

**Features:**

- WWS offers miniature size at higher power rating
- High performance for low cost
- High power to size ratio
- High temperature silicone coating
- MWW/NMWW – completely molded construction with welded terminations
- Complete welded terminations
- Tinned copper leads
- Available in non-inductive styles
- Tighter tolerances may be available for non-inductive styles - contact Stackpole with requirements
- Higher operating temperatures available
- "B" packaging code denotes bulk packaging - contact Stackpole for package quantities
- WW/NWW/WWS meet UL94V-0
- RoHS compliant and halogen free



**Electrical Specifications – WW, WWS, MWW**

| Type / Code | MIL-R-26 Ref. | Power Rating (Watts) |        | TCR (ppm/°C)                                                             | Ohmic Range (Ω) and Tolerance (*) |             |         |    |
|-------------|---------------|----------------------|--------|--------------------------------------------------------------------------|-----------------------------------|-------------|---------|----|
|             |               | @ 125°C              | @ 70°C |                                                                          | 0.1%                              | 0.5%        | 1%      | 5% |
| WW12        | -             | 0.4                  | 0.5    | < 1 Ω = ± 90 ppm/°C<br>1 Ω to 10 Ω = ± 50 ppm/°C<br>> 10 Ω = ± 20 ppm/°C | 5 - 2 K                           | 3 - 2 K     | 5 - 2 K |    |
| WW1         | -             | 1                    | 1.1    |                                                                          | 2 - 3 K                           |             |         |    |
| WW1A        | RW-70         | 1                    | 1.3    |                                                                          | 1 - 5 K                           |             |         |    |
| WW2         | RW-69         | 1.5                  | 2.1    |                                                                          | 1 - 10 K                          | 0.5 - 10 K  |         |    |
| WWS2        | -             | 2.5                  | 2.6    |                                                                          | 1 - 10 K                          | 0.5 - 10 K  |         |    |
| WW2A        | -             | 2.5                  | 2.6    |                                                                          | 1 - 10 K                          | 0.5 - 10 K  |         |    |
| WW3         | RW-79         | 3                    | 3.2    |                                                                          | 1 - 22 K                          | 0.5 - 22 K  |         |    |
| WWS3        | -             | 3                    | 3.2    |                                                                          | 3 - 10 K                          | 1 - 10 K    |         |    |
| WW3A        | -             | 3                    | 3.4    |                                                                          | 1 - 30 K                          | 0.5 - 30 K  |         |    |
| WW4         | -             | 4                    | 4.3    |                                                                          | 1 - 40 K                          | 0.5 - 40 K  |         |    |
| WWS4        | RW-79         | 4                    | 4.3    |                                                                          | 1 - 22 K                          | 0.5 - 22 K  |         |    |
| WW5         | RW-67, RW-74  | 5                    | 5.1    |                                                                          | 1 - 50 K                          | 0.5 - 50 K  |         |    |
| WWS5        | -             | 5                    | 5.1    |                                                                          | 1 - 40 K                          | 0.5 - 40 K  |         |    |
| WW7         | -             | 6.5                  | 7.2    |                                                                          | 1 - 70 K                          | 0.5 - 70 K  |         |    |
| WWS7        | RW-67, RW-74  | 6.5                  | 7.2    |                                                                          | 1 - 50 K                          | 0.5 - 50 K  |         |    |
| WW7B        | -             | 7                    | 7.7    |                                                                          | 1 - 70 K                          | 0.5 - 70 K  |         |    |
| WW10        | RW-78         | 10                   | 11     |                                                                          | 1 - 100 K                         | 0.5 - 100 K |         |    |
| WWS10       | -             | 10                   | 11     |                                                                          | 1 - 70 K                          | 0.5 - 70 K  |         |    |
| MWW1        | RW-70         | 1                    | 1.3    |                                                                          | 5 - 2 K                           |             |         |    |
| MWW3        | RW-79         | 3                    | 3.2    |                                                                          | 3 - 20 K                          |             |         |    |
| MWW5        | RW-67, RW-74  | 5                    | 5.5    | 2 - 40 K                                                                 |                                   |             |         |    |
| MWW10       | RW-68, RW-74  | 10                   | 11     | 2 - 80 K                                                                 |                                   |             |         |    |

(\*) Other resistance values available - contact Stackpole for details.

