

TWM/TWW Series

Ceramic Housed Radial Terminal Power

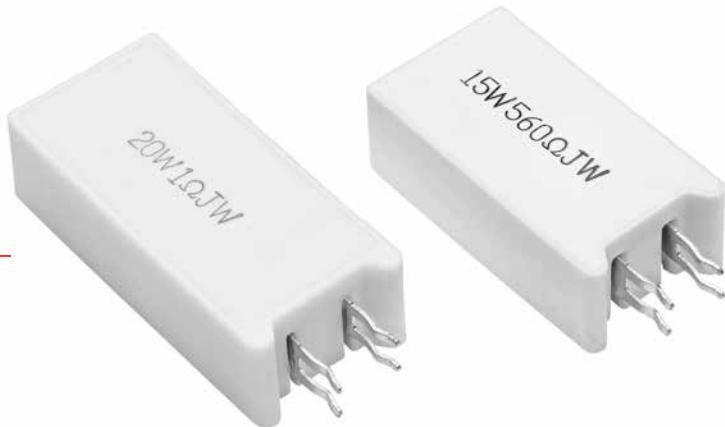


The TWM/TWW series radial terminal power resistors offer significant board space savings over axial terminal products. Generated heat is also kept away from the circuit board.

They are recommended for commercial applications requiring low cost.

FEATURES

- Economical Commercial Grade for general purpose use
- Wirewound and Metal Oxide construction
- Wide resistance range
- Flameproof inorganic construction



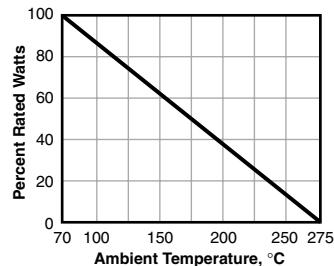
SERIES SPECIFICATIONS

Series	Wattage	Resistance	Voltage	Element
TWW3	3	0.01-39Ω	250	Wire
TWW5	5	0.01-47Ω	350	Wire
TWW10	10	0.04-990Ω	750	Wire
TWW15	15	0.1Ω-560Ω	700	Wire
TWW20	20	0.1Ω-560Ω	750	Wire
TWM3	3	43-50KΩ	250	Metal oxide
TWM5	5	51-50KΩ	350	Metal oxide
TWM10	10	1000-50KΩ	750	Metal oxide
TWM15	15	561Ω-200KΩ	700	Metal oxide
TWM20	20	561Ω-200KΩ	750	Metal oxide

CHARACTERISTICS

Housing	Ceramic
Core	Fiberglass
Filling	Cement based
Tolerance	5% standard
Temperature coefficient	0.01-20Ω ±400ppm/°C; >20-10Ω ±350ppm/°C
Dielectric withstand voltage	1,000VAC
Short time overload	TWW: 10x rated power for 5 sec.; TWM: 5x rated power for 5 sec. 15 & 20 watt: 2.5x RCWV for 5 sec.
Operating Temperature	-55°C to 275°C
Storage Temperature	15°C-35°C, humidity: 25%-75%

Derating



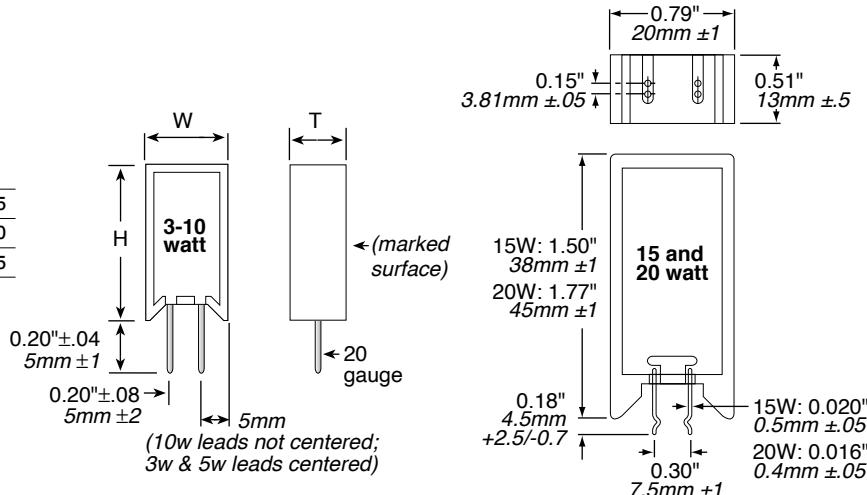
(continued)

