Features:

- Special materials and processing to maximize surge handling
- High performance for low cost
- High power to size ratio
- Complete welded terminations
- Tinned copper leads
- High temperature silicone coating
- NWWP non-inductive pulse withstanding wirewound available
- Meets UL94V-0
- RoHS compliant, REACH compliant, halogen free, and lead free without exemption

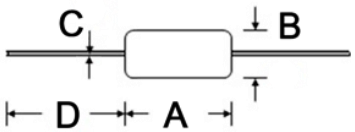
Electrical Specifications

Type/Code	Dielectric Strength (V)	Power Rating (W) @ 70°C	TCR (ppm/°C)	Ohmic Range (Ω) and Tolerance
				5% & 10%
WWP3	1000	3	< 1 Ω = ±90 ppm/°C 1 Ω to 10 Ω = ±50 ppm°C > 10 Ω = ±20 ppm/°C	0.1 - 10K
WWP5	1000	5		0.1 - 10K
WWP7	1000	7		0.1 - 10K
WWP10	1000	10		0.1 - 10K

Note: Contact Stackpole for non-inductive designs (NWWP)

Max Voltage Rating = √(P*R)

Mechanical Specifications



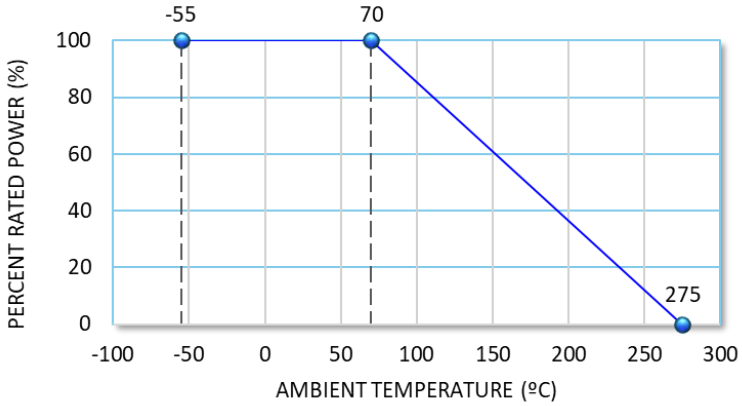
Type/Code	A	B	C	D (Bulk)	Units
WWP3	0.560 ± 0.062 14.22 ± 1.57	0.187 ± 0.031 4.75 ± 0.79	0.032 ± 0.002 0.81 ± 0.05	1.500 Typical 38.10 Typical	inches mm
WWP5	0.875 ± 0.062 22.23 ± 1.57	0.312 ± 0.031 7.92 ± 0.79	0.036 ± 0.002 0.91 ± 0.05	1.500 Typical 38.10 Typical	inches mm
WWP7	1.025 ± 0.062 26.04 ± 1.57	0.312 ± 0.031 7.92 ± 0.79	0.036 ± 0.002 0.91 ± 0.05	1.500 Typical 38.10 Typical	inches mm
WWP10	1.780 ± 0.062 45.21 ± 1.57	0.375 ± 0.031 9.53 ± 0.79	0.040 ± 0.002 1.02 ± 0.05	1.500 Typical 38.10 Typical	inches mm

Performance Characteristics

Test	Test Specification
Moisture Resistance	1% max
Load Life	1%
Temperature Cycling	0.5%
Short Time Overload	1%

Operating temperature range is -55 to +275°C

Power Derating Curve:



Recommended Solder Profile

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

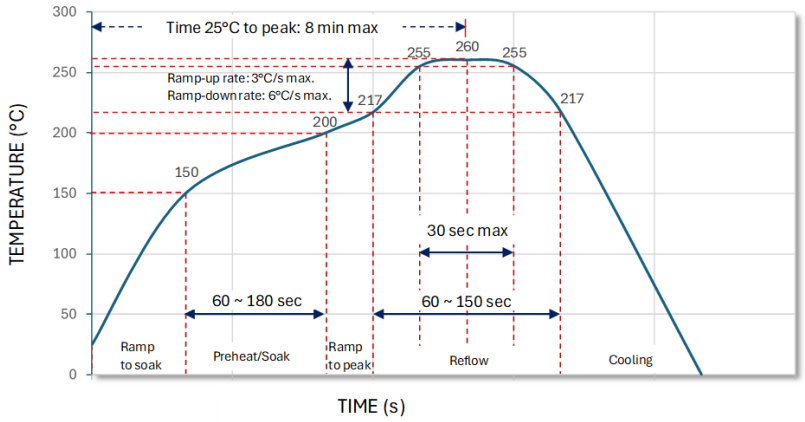
Soldering iron recommended temperatures: 330 to 350°C with minimum duration.
Maximum number of reflow cycles: 3.