Max Voltage Rating =  $\sqrt{P \cdot R}$

**Electrical Specifications – Non-Inductive Styles**

| Type / Code | MIL-R-26 Ref. | Power Rating (Watts) |        | TCR (ppm/°C)                                                             | Ohmic Range (Ω) and Tolerance (*) |  |
|-------------|---------------|----------------------|--------|--------------------------------------------------------------------------|-----------------------------------|--|
|             |               | @ 125°C              | @ 70°C |                                                                          | 1% and 5%                         |  |
| NWW12       | -             | 0.4                  | 0.5    | < 1 Ω = ± 90 ppm/°C<br>1 Ω to 10 Ω = ± 50 ppm/°C<br>> 10 Ω = ± 20 ppm/°C | 10 - 1 K                          |  |
| NWW1        | -             | 1                    | 1.1    |                                                                          | 2 - 1.5 K                         |  |
| NWW1A       | RW-70         | 1                    | 1.3    |                                                                          | 1 - 2.5 K                         |  |
| NWW2        | RW-69         | 1.5                  | 2.1    |                                                                          | 1 - 5 K                           |  |
| NWWS2       | -             | 2.5                  | 2.6    |                                                                          | 1 - 5 K                           |  |
| NWW2A       | -             | 2.5                  | 2.6    |                                                                          | 1 - 5 K                           |  |
| NWW3        | RW-79         | 3                    | 3.2    |                                                                          | 1 - 11 K                          |  |
| NWWS3       | -             | 3                    | 3.2    |                                                                          | 3 - 5 K                           |  |
| NWW3A       | -             | 3                    | 3.4    |                                                                          | 1 - 15 K                          |  |
| NWW4        | -             | 4                    | 4.3    |                                                                          | 1 - 20 K                          |  |
| NWWS4       | RW-79         | 4                    | 4.3    |                                                                          | 1 - 11 K                          |  |
| NWW5        | RW-67, RW-74  | 5                    | 5.1    |                                                                          | 1 - 25 K                          |  |
| NWWS5       | -             | 5                    | 5.1    |                                                                          | 1 - 20 K                          |  |

(\*) Other resistance values available - contact Stackpole for details.

Max Voltage Rating =  $\sqrt{P \cdot R}$

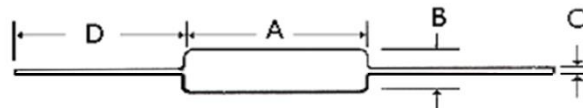
**Electrical Specifications – Non-Inductive Styles (cont.)**

| Type / Code | MIL-R-26 Ref. | Power Rating (Watts) |        | TCR (ppm/°C)                                                                                                                                                                  | Ohmic Range (Ω) and Tolerance <sup>(*)</sup> |
|-------------|---------------|----------------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
|             |               | @ 125°C              | @ 70°C |                                                                                                                                                                               |                                              |
| NWW7        | -             | 6.5                  | 7.2    | $< 1 \Omega = \pm 90 \text{ ppm/}^\circ\text{C}$<br>$1 \Omega \text{ to } 10 \Omega = \pm 50 \text{ ppm/}^\circ\text{C}$<br>$> 10 \Omega = \pm 20 \text{ ppm/}^\circ\text{C}$ | 1 - 35 K                                     |
| NWWS7       | RW-67, RW-74  | 6.5                  | 7.2    |                                                                                                                                                                               | 1 - 25 K                                     |
| NWW7B       | -             | 7                    | 7.7    |                                                                                                                                                                               | 1 - 35 K                                     |
| NWW10       | RW-78         | 10                   | 11     |                                                                                                                                                                               | 1 - 50 K                                     |
| NWWS10      | -             | 10                   | 11     |                                                                                                                                                                               | 1 - 35 K                                     |
| NMWW1       | RW-70         | 1                    | 1.3    |                                                                                                                                                                               | 5 - 1 K                                      |
| NMWW3       | RW-79         | 3                    | 3.2    |                                                                                                                                                                               | 3 - 10 K                                     |
| NMWW5       | RW-67, RW-74  | 5                    | 5.5    |                                                                                                                                                                               | 2 - 20 K                                     |
| NMWW10      | RW-68, RW-74  | 10                   | 11     |                                                                                                                                                                               | 2 - 40 K                                     |

(\*) Other resistance values available - contact Stackpole for details.

