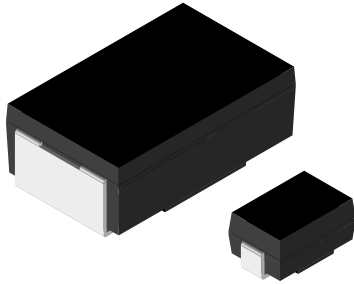


Wirewound Resistors, Precision Power, Surface Mount



FEATURES

- All welded construction
- Molded encapsulation
- Wraparound terminations
- Excellent stability at different environmental conditions
- High power ratings (up to 3 W)
- Superior surge capability
- Available in non-inductive styles with Aryton-Perry winding (WSN in lieu of WSC, maximum resistance is one-half WSC range)
- AEC-Q200 qualified available ⁽¹⁾
- Compliant to RoHS Directive 2002/95/EC



RoHS*
COMPLIANT



Note

⁽¹⁾ Flame retardance test may not be applicable to some resistor technologies.

STANDARD ELECTRICAL SPECIFICATIONS						
GLOBAL MODEL	HISTORICAL MODEL	SIZE INCH	POWER RATING $P_{70} \text{ } ^\circ\text{C}$ W	TOLERANCE $\pm \%$	RESISTANCE RANGE Ω	ENCAPSULATION
WSC01/2	WSC-1/2	2012	0.5	0.5, 1, 5	0.1 to 4.99	Epoxy
WSC0001	WSC-1	2515	1.0	0.5, 1, 5	0.1 to 2.77K	Thermoplastic ⁽³⁾
WSC2515	WSC2515	2515	1.0	0.5, 1, 5 ⁽²⁾	0.1 to 2.5K	Thermoplastic
WSC0002	WSC-2	4527	2.0	0.5, 1, 5	0.1 to 4.92K	Thermoplastic ⁽³⁾
WSC4527	WSC4527	4527	2.0	0.5, 1, 5	0.1 to 4.92K	Thermoplastic
WSC6927	WSC6927	6927	3.0	0.5, 1, 5	0.1 to 8K	Thermoplastic

Notes

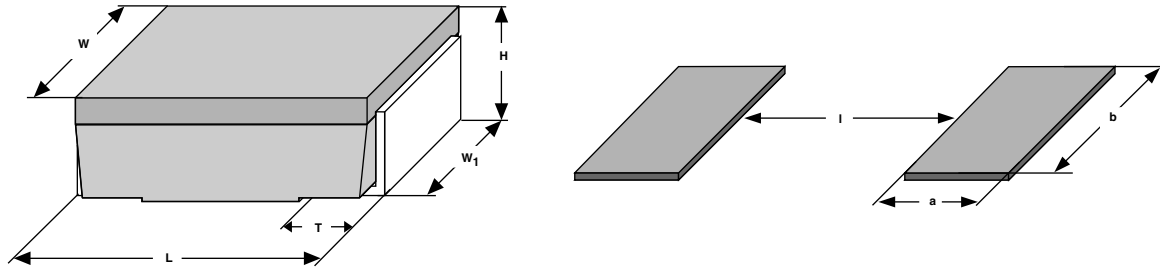
- Part marking: 1/2 W - DALE, value; 1 W - model, value, tolerance, date code; 2 W and 3 W - DALE, model, value, tolerance, date code.
- ⁽²⁾ 0.1 % and 0.25 % is available on the WSC2515 for 0.499 Ω to 2.5 k Ω range.
- ⁽³⁾ As of 1/1/2010, the WSC0001 and WSC0002 are molded with thermoplastic in lieu of epoxy. Reference PCN-DR-002-2009 and PCN-DR-003-2009.

