

# TUM/TUW Series

## Ceramic Housed Axial Terminal Power

The TUM/TUW Series resistors are our most economical power resistors. They are recommended for commercial applications where low cost is critical.

They are available in small standard packs for standard values, or bulk packaged for even lower costs.



### FEATURES

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

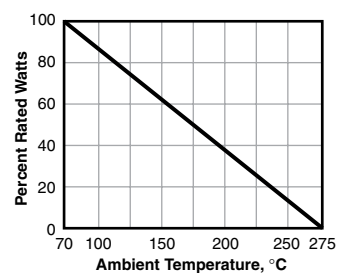
### SERIES SPECIFICATIONS

| Series | Wattage | Ohms      | Voltage | Element     |
|--------|---------|-----------|---------|-------------|
| TUW3   | 3       | 0.01-39   | 350     | Wirewound   |
| TUW5   | 5       | 0.01-47   | 350     | Wirewound   |
| TUW7   | 7       | 0.10-680  | 500     | Wirewound   |
| TUW10  | 10      | 0.10-990  | 750     | Wirewound   |
| TUW15  | 15      | 0.10-1000 | 1000    | Wirewound   |
| TUM3   | 3       | 180-33K   | 350     | Metal oxide |
| TUM5   | 5       | 220-50    | 350     | Metal oxide |
| TUM7   | 7       | 910-50K   | 500     | Metal oxide |
| TUM10  | 10      | 1000-50K  | 750     | Metal oxide |
| TUM15  | 15      | 1100-150K | 1000    | Metal oxide |

### CHARACTERISTICS

|                                        |                                                                   |
|----------------------------------------|-------------------------------------------------------------------|
| <b>Housing</b>                         | Ceramic                                                           |
| <b>Core</b>                            | Fiberglass or metal oxide                                         |
| <b>Filling</b>                         | Cement based                                                      |
| <b>Tolerance</b>                       | 5% standard                                                       |
| <b>TCR</b>                             | 0.01-20Ω ±400ppm/°C<br>20-150KΩ ±350ppm/°C                        |
| <b>Dielectric withstanding voltage</b> | 1,000VAC                                                          |
| <b>Short time overload</b>             | TUW: 10x rated power for 5 sec.<br>TUM: 5x rated power for 5 sec. |

Derating Curve



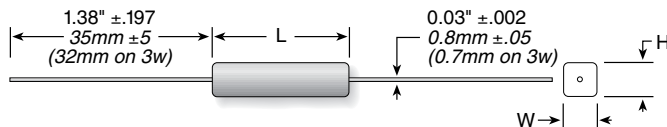
(continued)

# TUM/TUW Series

## Ceramic Housed Axial Terminal Power

### DIMENSIONS

(in./mm)



| Series | Wattage | Length<br>(±1mm) | Height<br>(±1mm) | Width<br>(±1mm) |
|--------|---------|------------------|------------------|-----------------|
| TUW3   | 3       | 0.87 / 22        | 0.31 / 8         | 0.31 / 8        |
| TUW5   | 5       | 0.87 / 22        | 0.35 / 9         | 0.39 / 10       |
| TUW7   | 7       | 1.48 / 35        | 0.35 / 9         | 0.39 / 10       |
| TUW10  | 10      | 1.93 / 49        | 0.35 / 9         | 0.39 / 10       |
| TUW15  | 15      | 1.93 / 49        | 0.45/11.5        | 0.49 / 12.5     |
| TUM3   | 3       | 0.87 / 22        | 0.31 / 8         | 0.31 / 8        |
| TUM5   | 5       | 0.87 / 22        | 0.35 / 9         | 0.39 / 10       |
| TUM7   | 7       | 1.48 / 35        | 0.35 / 9         | 0.39 / 10       |
| TUM10  | 10      | 1.93 / 49        | 0.35 / 9         | 0.39 / 10       |
| TUM15  | 15      | 1.93 / 49        | 0.45/11.5        | 0.49 / 12.5     |