Max Voltage Rating =  $\sqrt{P \cdot R}$

**Mechanical Specifications**



| Type / Code                 | A             | B             | C             | D (Bulk) <sup>(1)</sup> | Unit   |
|-----------------------------|---------------|---------------|---------------|-------------------------|--------|
| WW12 / NWW12                | 0.312 ± 0.062 | 0.110 ± 0.031 | 0.025 ± 0.002 | 1.500 typ.              | inches |
|                             | 7.92 ± 1.57   | 2.79 ± 0.79   | 0.64 ± 0.05   | 38.10 typ.              | mm     |
| WW1, WWS2 / NWW1, NWWS2     | 0.375 ± 0.062 | 0.110 ± 0.031 | 0.025 ± 0.002 | 1.500 typ.              | inches |
|                             | 9.53 ± 1.57   | 2.79 ± 0.79   | 0.64 ± 0.05   | 38.10 typ.              | mm     |
| WW1A / NWW1A                | 0.420 ± 0.062 | 0.110 ± 0.031 | 0.025 ± 0.002 | 1.500 typ.              | inches |
|                             | 10.67 ± 1.57  | 2.79 ± 0.79   | 0.64 ± 0.05   | 38.10 typ.              | mm     |
| WW2, WWS3 / NWW2, NWWS3     | 0.370 ± 0.062 | 0.156 ± 0.031 | 0.032 ± 0.002 | 1.500 typ.              | inches |
|                             | 9.40 ± 1.57   | 3.96 ± 0.79   | 0.81 ± 0.05   | 38.10 typ.              | mm     |
| WW2A / NWW2A                | 0.550 ± 0.062 | 0.156 ± 0.031 | 0.032 ± 0.002 | 1.500 typ.              | inches |
|                             | 13.97 ± 1.57  | 3.96 ± 0.79   | 0.81 ± 0.05   | 38.10 typ.              | mm     |
| WW3, WWS4 / NWW3, NWWS4     | 0.560 ± 0.062 | 0.187 ± 0.031 | 0.032 ± 0.002 | 1.500 typ.              | inches |
|                             | 14.22 ± 1.57  | 4.75 ± 0.79   | 0.81 ± 0.05   | 38.10 typ.              | mm     |
| WW3A / NWW3A                | 0.500 ± 0.062 | 0.218 ± 0.031 | 0.032 ± 0.002 | 1.500 typ.              | inches |
|                             | 12.70 ± 1.57  | 5.54 ± 0.79   | 0.81 ± 0.05   | 38.10 typ.              | mm     |
| WW4, WWS5 / NWW4, NWWS5     | 0.700 ± 0.062 | 0.270 ± 0.031 | 0.036 ± 0.002 | 1.500 typ.              | inches |
|                             | 17.78 ± 1.57  | 6.86 ± 0.79   | 0.91 ± 0.05   | 38.10 typ.              | mm     |
| WW5, WWS7 / NWW5, NWWS7     | 0.875 ± 0.062 | 0.312 ± 0.031 | 0.036 ± 0.002 | 1.500 typ.              | inches |
|                             | 22.23 ± 1.57  | 7.92 ± 0.79   | 0.91 ± 0.05   | 38.10 typ.              | mm     |
| WW7 / NWW7                  | 1.000 ± 0.062 | 0.312 ± 0.031 | 0.036 ± 0.002 | 1.500 typ.              | inches |
|                             | 25.40 ± 1.57  | 7.92 ± 0.79   | 0.91 ± 0.05   | 38.10 typ.              | mm     |
| WW7B, WWS10 / NWW7B, NWWS10 | 1.200 ± 0.062 | 0.312 ± 0.031 | 0.036 ± 0.002 | 1.500 typ.              | inches |
|                             | 30.48 ± 1.57  | 7.92 ± 0.79   | 0.91 ± 0.05   | 38.10 typ.              | mm     |
| WW10 / NWW10 <sup>(2)</sup> | 1.780 ± 0.062 | 0.375 ± 0.031 | 0.040 ± 0.002 | 1.500 typ.              | inches |
|                             | 45.21 ± 1.57  | 9.53 ± 0.79   | 1.02 ± 0.05   | 38.10 typ.              | mm     |
| MWW1 / NMWW1                | 0.385 ± 0.062 | 0.135 ± 0.031 | 0.032 ± 0.002 | 1.500 typ.              | inches |
|                             | 9.78 ± 1.57   | 3.43 ± 0.79   | 0.81 ± 0.05   | 38.10 typ.              | mm     |
| MWW3 / NMWW3                | 0.560 ± 0.062 | 0.205 ± 0.031 | 0.032 ± 0.002 | 1.500 typ.              | inches |
|                             | 14.22 ± 1.57  | 5.21 ± 0.79   | 0.81 ± 0.05   | 38.10 typ.              | mm     |
| MWW5 / NMWW5                | 0.925 ± 0.062 | 0.330 ± 0.031 | 0.036 ± 0.002 | 1.500 typ.              | inches |
|                             | 23.50 ± 1.57  | 8.38 ± 0.79   | 0.91 ± 0.05   | 38.10 typ.              | mm     |
| MWW10 / NMWW10              | 1.965 ± 0.062 | 0.480 ± 0.031 | 0.040 ± 0.002 | 1.500 typ.              | inches |
|                             | 49.91 ± 1.57  | 12.19 ± 0.79  | 1.02 ± 0.05   | 38.10 typ.              | mm     |

