

# 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

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

### Derating



(continued)

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### DIMENSIONS

| 3-10 watt Series | Height (in./mm) ±1mm | Width (in./mm) ±1mm |
|------------------|----------------------|---------------------|
| TWW3             | 0.98 / 25            | 0.33 / 8.5          |
| TWW5             | 0.98 / 25            | 0.35 / 9            |
| TWM10            | 1.97 / 50            | 0.35 / 9            |
| TWM3             | 0.98 / 25            | 0.33 / 8.5          |
| TWM5             | 0.98 / 25            | 0.35 / 9            |
| TWM10            | 1.97 / 50            | 0.35 / 9            |



### HOW TO ORDER



#### Standard part numbers for TWW series

| Ohmic value | Part No. Prefix Suffix | Wattage |   |    |    |    |
|-------------|------------------------|---------|---|----|----|----|
|             |                        | 3       | 5 | 10 | 15 | 20 |
| 0.01        | R01E                   | ✓       | ✓ |    |    |    |
| 0.02        | R02E                   | ✓       | ✓ |    |    |    |
| 0.03        | R03E                   | ✓       | ✓ |    |    |    |
| 0.04        | R04E                   | ✓       | ✓ | ✓  |    |    |
| 0.05        | R05E                   | ✓       | ✓ | ✓  |    |    |
| 0.10        | R10E                   | ✓       | ✓ | ✓  | ✓  |    |
| 0.15        | R15E                   | ✓       | ✓ | ✓  | ✓  |    |
| 0.20        | R20E                   | ✓       | ✓ | ✓  | ✓  |    |
| 0.27        | R27E                   | ✓       | ✓ | ✓  | ✓  |    |
| 0.30        | R30E                   | ✓       | ✓ | ✓  | ✓  |    |
| 0.33        | R33E                   | ✓       | ✓ | ✓  | ✓  |    |
| 0.39        | R39E                   | ✓       | ✓ | ✓  | ✓  |    |
| 0.43        | R43E                   | ✓       | ✓ | ✓  | ✓  |    |
| 0.47        | R47E                   | ✓       | ✓ | ✓  | ✓  |    |
| 0.56        | R56E                   | ✓       | ✓ | ✓  | ✓  |    |
| 0.68        | R68E                   | ✓       | ✓ | ✓  | ✓  |    |
| 0.75        | R75E                   | ✓       | ✓ | ✓  | ✓  |    |
| 0.82        | R82E                   | ✓       | ✓ | ✓  | ✓  |    |
| 1.0         | R10E                   | ✓       | ✓ | ✓  | ✓  |    |
| 1.5         | R15E                   | ✓       | ✓ | ✓  | ✓  |    |
| 2.0         | R20E                   | ✓       | ✓ | ✓  | ✓  |    |
| 2.7         | R27E                   | ✓       | ✓ | ✓  | ✓  |    |
| 3.0         | R30E                   | ✓       | ✓ | ✓  | ✓  |    |
| 3.3         | R33E                   | ✓       | ✓ | ✓  | ✓  |    |
| 3.9         | R39E                   | ✓       | ✓ | ✓  | ✓  |    |
| 4.3         | R43E                   | ✓       | ✓ | ✓  | ✓  |    |
| 4.7         | R47E                   | ✓       | ✓ | ✓  | ✓  |    |
| 5.6         | R56E                   | ✓       | ✓ | ✓  | ✓  |    |
| 6.8         | R68E                   | ✓       | ✓ | ✓  | ✓  |    |
| 7.5         | R75E                   | ✓       | ✓ | ✓  | ✓  |    |
| 8.2         | R82E                   | ✓       | ✓ | ✓  | ✓  |    |
| 10          | R10E                   | ✓       | ✓ | ✓  | ✓  |    |
| 15          | R15E                   | ✓       | ✓ | ✓  | ✓  |    |
| 20          | R20E                   | ✓       | ✓ | ✓  | ✓  |    |
| 22          | R22E                   | ✓       | ✓ | ✓  | ✓  |    |
| 27          | R27E                   | ✓       | ✓ | ✓  | ✓  |    |
| 30          | R30E                   | ✓       | ✓ | ✓  | ✓  |    |
| 33          | R33E                   | ✓       | ✓ | ✓  | ✓  |    |
| 39          | R39E                   | ✓       | ✓ | ✓  | ✓  |    |
| 43          | R43E                   | ✓       | ✓ | ✓  | ✓  |    |
| 47          | R47E                   | ✓       | ✓ | ✓  | ✓  |    |
| 51          | R51E                   | ✓       | ✓ | ✓  | ✓  |    |
| 56          | R56E                   | ✓       | ✓ | ✓  | ✓  |    |
| 68          | R68E                   | ✓       | ✓ | ✓  | ✓  |    |
| 75          | R75E                   | ✓       | ✓ | ✓  | ✓  |    |
| 82          | R82E                   | ✓       | ✓ | ✓  | ✓  |    |
| 100         | R100E                  | ✓       | ✓ | ✓  | ✓  |    |
| 150         | R150E                  | ✓       | ✓ | ✓  | ✓  |    |
| 200         | R200E                  | ✓       | ✓ | ✓  | ✓  |    |
| 270         | R270E                  | ✓       | ✓ | ✓  | ✓  |    |
| 300         | R300E                  | ✓       | ✓ | ✓  | ✓  |    |
| 330         | R330E                  | ✓       | ✓ | ✓  | ✓  |    |
| 390         | R390E                  | ✓       | ✓ | ✓  | ✓  |    |
| 430         | R430E                  | ✓       | ✓ | ✓  | ✓  |    |
| 470         | R470E                  | ✓       | ✓ | ✓  | ✓  |    |
| 500         | R500E                  | ✓       | ✓ | ✓  | ✓  |    |
| 560         | R560E                  | ✓       | ✓ | ✓  | ✓  |    |
| 680         | R680E                  | ✓       | ✓ | ✓  | ✓  |    |
| 750         | R750E                  | ✓       | ✓ | ✓  | ✓  |    |
| 820         | R820E                  | ✓       | ✓ | ✓  | ✓  |    |