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

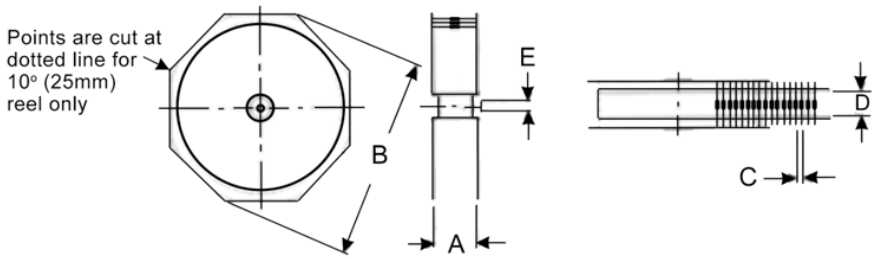
Temperature Diff. = Difference between final preheat stage and soldering stage.

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	*

Recommended Reflow Profile



Reel Specifications



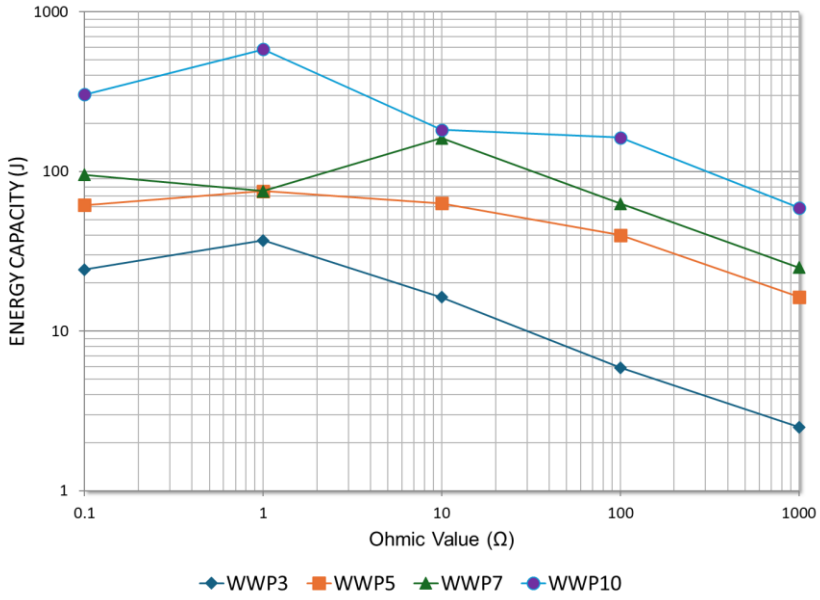
Type / Code	A max (1)	B max	C	D(2)	Tape	Unit
WWP3	2.880 73.15	11.000 279.40	0.197 ± 0.020 5.00 ± 0.50	2.063 ± 0.079 52.40 ± 2.00	0.250 6.35	inches mm
WWP5	3.740 95.00	11.000 279.40	0.394 ± 0.020 10.00 ± 0.50	2.874 ± 0.079 73.00 ± 2.00	0.250 6.35	inches mm
WWP7	3.740 95.00	11.000 279.40	0.394 ± 0.020 10.00 ± 0.50	2.874 ± 0.079 73.00 ± 2.00	0.250 6.35	inches mm
WWP10	5.100 129.54	11.000 279.40	0.394 ± 0.020 10.00 ± 0.50	4.375 ± 0.079 111.13 ± 2.00	0.250 6.35	inches 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.

Energy Ratings



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)
WWP	Pulse Withstanding Wirewound Resistor	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

W	W	P	5	J	T	1	0	0	R

Product Series

Code	Description
WWP	Pulse Withstanding Wirewound
NWWP	Non-Inductive Pulse Withstanding Wirewound

Power Rating

Code	W
3	3
5	5
7	7
10	10

Tolerance

Code	Tol
J	5%
K	10%

Packaging

Code	Description	Size	Quantity
T	11" reel tape	3	2000
		5, 7	500
		10	250
B	Bulk	Contact Stackpole for package quantities	

Resistance Value

Four characters with the multiplier used as the decimal holder.

0.1 ohm = R100
100 ohm = 100R
2 Kohm = 2K00