TECHNICAL SPECIFICATIONS						
PARAMETER	UNIT	WSC01/2	WSC0001	WSC2515	WSC0002	WSC4527/WSC6927
Temperature coefficient	ppm/ $^\circ\text{C}$	0.1 Ω to 0.99 $\Omega = \pm 90$ 1.0 Ω to 4.99 $\Omega = \pm 50$	0.1 Ω to 0.99 $\Omega = \pm 90$ 1.0 Ω to 26.5 $\Omega = \pm 50$ 26.51 Ω and above $= \pm 20$	0.1 Ω to 0.3 $\Omega = \pm 150$ 0.31 Ω to 0.99 $\Omega = \pm 90$ 1.0 Ω to 26.5 $\Omega = \pm 50$ 26.51 Ω and above $= \pm 20$	0.1 Ω to 0.99 $\Omega = \pm 90$ 1.0 Ω to 9.9 $\Omega = \pm 50$ 10.0 Ω and above $= \pm 20$	0.1 Ω to 0.3 $\Omega = \pm 150$ 0.31 Ω to 0.99 $\Omega = \pm 90$ 1.0 Ω to 9.9 $\Omega = \pm 50$ 10 Ω and above $= \pm 20$
Dielectric withstanding voltage	V_{AC}	> 500	> 500	> 500	> 500	> 500
Insulation resistance	Ω	> 10^9	> 10^9	> 10^9	> 10^9	> 10^9
Operating temperature Range	$^\circ\text{C}$	- 65 to + 175	- 65 to + 275	- 65 to + 275	- 65 to + 275	- 65 to + 275
Maximum working voltage	V	$(P \times R)^{1/2}$	$(P \times R)^{1/2}$	$(P \times R)^{1/2}$	$(P \times R)^{1/2}$	$(P \times R)^{1/2}$
Weight/1000 pieces (typical)	g	90	165	165	760	760/1675

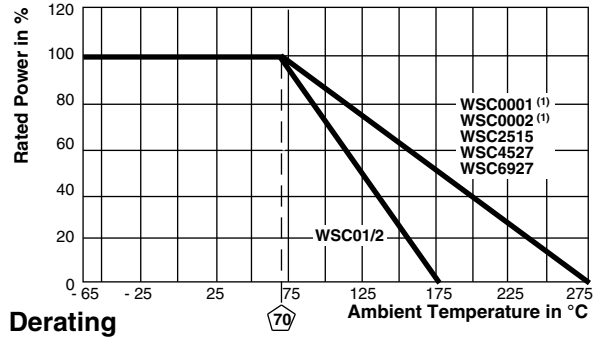
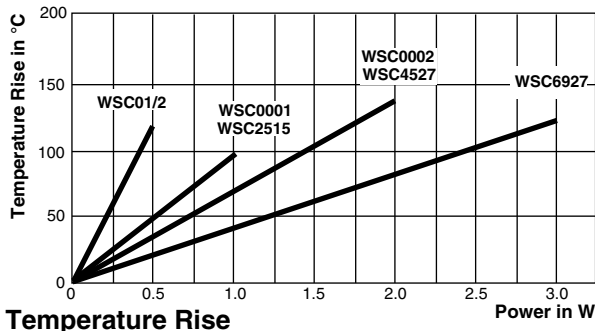
GLOBAL PART NUMBER INFORMATION						
Global Part Numbering example: WSC2515R7000FEA (preferred part numbering format)						
W	S	C	2	5	1	5
R	7	0	0	0	F	E
A						
GLOBAL MODEL WSC WSN	SIZE 01/2 0001 2515 0002 4527 6927	VALUE R = Decimal K = Thousand R7000 = 0.70 Ω 1K500 = 1.5 k Ω	TOLERANCE B = $\pm 0.1 \%$ ⁽⁴⁾ C = $\pm 0.25 \%$ ⁽⁴⁾ D = $\pm 0.5 \%$ F = $\pm 1.0 \%$ G = $\pm 2.0 \%$ H = $\pm 3.0 \%$ J = $\pm 5.0 \%$ K = $\pm 10 \%$	PACKAGING EA = Lead (Pb)-free, tape/reel EK = Lead (Pb)-free, bulk TA = Tin/lead, tape/reel (R86) BA = Tin/lead, bulk (B43)	SPECIAL (Dash number) (Up to 2 digits) From 1 to 99 as applicable	
Historical Part Number example: WSC-1 0.7 Ω 1 % R86 (will continue to be accepted, but will be supplied as WSC0001R7000FTA)						
WSC-1	0.7 Ω	1 %	R86			
HISTORICAL MODEL	RESISTANCE VALUE	TOLERANCE	PACKAGING			

