

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

| | |
|--|--|
| Coating | Silicone-ceramic |
| Core | Ceramic |
| Terminals | Solder-coated copper clad axial |
| Derating | Linearly from 100% @ +25°C to 0% @ +275°C. |
| Tolerance | ±5% (J type), ±1% (F type) (other tolerances available) |
| Power rating | Based on 25°C free air rating |
| Maximum ohmic values | See chart |
| Overload | Under 5 watts: 5 times rated wattage for 5 seconds. 5 watts and over: 10 times rated wattage for 5 seconds |
| Temperature coefficient | Under 1Ω: ±90 ppm/°C 1 to 9.99Ω: ±50 ppm/°C 10Ω and over; ±20 ppm/°C |
| Dielectric withstanding voltage | 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. Prefix > Suffix < | Wattage | | | | Ohmic value | Part No. Prefix > Suffix < | Wattage | | | | Ohmic value | Part No. Prefix > Suffix < | Wattage | | | | Ohmic value | Part No. Prefix > 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[®]
 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 1002 = 10KΩ
 1001 = 1000Ω 1503 = 150KΩ

Tolerance
 F = 1%
 J = 5%

This product will not be made available as RoHS Compliant.

For RoHS Compliant equivalent, see 40 Series.