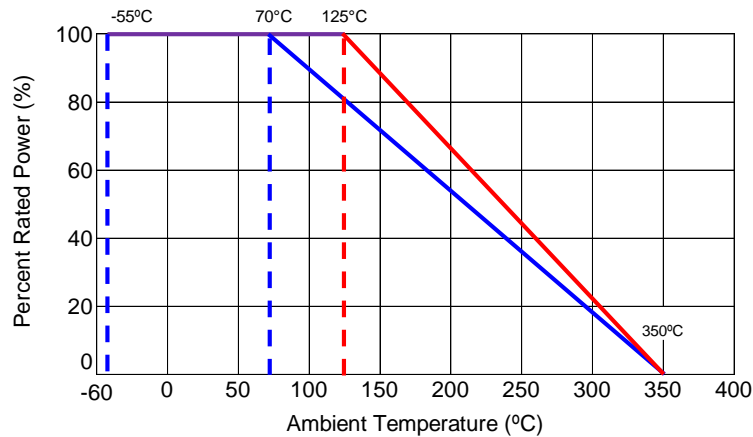
(1) See "Resistor Packaging Specification Document" for lead length dimension for tape and reel packaged product.

(2) Lead diameter (C) available in 0.036" / 0.91 mm.

| Performance Characteristics  |                                                                                      |                                                         |
|------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------|
| Test                         | Test Condition                                                                       | Test Specification                                      |
| Moisture Resistance          | 1000 hours, 95% R.H., 40°C                                                           | 1% max                                                  |
| Load Life                    | 1000 hours,<br>cycled power 1.5 hours ON, 0.5 hours OFF, 25°C                        | 1%                                                      |
| Temperature Cycling          | 5 cycles, -55°C to 200°C                                                             | 0.5%                                                    |
| Short Time Overload          | 5 times rated power for 5 seconds                                                    | 1%                                                      |
| Dielectric Withstand Voltage | Resistor leads are grounded and high potential probe is touched to the resistor body | 500V for (N)WW12, 1, 1A and 2S.<br>1000V for all others |

Operating Temperature Range: -55°C to +350°C

**Power Derating Curve:**



**Recommended Solder Profiles**

This information is intended as a reference for solder profiles for Stackpole resistive components. These profiles should be compatible with most soldering processes. These are only recommendations. Actual numbers will depend on board density, geometry, packages used, etc., especially those cells labeled with “\*”.

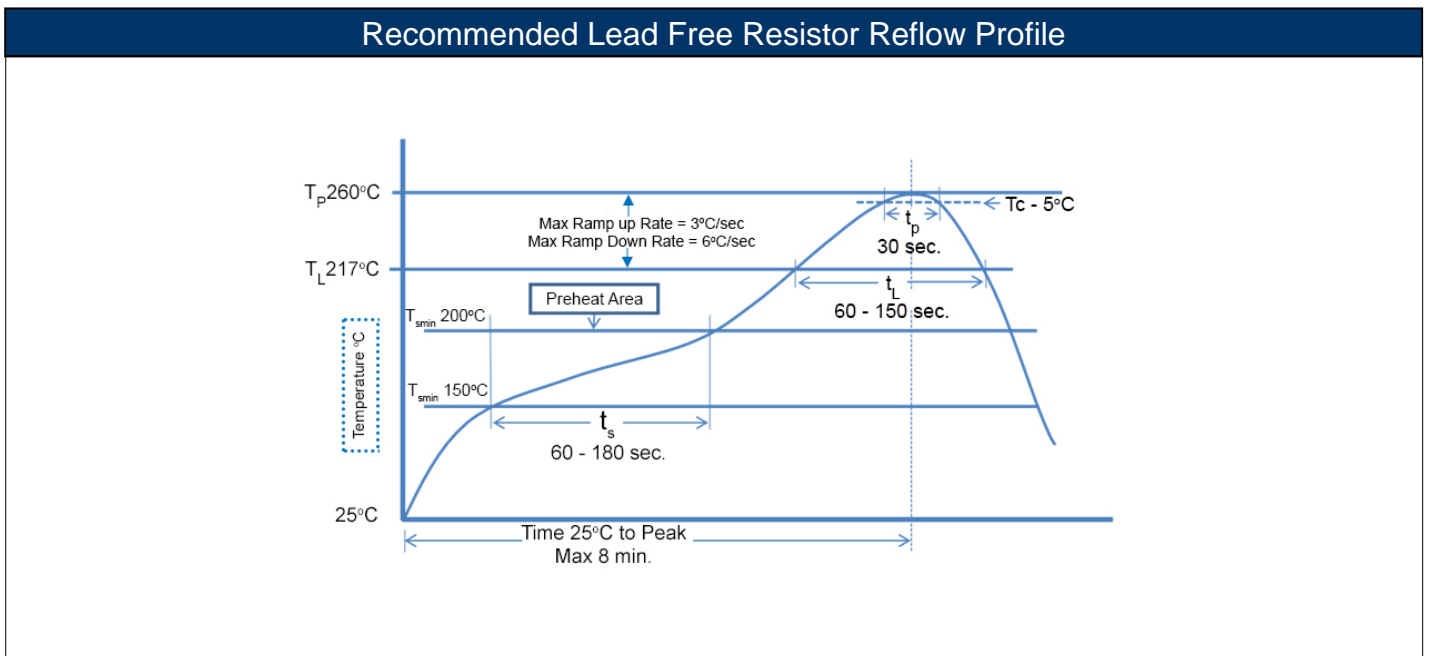
**100% Matte Tin / RoHS Compliant Terminations**

