper clad axial                                                                            |
| <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>Maximum ohmic values</b>            | See chart                                                                                                  |
| <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<br>1 to 9.99Ω: ±50 ppm/°C<br>10Ω and over; ±20 ppm/°C                                 |
| <b>Dielectric withstanding voltage</b> | 500 VAC: 1 watt rating; 1000 VAC: 2, 3, 5, 7, and 10 watt rating                                           |

## DIMENSIONS

(in./mm max.)



|     |       | Watts | Length       | Diam.        | Lead gauge |
|-----|-------|-------|--------------|--------------|------------|
| 81F | RW70U | 1     | 0.437 / 11.1 | 0.125 / 3.2  | 24         |
| 82  |       | 2     | 0.406 / 10.3 | 0.219 / 5.6  | 20         |
| 83F | RW79U | 3     | 0.593 / 15.1 | 0.218 / 5.5  | 20         |
| 83J | RW69V |       |              |              |            |
| 85F | RW74U | 5     | 0.937 / 23.8 | 0.343 / 8.7  | 18         |
| 85J | RW67V |       |              |              |            |
| 80F | RW78U | 10    | 1.842 / 46.8 | 0.406 / 10.3 | 18         |
| 80J | RW68V |       |              |              |            |

(continued)

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## ORDERING INFORMATION

### Commercial Grade (80 Series) Part Numbers

| Ohmic value | Wattage                          |   |   |   |    | Ohmic value | Wattage                          |   |   |   |    | Ohmic value | Wattage                          |   |   |   |    | Ohmic value | Wattage                          |   |   |   |    |         |       |   |   |   |  |
|-------------|----------------------------------|---|---|---|----|-------------|----------------------------------|---|---|---|----|-------------|----------------------------------|---|---|---|----|-------------|----------------------------------|---|---|---|----|---------|-------|---|---|---|--|
|             | Part No.<br>Prefix ▶<br>Suffix ▼ | 1 | 3 | 5 | 10 |             | Part No.<br>Prefix ▶<br>Suffix ▼ | 1 | 3 | 5 | 10 |             | Part No.<br>Prefix ▶<br>Suffix ▼ | 1 | 3 | 5 | 10 |             | Part No.<br>Prefix ▶<br>Suffix ▼ | 1 | 3 | 5 | 10 |         |       |   |   |   |  |
|             |                                  |   |   |   |    |             |                                  |   |   |   |    |             |                                  |   |   |   |    |             |                                  |   |   |   |    |         |       |   |   |   |  |
| 0.1         | —R10                             | ✓ |   |   |    | 2.21        | —2R21                            | ✓ |   |   |    | 51.1        | —51R1                            | ✓ |   |   |    | 1,210       | —1K21                            | ✓ |   |   |    | 27,400  | —27K4 | ✓ |   |   |  |
| 0.11        | —R11                             |   |   |   |    | 2.49        | —2R49                            | ✓ |   |   |    | 56.2        | —56R2                            | ✓ |   |   |    | 1,330       | —1K33                            |   | ✓ |   |    | 30,100  | —30K1 |   | ✓ |   |  |
| 0.121       | —R121                            | ✓ |   |   |    | 2.74        | —2R74                            |   |   |   |    | 61.9        | —61R9                            |   |   |   |    | 1,500       | —1K5                             | ✓ |   |   |    | 33,200  | —33K2 |   |   |   |  |
| 0.133       | —R133                            |   |   | ✓ |    | 3.01        | —3R01                            | ✓ |   |   |    | 68.1        | —68R1                            | ✓ |   |   |    | 1,620       | —1K62                            |   | ✓ |   |    | 37,400  | —37K4 |   |   | ✓ |  |
| 0.15        | —R15                             | ✓ |   |   |    | 3.32        | —3R32                            |   |   |   |    | 75          | —75R                             |   |   | ✓ |    | 1,820       | —1K82                            | ✓ |   |   |    | 38,300  | —38K3 |   |   | ✓ |  |
| 0.162       | —R162                            |   | ✓ |   |    | 3.74        | —3R74                            |   |   |   |    | 82.5        | —82R5                            | ✓ |   |   |    | 2,000       | —2K0                             |   | ✓ |   |    | 40,200  | —40K2 |   |   | ✓ |  |