TWM/TWW Series

Ceramic Housed Radial Terminal Power

DIMENSIONS

Wattage	H (in./mm) ±1mm	T	W
3	0.98 / 25	0.33 / 8.5	0.49 / 12.5
5	0.98 / 25	0.35 / 9	0.51 / 13.0
10	1.97 / 50	0.35 / 9	0.49 / 12.5



HOW TO ORDER

Tolerance
 J = 5% E = RoHS compliant

T W W 3 J R 0 5 E

Series	Wattage	Resistance Value
TWM = Ceramic housed metal oxide radial	3	Example: R05 = 0.05Ω
TWW = Ceramic housed wirewound radial	5	R56 = 0.56Ω
	10	1R0 = 1Ω 8R2 = 8.2Ω 270 = 270Ω 1K0 = 1,000Ω 8K2 = 8,200Ω 10K = 10,000Ω

Standard part numbers for TWW series

Ohmic value	Part No. Prefix ▶ Suffix ▼	Wattage TWW3J- TWW5J- TWW10J- TWW15J- TWW20J- 20	Ohmic value	Part No. Prefix ▶ Suffix ▼	Wattage TWW3J- TWW5J- TWW10J- TWW15J- TWW20J- 20	Ohmic value	Part No. Prefix ▶ Suffix ▼	Wattage TWW3J- TWW5J- TWW10J- TWW15J- TWW20J- 20
0.01 ---R01E ✓ ✓	2.0 ---2R0E ✓ ✓ ✓	47 ---47RE ✓ ✓ ✓	82 ---82RE ✓	100 ---100E ✓ ✓ ✓	150 ---150E ✓ ✓	300 ---300E ✓	430 ---430E ✓	1000 ---1K0 ✓ ✓ ✓ ✓ ✓
0.02 ---R02E ✓ ✓	2.7 ---2R7E ✓ ✓ ✓ ✓	51 ---51RE ✓	100 ---100E ✓ ✓ ✓	150 ---150E ✓ ✓	200 ---200E ✓ ✓	330 ---330E ✓	430 ---430E ✓	1500 ---1K5 ✓ ✓ ✓
0.03 ---R03E ✓ ✓	3.0 ---3R0E ✓ ✓ ✓	56 ---56RE ✓	100 ---100E ✓ ✓ ✓	150 ---150E ✓ ✓	200 ---200E ✓ ✓	330 ---330E ✓	430 ---430E ✓	2000 ---2K0 ✓ ✓ ✓
0.04 ---R04E ✓ ✓ ✓	3.3 ---3R3E ✓ ✓ ✓	68 ---68RE ✓	100 ---100E ✓ ✓ ✓	150 ---150E ✓ ✓	200 ---200E ✓ ✓	330 ---330E ✓	430 ---430E ✓	2700 ---2K7 ✓ ✓ ✓ ✓ ✓
0.05 ---R05E ✓ ✓ ✓	3.9 ---3R9E ✓ ✓ ✓	75 ---75RE ✓	100 ---100E ✓ ✓ ✓	150 ---150E ✓ ✓	200 ---200E ✓ ✓	330 ---330E ✓	430 ---430E ✓	3000 ---3K0 ✓ ✓ ✓
0.10 ---R10E ✓ ✓ ✓ ✓ ✓	4.3 ---4R3E ✓ ✓ ✓	82 ---82RE ✓	100 ---100E ✓ ✓ ✓	150 ---150E ✓ ✓	200 ---200E ✓ ✓	330 ---330E ✓	430 ---430E ✓	3000 ---3K3 ✓ ✓ ✓
0.15 ---R15E ✓ ✓ ✓ ✓ ✓	4.7 ---4R7E ✓ ✓ ✓	100 ---100E ✓ ✓ ✓	100 ---100E ✓ ✓ ✓	150 ---150E ✓ ✓	200 ---200E ✓ ✓	330 ---330E ✓	430 ---430E ✓	3900 ---3K9 ✓ ✓ ✓