Soldering iron recommended temperatures: 330°C to 350°C with minimum duration.  
 Maximum number of reflow cycles: 3.

| Wave Soldering     |            |             |            |
|--------------------|------------|-------------|------------|
| Description        | Maximum    | Recommended | Minimum    |
| Preheat Time       | 80 seconds | 70 seconds  | 60 seconds |
| Temperature Diff.  | 140°C      | 120°C       | 100°C      |
| Solder Temp.       | 260°C      | 250°C       | 240°C      |
| Dwell Time at Max. | 10 seconds | 5 seconds   | *          |
| Ramp DN (°C/sec)   | N/A        | N/A         | N/A        |

Temperature Diff. = Defference between final preheat stage and soldering stage.

| Convection IR Reflow |             |             |            |
|----------------------|-------------|-------------|------------|
| Description          | Maximum     | Recommended | Minimum    |
| Ramp Up (°C/sec)     | 3°C/sec     | 2°C/sec     | *          |
| Dwell Time > 217°C   | 150 seconds | 90 seconds  | 60 seconds |
| Solder Temp.         | 260°C       | 245°C       | *          |
| Dwell Time at Max.   | 30 seconds  | 15 seconds  | 10 seconds |
| Ramp DN (°C/sec)     | 6°C/sec     | 3°C/sec     | *          |



### Lead-Tape Specifications

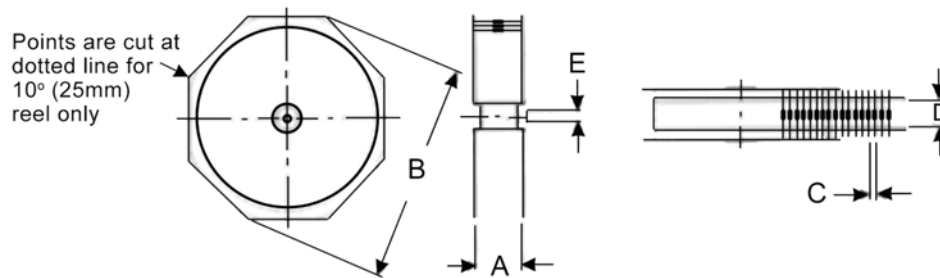
| Type / Code             | A max <sup>(1)</sup> | B max            | C                            | D <sup>(2)</sup>              | Tape          | Unit         |
|-------------------------|----------------------|------------------|------------------------------|-------------------------------|---------------|--------------|
| WW12                    | 2.880<br>73.15       | 11.000<br>279.40 | 0.197 ± 0.020<br>5.00 ± 0.50 | 2.063 ± 0.079<br>52.40 ± 2.00 | 0.250<br>6.35 | inches<br>mm |
| WW1, WWS2<br>NWW1, NWS2 | 2.880<br>73.15       | 11.000<br>279.40 | 0.197 ± 0.020<br>5.00 ± 0.50 | 2.063 ± 0.079<br>52.40 ± 2.00 | 0.250<br>6.35 | inches<br>mm |
| WW1A, NWW1A             | 2.880<br>73.15       | 11.000<br>279.40 | 0.197 ± 0.020<br>5.00 ± 0.50 | 2.063 ± 0.079<br>52.40 ± 2.00 | 0.250<br>6.35 | inches<br>mm |

Dimension "E": This is a non-critical dimension that does not have a tolerance in the standard.  
 Range of diameters is from 0.547 inches (13.90 mm) to 1.500 inches (38.10 mm).

(1) Reference value only. The "A" dimension shall be governed by the overall length of the taped component.  
 The distance between flanges shall be 0.059 inches (1.50 mm) to 0.315 (8.00 mm) greater than the overall component.

