

# 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 |   |    |    |    | Ohmic value | Part No. Prefix Suffix | Wattage |   |    |    |    |
|-------------|------------------------|---------|---|----|----|----|-------------|------------------------|---------|---|----|----|----|
|             |                        | 3       | 5 | 10 | 15 | 20 |             |                        | 3       | 5 | 10 | 15 | 20 |
| 0.01        | R01E                   | ✓       | ✓ |    |    |    | 2.0         | R0E                    | ✓       | ✓ | ✓  |    |    |
| 0.02        | R02E                   | ✓       | ✓ |    |    |    | 2.7         | R07E                   | ✓       | ✓ | ✓  |    |    |
| 0.03        | R03E                   | ✓       | ✓ |    |    |    | 3.0         | R0E                    | ✓       | ✓ | ✓  |    | ✓  |
| 0.04        | R04E                   | ✓       | ✓ | ✓  |    |    | 3.3         | R3E                    | ✓       | ✓ | ✓  |    |    |
| 0.05        | R05E                   | ✓       | ✓ | ✓  |    |    | 3.9         | R9E                    | ✓       | ✓ | ✓  |    |    |
| 0.10        | R10E                   | ✓       | ✓ | ✓  | ✓  |    | 4.3         | R3E                    | ✓       | ✓ | ✓  |    |    |
| 0.15        | R15E                   | ✓       | ✓ | ✓  | ✓  |    | 4.7         | R7E                    | ✓       | ✓ | ✓  |    |    |
| 0.20        | R20E                   | ✓       | ✓ | ✓  | ✓  |    | 5.6         | R6E                    | ✓       | ✓ | ✓  |    |    |
| 0.27        | R27E                   | ✓       | ✓ | ✓  | ✓  |    | 6.8         | R8E                    | ✓       | ✓ | ✓  |    |    |
| 0.30        | R30E                   | ✓       | ✓ | ✓  | ✓  |    | 7.5         | R5E                    | ✓       | ✓ | ✓  |    |    |
| 0.33        | R33E                   | ✓       | ✓ | ✓  | ✓  |    | 8.2         | R2E                    | ✓       | ✓ | ✓  |    |    |
| 0.39        | R39E                   | ✓       | ✓ | ✓  | ✓  |    | 10          | R0E                    | ✓       | ✓ | ✓  | ✓  |    |
| 0.43        | R43E                   | ✓       | ✓ | ✓  | ✓  |    | 15          | R5E                    | ✓       | ✓ | ✓  | ✓  |    |
| 0.47        | R47E                   | ✓       | ✓ | ✓  | ✓  |    | 20          | R0E                    | ✓       | ✓ | ✓  | ✓  |    |
| 0.56        | R56E                   | ✓       | ✓ | ✓  | ✓  |    | 22          | R2E                    | ✓       | ✓ | ✓  |    |    |
| 0.68        | R68E                   | ✓       | ✓ | ✓  | ✓  |    | 27          | R7E                    | ✓       | ✓ | ✓  | ✓  |    |
| 0.75        | R75E                   | ✓       | ✓ | ✓  | ✓  |    | 30          | R0E                    | ✓       | ✓ | ✓  | ✓  |    |
| 0.82        | R82E                   | ✓       | ✓ | ✓  | ✓  |    | 33          | R3E                    | ✓       | ✓ | ✓  | ✓  |    |
| 1.0         | R0E                    | ✓       | ✓ | ✓  | ✓  |    | 39          | R9E                    | ✓       | ✓ | ✓  | ✓  |    |
| 1.5         | R5E                    | ✓       | ✓ | ✓  | ✓  |    | 43          | R3E                    | ✓       | ✓ | ✓  | ✓  |    |
|             |                        |         |   |    |    |    | 47          | R7E                    | ✓       | ✓ | ✓  | ✓  |    |
|             |                        |         |   |    |    |    | 51          | R1E                    | ✓       | ✓ | ✓  | ✓  |    |
|             |                        |         |   |    |    |    | 56          | R6E                    | ✓       | ✓ | ✓  | ✓  |    |
|             |                        |         |   |    |    |    | 68          | R8E                    | ✓       | ✓ | ✓  | ✓  |    |
|             |                        |         |   |    |    |    | 75          | R5E                    | ✓       | ✓ | ✓  | ✓  |    |
|             |                        |         |   |    |    |    | 82          | R2E                    | ✓       | ✓ | ✓  | ✓  |    |
|             |                        |         |   |    |    |    | 100         | R0E                    | ✓       | ✓ | ✓  | ✓  |    |
|             |                        |         |   |    |    |    | 150         | R5E                    | ✓       | ✓ | ✓  | ✓  |    |
|             |                        |         |   |    |    |    | 200         | R0E                    | ✓       | ✓ | ✓  | ✓  |    |
|             |                        |         |   |    |    |    | 270         | R7E                    | ✓       | ✓ | ✓  | ✓  |    |
|             |                        |         |   |    |    |    | 300         | R0E                    | ✓       | ✓ | ✓  | ✓  |    |
|             |                        |         |   |    |    |    | 330         | R3E                    | ✓       | ✓ | ✓  | ✓  |    |
|             |                        |         |   |    |    |    | 390         | R9E                    | ✓       | ✓ | ✓  | ✓  |    |
|             |                        |         |   |    |    |    | 430         | R3E                    | ✓       | ✓ | ✓  | ✓  |    |
|             |                        |         |   |    |    |    | 470         | R7E                    | ✓       | ✓ | ✓  | ✓  |    |
|             |                        |         |   |    |    |    | 500         | R0E                    | ✓       | ✓ | ✓  | ✓  |    |
|             |                        |         |   |    |    |    | 560         | R6E                    | ✓       | ✓ | ✓  | ✓  |    |
|             |                        |         |   |    |    |    | 680         | R8E                    | ✓       | ✓ | ✓  | ✓  |    |
|             |                        |         |   |    |    |    | 750         | R5E                    | ✓       | ✓ | ✓  | ✓  |    |
|             |                        |         |   |    |    |    | 820         | R2E                    | ✓       | ✓ | ✓  | ✓  |    |