0.20 ---R20E ✓ ✓ ✓ ✓	5.6 ---5R6E ✓ ✓ ✓	150 ---150E ✓	100 ---100E ✓ ✓ ✓	150 ---150E ✓ ✓	200 ---200E ✓ ✓	330 ---330E ✓	430 ---430E ✓	4300 ---4K3 ✓ ✓ ✓
0.27 ---R27E ✓ ✓ ✓ ✓	6.8 ---6R8E ✓ ✓ ✓	200 ---200E ✓	100 ---100E ✓ ✓ ✓	150 ---150E ✓ ✓	200 ---200E ✓ ✓	330 ---330E ✓	430 ---430E ✓	200 ---200E ✓ ✓ ✓ ✓ ✓
0.30 ---R30E ✓ ✓ ✓	7.5 ---7R5E ✓ ✓ ✓	270 ---270E ✓	100 ---100E ✓ ✓ ✓	150 ---150E ✓ ✓	200 ---200E ✓ ✓	330 ---330E ✓	430 ---430E ✓	270 ---270E ✓ ✓ ✓ ✓ ✓
0.33 ---R33E ✓ ✓ ✓	8.2 ---8R2E ✓ ✓ ✓	300 ---300E ✓	100 ---100E ✓ ✓ ✓	150 ---150E ✓ ✓	200 ---200E ✓ ✓	330 ---330E ✓	430 ---430E ✓	300 ---300E ✓ ✓ ✓
0.39 ---R39E ✓ ✓ ✓	10 ---10RE ✓ ✓ ✓ ✓ ✓	330 ---330E ✓	100 ---100E ✓ ✓ ✓	150 ---150E ✓ ✓	200 ---200E ✓ ✓	330 ---330E ✓	430 ---430E ✓	3900 ---3K9 ✓ ✓ ✓
0.43 ---R43E ✓ ✓ ✓	15 ---15RE ✓ ✓ ✓ ✓ ✓	390 ---390E ✓	100 ---100E ✓ ✓ ✓	150 ---150E ✓ ✓	200 ---200E ✓ ✓	330 ---330E ✓	430 ---430E ✓	4300 ---4K3 ✓ ✓ ✓
0.47 ---R47E ✓ ✓ ✓ ✓	20 ---20RE ✓ ✓ ✓	430 ---430E ✓	100 ---100E ✓ ✓ ✓	150 ---150E ✓ ✓	200 ---200E ✓ ✓	330 ---330E ✓	430 ---430E ✓	200 ---200E ✓ ✓ ✓ ✓ ✓
0.56 ---R56E ✓ ✓ ✓ ✓	22 ---22RE ✓	470 ---470E ✓	100 ---100E ✓ ✓ ✓	150 ---150E ✓ ✓	200 ---200E ✓ ✓	330 ---330E ✓	430 ---430E ✓	270 ---270E ✓ ✓ ✓ ✓ ✓
0.68 ---R68E ✓ ✓ ✓	27 ---27RE ✓ ✓ ✓ ✓ ✓	500 ---500E ✓	100 ---100E ✓ ✓ ✓	150 ---150E ✓ ✓	200 ---200E ✓ ✓	330 ---330E ✓	430 ---430E ✓	300 ---300E ✓ ✓ ✓
0.75 ---R75E ✓ ✓ ✓	30 ---30RE ✓ ✓ ✓	560 ---560E ✓	100 ---100E ✓ ✓ ✓	150 ---150E ✓ ✓	200 ---200E ✓ ✓	330 ---330E ✓	430 ---430E ✓	3900 ---3K9 ✓ ✓ ✓
0.82 ---R82E ✓ ✓ ✓	33 ---33RE ✓ ✓ ✓	680 ---680E ✓	100 ---100E ✓ ✓ ✓	150 ---150E ✓ ✓	200 ---200E ✓ ✓	330 ---330E ✓	430 ---430E ✓	4300 ---4K3 ✓ ✓ ✓
1.0 ---R10E ✓ ✓ ✓ ✓	39 ---39RE ✓ ✓ ✓	750 ---750E ✓	100 ---100E ✓ ✓ ✓	150 ---150E ✓ ✓	200 ---200E ✓ ✓	330 ---330E ✓	430 ---430E ✓	200 ---200E ✓ ✓ ✓ ✓ ✓
1.5 ---R15E ✓ ✓ ✓ ✓	43 ---43RE ✓	820 ---820E ✓	100 ---100E ✓ ✓ ✓	150 ---150E ✓ ✓	200 ---200E ✓ ✓	330 ---330E ✓	430 ---430E ✓	270 ---270E ✓ ✓ ✓ ✓ ✓