### ORDERING INFORMATION

|                                     |         |                       |                     |
|-------------------------------------|---------|-----------------------|---------------------|
| <b>TUM3J8R2E</b>                    |         |                       | Tolerance<br>J = 5% |
|                                     |         |                       | E = RoHS compliant  |
| Series                              | Wattage | Resistance Value      |                     |
| TUM = Ceramic Housed<br>Metal Oxide | 3       | Example:<br>R50=0.50Ω |                     |
| TUW = Ceramic Housed<br>Wirewound   | 5       | 1R0=1Ω                |                     |
|                                     | 7       | 8R2=8.2Ω              |                     |
|                                     | 10      | 250=250Ω              |                     |
|                                     | 15      | 1K0=1,000Ω            |                     |
|                                     |         | 8K2=8,200Ω            |                     |
|                                     |         | 10K=10,000Ω           |                     |

### Standard part numbers for TUW/TUM series

| 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     |             |             |               |               |       |       |   |   |   |   |   |
|-------------|----------------------------------|-------------|-------------|-------------|---------------|---------------|-------------|----------------------------------|-------------|-------------|-------------|---------------|---------------|-------------|----------------------------------|-------------|-------------|-------------|---------------|---------------|-------|-------|---|---|---|---|---|
|             |                                  | TUW3J-<br>3 | TUW5J-<br>5 | TUW7J-<br>7 | TUW10J-<br>10 | TUW15J-<br>15 |             |                                  | TUW3J-<br>3 | TUW5J-<br>5 | TUW7J-<br>7 | TUW10J-<br>10 | TUW15J-<br>15 |             |                                  | TUW3J-<br>3 | TUW5J-<br>5 | TUW7J-<br>7 | TUW10J-<br>10 | TUW15J-<br>15 |       |       |   |   |   |   |   |
| 0.01        | —R01E                            | ✓           | ✓           |             |               |               | 1.0         | —1R0E                            | ✓           | ✓           | ✓           | ✓             | ✓             | 33          | —33RE                            | ✓           | ✓           | ✓           | ✓             | ✓             | 680   | —680E | ✓ | ✓ | ✓ | ✓ | ✓ |
| 0.01        | —R01E                            | ✓           | ✓           |             |               |               | 1.5         | —1R5E                            | ✓           | ✓           | ✓           | ✓             | ✓             | 39          | —39RE                            | ✓           | ✓           | ✓           | ✓             | ✓             | 750   | —750E | ✓ | ✓ | ✓ | ✓ | ✓ |
| 0.02        | —R02E                            | ✓           | ✓           |             |               |               | 2.0         | —2R0E                            | ✓           | ✓           | ✓           | ✓             | ✓             | 43          | —43RE                            | ✓           | ✓           | ✓           | ✓             | ✓             | 820   | —820E | ✓ | ✓ | ✓ | ✓ | ✓ |
| 0.04        | —R04E                            | ✓           | ✓           |             |               |               | 2.7         | —2R7E                            | ✓           | ✓           | ✓           | ✓             | ✓             | 47          | —47RE                            | ✓           | ✓           | ✓           | ✓             | ✓             | 1000  | —1K0  | ✓ | ✓ | ✓ | ✓ | ✓ |
| 0.05        | —R05E                            | ✓           | ✓           |             |               |               | 3.0         | —3R0E                            | ✓           | ✓           | ✓           | ✓             | ✓             | 56          | —56RE                            | ✓           | ✓           | ✓           | ✓             | ✓             | 1500  | —1K5  | ✓ | ✓ | ✓ | ✓ | ✓ |
| 0.10        | —R10E                            | ✓           | ✓           | ✓           | ✓             | ✓             | 3.3         | —3R3E                            | ✓           | ✓           | ✓           | ✓             | ✓             | 68          | —68RE                            | ✓           | ✓           | ✓           | ✓             | ✓             | 2000  | —2K0  | ✓ | ✓ | ✓ | ✓ | ✓ |