#### Standard part numbers for TWM series

| Ohmic value | Part No. Prefix Suffix | Wattage |   |    |    |    |
|-------------|------------------------|---------|---|----|----|----|
|             |                        | 3       | 5 | 10 | 15 | 20 |
| 43          | R43E                   | ✓       | ✓ | ✓  | ✓  | ✓  |
| 47          | R47E                   | ✓       | ✓ | ✓  | ✓  | ✓  |
| 56          | R56E                   | ✓       | ✓ | ✓  | ✓  | ✓  |
| 68          | R68E                   | ✓       | ✓ | ✓  | ✓  | ✓  |
| 75          | R75E                   | ✓       | ✓ | ✓  | ✓  | ✓  |
| 82          | R82E                   | ✓       | ✓ | ✓  | ✓  | ✓  |
| 100         | R100E                  | ✓       | ✓ | ✓  | ✓  | ✓  |
| 150         | R150E                  | ✓       | ✓ | ✓  | ✓  | ✓  |
| 200         | R200E                  | ✓       | ✓ | ✓  | ✓  | ✓  |
| 270         | R270E                  | ✓       | ✓ | ✓  | ✓  | ✓  |
| 300         | R300E                  | ✓       | ✓ | ✓  | ✓  | ✓  |
| 330         | R330E                  | ✓       | ✓ | ✓  | ✓  | ✓  |
| 390         | R390E                  | ✓       | ✓ | ✓  | ✓  | ✓  |
| 430         | R430E                  | ✓       | ✓ | ✓  | ✓  | ✓  |
| 470         | R470E                  | ✓       | ✓ | ✓  | ✓  | ✓  |
| 560         | R560E                  | ✓       | ✓ | ✓  | ✓  | ✓  |
| 680         | R680E                  | ✓       | ✓ | ✓  | ✓  | ✓  |
| 750         | R750E                  | ✓       | ✓ | ✓  | ✓  | ✓  |
| 820         | R820E                  | ✓       | ✓ | ✓  | ✓  | ✓  |
| 1000        | R1K0                   | ✓       | ✓ | ✓  | ✓  | ✓  |
| 1500        | R1K5                   | ✓       | ✓ | ✓  | ✓  | ✓  |
| 2000        | R2K0                   | ✓       | ✓ | ✓  | ✓  | ✓  |
| 2700        | R2K7                   | ✓       | ✓ | ✓  | ✓  | ✓  |
| 3000        | R3K0                   | ✓       | ✓ | ✓  | ✓  | ✓  |
| 3300        | R3K3                   | ✓       | ✓ | ✓  | ✓  | ✓  |
| 3900        | R3K9                   | ✓       | ✓ | ✓  | ✓  | ✓  |
| 4300        | R4K3                   | ✓       | ✓ | ✓  | ✓  | ✓  |
| 4700        | R4K7                   | ✓       | ✓ | ✓  | ✓  | ✓  |
| 5600        | R5K6                   | ✓       | ✓ | ✓  | ✓  | ✓  |
| 5100        | R5K1                   | ✓       | ✓ | ✓  | ✓  | ✓  |
| 6800        | R6K8                   | ✓       | ✓ | ✓  | ✓  | ✓  |
| 7500        | R7K5                   | ✓       | ✓ | ✓  | ✓  | ✓  |
| 8200        | R8K2                   | ✓       | ✓ | ✓  | ✓  | ✓  |
| 10000       | R10K                   | ✓       | ✓ | ✓  | ✓  | ✓  |
| 27000       | R27K                   | ✓       | ✓ | ✓  | ✓  | ✓  |
| 47000       | R47K                   | ✓       | ✓ | ✓  | ✓  | ✓  |
| 51000       | R51K                   | ✓       | ✓ | ✓  | ✓  | ✓  |
| 75000       | R75K                   | ✓       | ✓ | ✓  | ✓  | ✓  |