| 0.182       | —R182                            | ✓ |   |   |    | 4.02        | —4R02                            | ✓ |   |   |    | 90.9        | —90R9                            |   |   |   |    | 2,210       | —2K21                            | ✓ |   |   |    | 45,300  | —45K3 |   |   | ✓ |  |
| 0.2         | —R20                             | ✓ |   |   |    | 4.53        | —4R53                            |   |   |   |    | 100         | —100                             |   |   | ✓ |    | 2,490       | —2K49                            | ✓ |   |   |    | 49,900  | —49K9 |   |   | ✓ |  |
| 0.221       | —R221                            |   |   | ✓ |    | 4.99        | —4R99                            | ✓ |   |   |    | 110         | —110                             |   |   | ✓ |    | 2,740       | —2K74                            |   | ✓ |   |    | 51,100  | —51K1 |   |   | ✓ |  |
| 0.249       | —R249                            | ✓ |   |   |    | 5.11        | —5R11                            |   |   |   |    | 121         | —121                             | ✓ |   |   |    | 3,010       | —3K01                            | ✓ |   |   |    | 56,200  | —56K2 |   |   | ✓ |  |
| 0.274       | —R274                            |   |   |   |    | 5.62        | —5R62                            | ✓ |   |   |    | 133         | —133                             |   |   | ✓ |    | 3,320       | —3K32                            |   | ✓ |   |    | 61,900  | —61K9 |   |   | ✓ |  |
| 0.301       | —R301                            | ✓ |   |   |    | 6.19        | —6R19                            |   |   |   |    | 150         | —150                             | ✓ |   |   |    | 3,740       | —3K74                            |   | ✓ |   |    | 68,100  | —68K1 |   |   | ✓ |  |
| 0.332       | —R332                            |   |   | ✓ |    | 6.81        | —6R81                            |   |   |   |    | 162         | —162                             |   |   | ✓ |    | 4,020       | —4K02                            |   | ✓ |   |    | 75,000  | —75K  |   |   | ✓ |  |
| 0.374       | —R374                            |   |   | ✓ | ✓  | 7.5         | —7R5                             |   |   |   |    | 182         | —182                             | ✓ |   |   |    | 4,530       | —4K53                            |   | ✓ | ✓ |    | 82,500  | —82K5 |   |   | ✓ |  |
| 0.392       | —R392                            |   |   | ✓ | ✓  | 8.25        | —8R25                            | ✓ |   | ✓ |    | 200         | —200                             | ✓ |   |   |    | 4,990       | —4K99                            |   |   |   |    | 90,900  | —90K9 |   |   | ✓ |  |
| 0.402       | —R402                            | ✓ |   |   |    | 9.09        | —9R09                            |   |   |   |    | 221         | —221                             |   |   |   |    | 5,110       | —5K11                            |   | ✓ |   |    | 100,000 | —100K |   |   | ✓ |  |
| 0.453       | —R453                            |   |   | ✓ |    | 10          | —10R                             | ✓ |   |   |    | 249         | —249                             | ✓ |   |   |    | 5,620       | —5K62                            |   | ✓ |   |    | 150,000 | —150K |   |   | ✓ |  |
| 0.499       | —R499                            | ✓ |   |   |    | 11          | —11R                             |   |   |   |    | 274         | —274                             |   |   | ✓ |    | 6,190       | —6K19                            |   | ✓ |   |    | 200,000 | —200K |   |   | ✓ |  |
| 0.511       | —R511                            |   |   | ✓ | ✓  | 12.1        | —12R1                            | ✓ |   |   |    | 301         | —301                             | ✓ |   |   |    | 6,810       | —6K81                            |   | ✓ |   |    |         |       |   |   |   |  |
| 0.562       | —R562                            | ✓ |   |   |    | 13.3        | —13R3                            |   |   | ✓ |    | 332         | —332                             |   |   | ✓ |    | 7,500       | —7K5                             |   | ✓ |   | ✓  |         |       |   |   |   |  |
| 0.619       | —R619                            |   |   | ✓ |    | 15          | —15R                             | ✓ |   | ✓ |    | 374         | —374                             |   |   |   |    | 8,250       | —8K25                            |   | ✓ |   |    |         |       |   |   |   |  |