(2) The given dimension "D" expresses the standard width spacing. A 26mm narrow spacing is available as option "N" packaging code.

**Lead-Tape Specifications (cont.)**



| Type / Code   | A max <sup>(1)</sup> | B max  | C             | D <sup>(2)</sup> | Tape  | Unit   |
|---------------|----------------------|--------|---------------|------------------|-------|--------|
| WW2, WWS3     | 2.880                | 11.000 | 0.197 ± 0.020 | 2.063 ± 0.079    | 0.250 | inches |
| NWW2, NWS3    | 73.15                | 279.40 | 5.00 ± 0.50   | 52.40 ± 2.00     | 6.35  | mm     |
| WW2A, NWW2A   | 2.880                | 11.000 | 0.197 ± 0.020 | 2.063 ± 0.079    | 0.250 | inches |
|               | 73.15                | 279.40 | 5.00 ± 0.50   | 52.40 ± 2.00     | 6.35  | mm     |
| WW3, WWS4     | 2.880                | 11.000 | 0.197 ± 0.020 | 2.500 ± 0.079    | 0.250 | inches |
| NWW3, NWS4    | 73.15                | 279.40 | 5.00 ± 0.50   | 63.50 ± 2.00     | 6.35  | mm     |
| WW3A, NWW3A   | 3.740                | 11.000 | 0.394 ± 0.020 | 2.874 ± 0.079    | 0.250 | inches |
|               | 95.00                | 279.40 | 10.00 ± 0.50  | 73.00 ± 2.00     | 6.35  | mm     |
| WW4, WWS5     | 2.500                | 11.000 | 0.394 ± 0.020 | 2.500 ± 0.079    | 0.250 | inches |
| NWW4, NWS5    | 63.50                | 279.40 | 10.00 ± 0.50  | 63.50 ± 2.00     | 6.35  | mm     |
| WW5, WWS7     | 3.740                | 11.000 | 0.394 ± 0.020 | 2.874 ± 0.079    | 0.250 | inches |
| NWW5, NWS7    | 95.00                | 279.40 | 10.00 ± 0.50  | 73.00 ± 2.00     | 6.35  | mm     |
| WW7, NWW7     | 5.100                | 11.000 | 0.394 ± 0.020 | 2.874 ± 0.079    | 0.250 | inches |
|               | 129.54               | 279.40 | 10.00 ± 0.50  | 73.00 ± 2.00     | 6.35  | mm     |
| WW7B, WWS10   | 5.100                | 11.000 | 0.394 ± 0.020 | 2.874 ± 0.079    | 0.250 | inches |
| NWW7B, NWS10  | 129.54               | 279.40 | 10.00 ± 0.50  | 73.00 ± 2.00     | 6.35  | mm     |
| WW10, NWW10   | 5.100                | 11.000 | 0.394 ± 0.020 | 2.874 ± 0.079    | 0.250 | inches |
|               | 129.54               | 279.40 | 10.00 ± 0.50  | 73.00 ± 2.00     | 6.35  | mm     |
| MWW1, NMWW1   | 3.311                | 13.504 | 0.197 ± 0.020 | 2.063 ± 0.079    | 0.250 | inches |
|               | 84.10                | 343.00 | 5.00 ± 0.50   | 52.40 ± 2.00     | 6.35  | mm     |
| MWW3, NMWW3   | 3.484                | 13.504 | 0.394 ± 0.020 | 2.063 ± 0.079    | 0.250 | inches |
|               | 88.50                | 343.00 | 10.00 ± 0.50  | 52.40 ± 2.00     | 6.35  | mm     |
| MWW5, NMWW5   | 3.850                | 13.504 | 0.394 ± 0.020 | 2.874 ± 0.079    | 0.250 | inches |
|               | 97.80                | 343.00 | 10.00 ± 0.50  | 73.00 ± 2.00     | 6.35  | mm     |
| MWW10, NMWW10 | 4.764                | 13.504 | 0.394 ± 0.020 | 4.310 ± 0.079    | 0.250 | inches |
|               | 121.00               | 343.00 | 10.00 ± 0.50  | 109.47 ± 2.00    | 6.35  | mm     |

Dimension "E": This is a non-critical dimension that does not have a tolerance in the standard.