Standard part numbers for TWM series

Ohmic value	Part No. Prefix ▶ Suffix ▼	Wattage TWW3J- TWW5J- TWW10J- TWW15J- TWW20J- 20	Ohmic value	Part No. Prefix ▶ Suffix ▼	Wattage TWW3J- TWW5J- TWW10J- TWW15J- TWW20J- 20
43 ---43RE ✓	1000 ---1K0 ✓ ✓ ✓ ✓ ✓	47 ---47RE ✓	1500 ---1K5 ✓ ✓ ✓ ✓	56 ---56RE ✓	2000 ---2K0 ✓ ✓ ✓ ✓
47 ---47RE ✓	1500 ---1K5 ✓ ✓ ✓ ✓	51 ---51RE ✓	2000 ---2K0 ✓ ✓ ✓ ✓	68 ---68RE ✓	2700 ---2K7 ✓ ✓ ✓ ✓ ✓
56 ---56RE ✓	2000 ---2K0 ✓ ✓ ✓ ✓	56 ---56RE ✓	2700 ---2K7 ✓ ✓ ✓ ✓ ✓	75 ---75RE ✓	3000 ---3K0 ✓ ✓ ✓
68 ---68RE ✓	2700 ---2K7 ✓ ✓ ✓ ✓ ✓	82 ---82RE ✓	3300 ---3K3 ✓ ✓ ✓	82 ---82RE ✓	3300 ---3K3 ✓ ✓ ✓
75 ---75RE ✓	3000 ---3K0 ✓ ✓ ✓	100 ---100E ✓ ✓ ✓	3900 ---3K9 ✓ ✓ ✓	100 ---100E ✓ ✓ ✓	3900 ---3K9 ✓ ✓ ✓
82 ---82RE ✓	3300 ---3K3 ✓ ✓ ✓	100 ---100E ✓ ✓ ✓	4300 ---4K3 ✓ ✓ ✓	150 ---150E ✓ ✓ ✓	4300 ---4K3 ✓ ✓ ✓
100 ---100E ✓ ✓ ✓	3900 ---3K9 ✓ ✓ ✓	150 ---150E ✓ ✓ ✓	4300 ---4K3 ✓ ✓ ✓	200 ---200E ✓ ✓	4700 ---4K7 ✓ ✓ ✓ ✓ ✓
150 ---150E ✓ ✓ ✓	4300 ---4K3 ✓ ✓ ✓	200 ---200E ✓ ✓	4700 ---4K7 ✓ ✓ ✓ ✓ ✓	200 ---200E ✓ ✓	4700 ---4K7 ✓ ✓ ✓ ✓ ✓
200 ---200E ✓ ✓	4700 ---4K7 ✓ ✓ ✓ ✓ ✓	270 ---270E ✓	5600 ---5K6 ✓ ✓ ✓	270 ---270E ✓	5600 ---5K6 ✓ ✓ ✓
270 ---270E ✓	5600 ---5K6 ✓ ✓ ✓	300 ---300E ✓	5100 ---5K1 ✓	300 ---300E ✓	5100 ---5K1 ✓
300 ---300E ✓	5100 ---5K1 ✓	330 ---330E ✓	6800 ---6K8 ✓ ✓ ✓	330 ---330E ✓	6800 ---6K8 ✓ ✓ ✓
330 ---330E ✓	6800 ---6K8 ✓ ✓ ✓	330 ---330E ✓	7500 ---7K5 ✓ ✓ ✓ ✓	390 ---390E ✓	7500 ---7K5 ✓ ✓ ✓ ✓
390 ---390E ✓	7500 ---7K5 ✓ ✓ ✓	390 ---390E ✓	8200 ---8K2 ✓ ✓ ✓	430 ---430E ✓	8200 ---8K2 ✓ ✓ ✓
430 ---430E ✓	8200 ---8K2 ✓ ✓ ✓	430 ---430E ✓	10000 ---10K ✓ ✓ ✓ ✓ ✓	470 ---470E ✓	10000 ---10K ✓ ✓ ✓ ✓ ✓
470 ---470E ✓	10000 ---10K ✓ ✓ ✓ ✓ ✓	500 ---500E ✓	27000 ---27K ✓	560 ---560E ✓	27000 ---27K ✓
500 ---500E ✓	27000 ---27K ✓	560 ---560E ✓	47000 ---47K ✓	680 ---680E ✓	47000 ---47K ✓
560 ---560E ✓	47000 ---47K ✓	680 ---680E ✓	51000 ---51K ✓	750 ---750E ✓	51000 ---51K ✓
680 ---680E ✓	51000 ---51K ✓	750 ---750E ✓	75000 ---75K ✓	820 ---820E ✓	75000 ---75K ✓