| 0.681       | —R681                            | ✓ |   |   |    | 16.2        | —16R2                            |   |   | ✓ |    | 402         | —402                             | ✓ |   |   |    | 9,090       | —9K09                            |   | ✓ |   | ✓  |         |       |   |   |   |  |
| 0.75        | —R75                             |   |   | ✓ |    | 18.2        | —18R2                            | ✓ |   |   |    | 453         | —453                             |   |   | ✓ |    | 10,000      | —10K                             |   | ✓ |   | ✓  |         |       |   |   |   |  |
| 0.825       | —R825                            | ✓ |   |   |    | 20          | —20R                             | ✓ |   |   |    | 499         | —499                             | ✓ |   |   |    | 10,500      | —10K5                            |   | ✓ |   | ✓  |         |       |   |   |   |  |
| 0.909       | —R909                            |   |   | ✓ | ✓  | 22.1        | —22R1                            |   |   | ✓ |    | 511         | —511                             |   |   | ✓ |    | 11,000      | —11K                             |   | ✓ |   | ✓  |         |       |   |   |   |  |
| 1           | —R10                             | ✓ |   |   |    | 24.9        | —24R9                            | ✓ |   |   |    | 562         | —562                             |   |   | ✓ |    | 12,100      | —12K1                            |   | ✓ |   | ✓  |         |       |   |   |   |  |
| 1.1         | —R11                             |   |   | ✓ |    | 27.4        | —27R4                            |   |   | ✓ |    | 619         | —619                             |   |   | ✓ |    | 13,300      | —13K3                            |   | ✓ |   | ✓  |         |       |   |   |   |  |
| 1.21        | —R121                            | ✓ |   |   |    | 30.1        | —30R1                            | ✓ |   |   |    | 681         | —681                             |   |   | ✓ |    | 15,000      | —15K                             |   | ✓ |   | ✓  |         |       |   |   |   |  |
| 1.330       | —R133                            |   |   | ✓ |    | 33.2        | —33R2                            |   |   | ✓ |    | 750         | —750                             |   |   | ✓ |    | 16,200      | —16K2                            |   | ✓ |   | ✓  |         |       |   |   |   |  |
| 1.5         | —R15                             | ✓ |   |   |    | 37.4        | —37R4                            |   |   | ✓ | ✓  | 825         | —825                             |   | ✓ |   |    | 18,200      | —18K2                            |   | ✓ |   | ✓  |         |       |   |   |   |  |
| 1.62        | —R162                            |   |   | ✓ |    | 40.2        | —40R2                            | ✓ |   |   |    | 909         | —909                             |   |   | ✓ |    | 20,000      | —20K                             |   | ✓ |   | ✓  |         |       |   |   |   |  |
| 1.82        | —R182                            | ✓ |   |   |    | 45.3        | —45R3                            |   |   |   |    | 1,000       | —1K0                             | ✓ |   |   |    | 22,100      | —22K1                            |   |   |   | ✓  |         |       |   |   |   |  |
| 2           | —R20                             | ✓ |   |   |    | 49.9        | —49R9                            | ✓ |   |   |    | 1,100       | —1K1                             |   |   | ✓ |    | 24,900      | —24K9                            |   |   |   | ✓  |         |       |   |   |   |  |

✓ = Standard values

✦ = Non-standard values

subject to minimum

handling charge per

item

Shaded values involve

very fine resistance wire

and should not be used

in critical applications

without burn-in and/or

thermal cycling.

✓ = Standard values  
✦ = Non-standard values  
subject to minimum  
handling charge per  
item

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

Commercial Grade Non-Inductive Winding  
Optional (blank = std. winding)

**81NJR10**

80 Series  
Acrasil<sup>®</sup>  
Silicone Ceramic  
Conformal Axial  
Term. Wirewound

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

Tolerance  
F = 1%  
J = 5%

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

Military Grade

**RW74U1001F**

RW Series  
Military grade

Resistance Value  
R100 = 0.1Ω  
1R00 = 1.0Ω  
10R0 = 10.0Ω  
1000 = 1000Ω 1002 = 10KΩ  
1001 = 1000Ω 1503 = 150KΩ

Tolerance  
F = 1%  
J = 5%

This product will  
not be made avail-  
able as RoHS  
Compliant.

For RoHS  
Compliant equiva-  
lent, see 40 Series.