

# 80 Series

Commercial Grade Acrasil<sup>®</sup>, 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 | Part No.<br>Prefix ><br>Suffix < | Wattage |   |   |    | Ohmic value | Part No.<br>Prefix ><br>Suffix < | Wattage |   |   |    | Ohmic value | Part No.<br>Prefix ><br>Suffix < | Wattage |   |   |    | Ohmic value | Part No.<br>Prefix ><br>Suffix < | Wattage |    |         |      |   |   |
|-------------|----------------------------------|---------|---|---|----|-------------|----------------------------------|---------|---|---|----|-------------|----------------------------------|---------|---|---|----|-------------|----------------------------------|---------|----|---------|------|---|---|
|             |                                  | 1       | 3 | 5 | 10 |             |                                  | 1       | 3 | 5 | 10 |             |                                  | 1       | 3 | 5 | 10 |             |                                  | 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.

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  
 10 = 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  
 10001 = 10000Ω  
 10002 = 10000Ω  
 1503 = 150KΩ

Tolerance  
 F = 1%  
 J = 5%

This product will not be made available as RoHS Compliant.

For RoHS Compliant equivalent, see 40 Series.