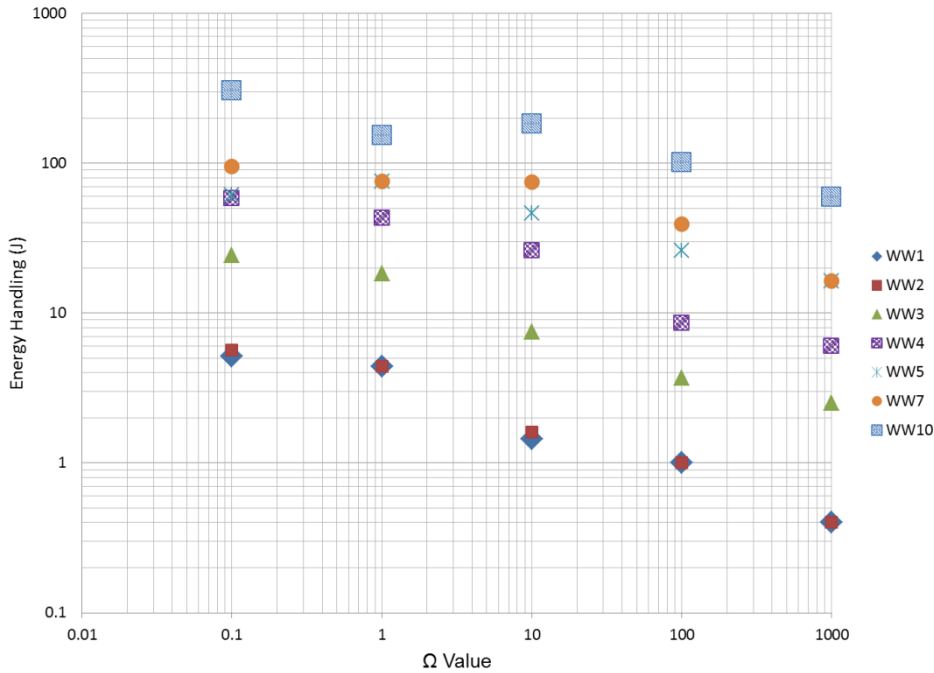
Range of diameters is from 0.547 inches (13.90 mm) to 1.500 inches (38.10 mm).

(1) Reference value only. The "A" dimension shall be governed by the overall length of the taped component.

The distance between flanges shall be 0.059 inches (1.50 mm) to 0.315 (8.00 mm) greater than the overall component.

(2) The given dimension "D" expresses the standard width spacing. A 26mm narrow spacing is available as option "N" packaging code.

**Energy Handling Capability:**  
 (Typical performance - for reference only.)



**RoHS Compliance**

Stackpole Electronics has joined the worldwide effort to reduce the amount of lead in electronic components and to meet the various regulatory requirements now prevalent, such as the European Union’s directive regarding “Restrictions on Hazardous Substances” (RoHS 3). As part of this ongoing program, we periodically update this document with the status regarding the availability of our compliant components. All our standard part numbers are compliant to EU Directive 2011/65/EU of the European Parliament as amended by Directive (EU) 2015/863/EU as regards the list of restricted substances.

| RoHS Compliance Status  |                                                                                            |                            |                                |                                   |                                                    |                                       |
|-------------------------|--------------------------------------------------------------------------------------------|----------------------------|--------------------------------|-----------------------------------|----------------------------------------------------|---------------------------------------|
| Standard Product Series | Description                                                                                | Package / Termination Type | Standard Series RoHS Compliant | Lead-Free Termination Composition | Lead-Free Mfg. Effective Date (Std Product Series) | Lead-Free Effective Date Code (YY/WW) |
| MWW                     | General Purpose and Precision Leaded Wirewound Resistor - Molded                           | Axial                      | YES                            | 100% Matte Sn                     | Jan-06                                             | 06/01                                 |
| NWW                     | General Purpose and Precision Leaded Wirewound Resistor - Conformal Coated - Non-Inductive | Axial                      | YES                            | 100% Matte Sn                     | Jan-06                                             | 06/01                                 |
| WW                      | General Purpose and Precision Leaded Wirewound Resistor - Conformal Coated - Non-Inductive | Axial                      | YES                            | 100% Matte Sn                     | Jan-06                                             | 06/01                                 |

**“Conflict Metals” Commitment**

We at Stackpole Electronics, Inc. are joined with our industry in opposing the use of metals mined in the “conflict region” of the eastern Democratic Republic of the Congo (DRC) in our products. Recognizing that the supply chain for metals used in the electronics industry is very complex, we work closely with our own suppliers to verify to the extent possible that the materials and products we supply do not contain metals sourced from this conflict region. As such, we are in compliance with the requirements of Dodd-Frank Act regarding Conflict Minerals.

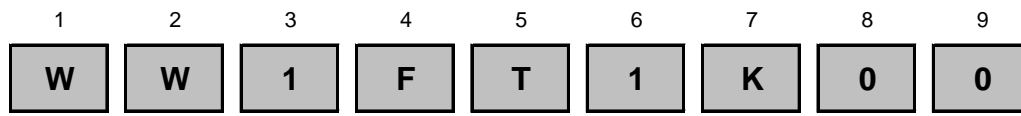
**Compliance to “REACH”**

We certify that all passive components supplied by Stackpole Electronics, Inc. are SVHC (Substances of Very High Concern) free and compliant with the requirements of EU Directive 1907/2006/EC, “The Registration, Evaluation, Authorization and Restriction of Chemicals”, otherwise referred to as REACH. Contact us for complete list of REACH Substance Candidate List.