#### Standard part numbers for TWM series

| Ohmic value | Part No. Prefix Suffix | Wattage |   |    |    |    | Ohmic value | Part No. Prefix Suffix | Wattage |   |    |    |    |
|-------------|------------------------|---------|---|----|----|----|-------------|------------------------|---------|---|----|----|----|
|             |                        | 3       | 5 | 10 | 15 | 20 |             |                        | 3       | 5 | 10 | 15 | 20 |
| 43          | R3E                    | ✓       |   |    |    |    | 1000        | R0E                    | ✓       | ✓ | ✓  | ✓  | ✓  |
| 47          | R7E                    | ✓       |   |    |    |    | 1500        | R5E                    | ✓       | ✓ | ✓  | ✓  | ✓  |
| 56          | R6E                    | ✓       | ✓ |    |    |    | 2000        | R0E                    | ✓       | ✓ | ✓  | ✓  | ✓  |
| 68          | R8E                    | ✓       | ✓ | ✓  |    |    | 2700        | R7E                    | ✓       | ✓ | ✓  | ✓  | ✓  |
| 75          | R5E                    | ✓       | ✓ | ✓  |    |    | 3000        | R0E                    | ✓       | ✓ | ✓  | ✓  | ✓  |
| 82          | R2E                    | ✓       | ✓ | ✓  |    |    | 3300        | R3E                    | ✓       | ✓ | ✓  | ✓  | ✓  |
| 100         | R0E                    | ✓       | ✓ | ✓  | ✓  |    | 3900        | R9E                    | ✓       | ✓ | ✓  | ✓  | ✓  |
| 150         | R5E                    | ✓       | ✓ | ✓  | ✓  |    | 4300        | R3E                    | ✓       | ✓ | ✓  | ✓  | ✓  |
| 200         | R0E                    | ✓       | ✓ | ✓  | ✓  |    | 4700        | R7E                    | ✓       | ✓ | ✓  | ✓  | ✓  |
| 270         | R7E                    | ✓       | ✓ | ✓  | ✓  |    | 5600        | R6E                    | ✓       | ✓ | ✓  | ✓  | ✓  |
| 300         | R0E                    | ✓       | ✓ | ✓  | ✓  |    | 5100        | R1E                    | ✓       | ✓ | ✓  | ✓  | ✓  |
| 330         | R3E                    | ✓       | ✓ | ✓  | ✓  |    | 6800        | R8E                    | ✓       | ✓ | ✓  | ✓  | ✓  |
| 390         | R9E                    | ✓       | ✓ | ✓  | ✓  |    | 7500        | R5E                    | ✓       | ✓ | ✓  | ✓  | ✓  |
| 430         | R3E                    | ✓       | ✓ | ✓  | ✓  |    | 8200        | R2E                    | ✓       | ✓ | ✓  | ✓  | ✓  |
| 470         | R7E                    | ✓       | ✓ | ✓  | ✓  |    | 10000       | R0E                    | ✓       | ✓ | ✓  | ✓  | ✓  |
| 560         | R6E                    | ✓       | ✓ | ✓  | ✓  |    | 27000       | R7E                    | ✓       | ✓ | ✓  | ✓  | ✓  |
| 680         | R8E                    | ✓       | ✓ | ✓  | ✓  |    | 47000       | R7E                    | ✓       | ✓ | ✓  | ✓  | ✓  |
| 750         | R5E                    | ✓       | ✓ | ✓  | ✓  |    | 51000       | R1E                    | ✓       | ✓ | ✓  | ✓  | ✓  |
| 820         | R2E                    | ✓       | ✓ | ✓  | ✓  |    | 75000       | R5E                    | ✓       | ✓ | ✓  | ✓  | ✓  |



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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

**Телефон:** 8 (812) 309 58 32 (многоканальный)

**Факс:** 8 (812) 320-02-42

**Электронная почта:** [org@eplast1.ru](mailto:org@eplast1.ru)

**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.