| 0.15        | —R15E                            | ✓           | ✓           | ✓           | ✓             | ✓             | 3.9         | —3R9E                            | ✓           | ✓           | ✓           | ✓             | ✓             | 75          | —75RE                            | ✓           | ✓           | ✓           | ✓             | ✓             | 2700  | —2K7  | ✓ | ✓ | ✓ | ✓ | ✓ |
| 0.20        | —R20E                            | ✓           | ✓           | ✓           | ✓             | ✓             | 4.3         | —4R3E                            | ✓           | ✓           | ✓           | ✓             | ✓             | 82          | —82RE                            | ✓           | ✓           | ✓           | ✓             | ✓             | 3000  | —3K0  | ✓ | ✓ | ✓ | ✓ | ✓ |
| 0.27        | —R27E                            | ✓           | ✓           | ✓           | ✓             | ✓             | 4.7         | —4R7E                            | ✓           | ✓           | ✓           | ✓             | ✓             | 100         | —100E                            | ✓           | ✓           | ✓           | ✓             | ✓             | 3300  | —3K3  | ✓ | ✓ | ✓ | ✓ | ✓ |
| 0.30        | —R30E                            | ✓           | ✓           | ✓           | ✓             | ✓             | 5.6         | —5R6E                            | ✓           | ✓           | ✓           | ✓             | ✓             | 150         | —150E                            | ✓           | ✓           | ✓           | ✓             | ✓             | 3900  | —3K9  | ✓ | ✓ | ✓ | ✓ | ✓ |
| 0.33        | —R33E                            | ✓           | ✓           | ✓           | ✓             | ✓             | 6.8         | —6R8E                            | ✓           | ✓           | ✓           | ✓             | ✓             | 200         | —200E                            | ✓           | ✓           | ✓           | ✓             | ✓             | 4300  | —4K3  | ✓ | ✓ | ✓ | ✓ | ✓ |
| 0.39        | —R39E                            | ✓           | ✓           | ✓           | ✓             | ✓             | 7.5         | —7R5E                            | ✓           | ✓           | ✓           | ✓             | ✓             | 270         | —270E                            | ✓           | ✓           | ✓           | ✓             | ✓             | 4700  | —4K7  | ✓ | ✓ | ✓ | ✓ | ✓ |
| 0.43        | —R43E                            | ✓           | ✓           | ✓           | ✓             | ✓             | 8.2         | —8R2E                            | ✓           | ✓           | ✓           | ✓             | ✓             | 300         | —300E                            | ✓           | ✓           | ✓           | ✓             | ✓             | 5600  | —5K6  | ✓ | ✓ | ✓ | ✓ | ✓ |
| 0.47        | —R47E                            | ✓           | ✓           | ✓           | ✓             | ✓             | 10          | —10RE                            | ✓           | ✓           | ✓           | ✓             | ✓             | 330         | —330E                            | ✓           | ✓           | ✓           | ✓             | ✓             | 6800  | —6K8  | ✓ | ✓ | ✓ | ✓ | ✓ |
| 0.56        | —R56E                            | ✓           | ✓           | ✓           | ✓             | ✓             | 15          | —15RE                            | ✓           | ✓           | ✓           | ✓             | ✓             | 390         | —390E                            | ✓           | ✓           | ✓           | ✓             | ✓             | 7500  | —7K5  | ✓ | ✓ | ✓ | ✓ | ✓ |
| 0.68        | —R68E                            | ✓           | ✓           | ✓           | ✓             | ✓             | 20          | —20RE                            | ✓           | ✓           | ✓           | ✓             | ✓             | 430         | —430E                            | ✓           | ✓           | ✓           | ✓             | ✓             | 8200  | —8K2  | ✓ | ✓ | ✓ | ✓ | ✓ |
| 0.75        | —R75E                            | ✓           | ✓           | ✓           | ✓             | ✓             | 27          | —27RE                            | ✓           | ✓           | ✓           | ✓             | ✓             | 470         | —470E                            | ✓           | ✓           | ✓           | ✓             | ✓             | 10000 | —10K  | ✓ | ✓ | ✓ | ✓ | ✓ |
| 0.82        | —R82E                            | ✓           | ✓           | ✓           | ✓             | ✓             | 30          | —30RE                            | ✓           | ✓           | ✓           | ✓             | ✓             | 560         | —560E                            | ✓           | ✓           | ✓           | ✓             | ✓             |       |       |   |   |   |   |   |

Shaded area: change prefix to TUM