**Environmental Policy**

It is the policy of Stackpole Electronics, Inc. (SEI) to protect the environment in all localities in which we operate. We continually strive to improve our effect on the environment. We observe all applicable laws and regulations regarding the protection of our environment and all requests related to the environment to which we have agreed. We are committed to the prevention of all forms of pollution.

**How to Order**



| Product Series |                      | Type / Code   | Power Rating (W) |        | Tolerance                                 |      | Packaging |                   |          | Resistance Value                                                                                                    |      |     |
|----------------|----------------------|---------------|------------------|--------|-------------------------------------------|------|-----------|-------------------|----------|---------------------------------------------------------------------------------------------------------------------|------|-----|
| Code           | Description          |               | @ 125°C          | @ 70°C | Code                                      | Tol  | Code      | Description       | Quantity |                                                                                                                     |      |     |
| WW             | Standard             | WW12 / NWW12  | 0.4              | 0.5    | B                                         | 0.1% | T         | 11" Tape and Reel | 2500     | Four characters with the multiplier used as the decimal holder.<br>0.5 ohm = R500<br>1 ohm = 1R00<br>10 Kohm = 10K0 |      |     |
| WWS            | Mini                 | WW1 / NWW1    | 1                | 1.1    | D                                         | 0.5% |           |                   |          |                                                                                                                     |      |     |
| MWW            | Molded               | WW1A / NWW1A  | 1                | 1.3    | F                                         | 1%   |           |                   |          |                                                                                                                     |      |     |
| NWW            | Non-Inductive        | WW2 / NWW2    | 1.5              | 2.1    | J                                         | 5%   |           |                   |          |                                                                                                                     |      |     |
| NWWWS          | Mini                 | WWS2 / NWWWS2 | 2.5              | 2.6    |                                           |      |           |                   |          |                                                                                                                     | 2000 | 500 |
|                | Non-Inductive        | WW2A / NWW2A  | 2.5              | 2.6    |                                           |      |           |                   |          |                                                                                                                     |      |     |
| NMWW           | Non-Inductive Molded | WW3 / NWW3    | 3                | 3.2    |                                           |      |           |                   |          |                                                                                                                     | 250  |     |
|                |                      | WWS3 / NWWWS3 | 3                | 3.2    |                                           |      |           |                   |          |                                                                                                                     |      |     |
|                |                      | WW3A / NWW3A  | 3                | 3.4    |                                           |      |           |                   |          |                                                                                                                     |      |     |
|                |                      | WW4 / NWW4    | 4                | 4.3    |                                           |      |           |                   |          |                                                                                                                     |      |     |
|                |                      | WWS4 / NWWWS4 | 4                | 4.3    |                                           |      |           |                   |          |                                                                                                                     |      |     |
|                |                      | WW5 / NWW5    | 5                | 5.1    |                                           |      |           |                   |          |                                                                                                                     |      |     |
|                |                      | WWS5 / NWWWS5 | 5                | 5.1    |                                           |      |           |                   |          |                                                                                                                     |      |     |
|                |                      | WW7 / NWW7    | 6.5              | 7.2    |                                           |      |           |                   |          |                                                                                                                     |      |     |
|                |                      | WWS7 / NWWWS7 | 6.5              | 7.2    |                                           |      |           |                   |          |                                                                                                                     |      |     |
|                |                      | WW7B / NWW7B  | 7                | 7.7    |                                           |      |           |                   |          |                                                                                                                     |      |     |
| WW10 / NWW10   | 10                   | 11.0          |                  |        |                                           |      |           |                   |          |                                                                                                                     |      |     |
| MWW1 / NMWW1   | 1                    | 1.3           |                  |        |                                           |      |           |                   |          |                                                                                                                     |      |     |
| MWW3 / NMWW3   | 3                    | 3.2           |                  |        |                                           |      |           |                   |          |                                                                                                                     |      |     |
| MWW5 / NMWW5   | 5                    | 5.5           |                  |        |                                           |      |           |                   |          |                                                                                                                     |      |     |
| MWW10 / NMWW10 | 10                   | 11.0          |                  |        |                                           |      |           |                   |          |                                                                                                                     |      |     |
| B              | Bulk                 |               |                  |        | Contact Stackpole for package quantities. |      |           |                   |          |                                                                                                                     |      |     |