Note

- ⁽⁴⁾ WSC2515 only
- * Pb containing terminations are not RoHS compliant, exemptions may apply
- ** Please see document "Vishay Material Category Policy": www.vishay.com/doc?99902

DIMENSIONS in inches (millimeters)


MODEL	DIMENSIONS					SOLDER PAD DIMENSIONS		
	L	H	T	W	W ₁	a	b	l
WSC01/2	0.200 ± 0.020 (5.08 ± 0.508)	0.096 ± 0.015 (2.44 ± 0.381)	0.040 ± 0.010 (1.02 ± 0.254)	0.125 ± 0.005 (3.18 ± 0.127)	0.050 ± 0.010 (1.27 ± 0.254)	0.085 (2.16)	0.070 (1.78)	0.080 (2.03)
WSC0001	0.250 ± 0.020 (6.35 ± 0.508)	0.110 ± 0.015 (2.79 ± 0.381)	0.045 ± 0.010 (1.14 ± 0.254)	0.150 ± 0.005 (3.81 ± 0.127)	0.098 ± 0.005 (2.49 ± 0.127)	0.090 (2.29)	0.115 (2.92)	0.120 (3.05)
WSC2515	0.250 ± 0.020 (6.35 ± 0.508)	0.110 ± 0.015 (2.79 ± 0.381)	0.045 ± 0.010 (1.14 ± 0.254)	0.150 ± 0.005 (3.81 ± 0.127)	0.098 ± 0.005 (2.49 ± 0.127)	0.090 (2.29)	0.115 (2.92)	0.120 (3.05)
WSC0002	0.455 ± 0.020 (11.56 ± 0.508)	0.167 ± 0.010 (4.24 ± 0.254)	0.100 ± 0.010 (2.54 ± 0.254)	0.275 ± 0.005 (6.98 ± 0.127)	0.215 ± 0.005 (5.46 ± 0.127)	0.155 (3.94)	0.230 (5.84)	0.205 (5.21)
WSC4527	0.455 ± 0.020 (11.56 ± 0.508)	0.167 ± 0.010 (4.24 ± 0.254)	0.100 ± 0.010 (2.54 ± 0.254)	0.275 ± 0.005 (6.98 ± 0.127)	0.215 ± 0.005 (5.46 ± 0.127)	0.155 (3.94)	0.230 (5.84)	0.205 (5.21)
WSC6927	0.690 ± 0.032 (17.53 ± 0.813)	0.280 ± 0.015 (7.11 ± 0.381)	0.100 ± 0.010 (2.54 ± 0.254)	0.275 ± 0.005 (6.98 ± 0.127)	0.215 ± 0.015 (5.46 ± 0.381)	0.155 (3.94)	0.235 (5.97)	0.470 (11.94)


Note

(1) As of 1/1/2010, WSC0001 and WSC0002 will be molded with thermoplastic and have the higher 275 °C temperature derating.

PERFORMANCE		
TEST	CONDITIONS OF TEST	TEST LIMITS
Thermal shock	- 55 °C to + 150 °C, 1000 cycles, 15 min at each extreme	± (0.5 % + 0.05 Ω) ΔR
Short time overload	5 x rated power for 5 s	± (0.2 % + 0.05 Ω) ΔR
Low temperature storage	- 65 °C for 24 h	± (0.2 % + 0.05 Ω) ΔR
High temperature exposure	1000 h at + 275 °C (+ 175 °C for WSC01/2)	± (0.5 % + 0.05 Ω) ΔR
Bias humidity	+ 85 °C, 85 % RH, 10 % bias, 1000 h	± (0.2 % + 0.05 Ω) ΔR
Mechanical shock	100 g's for 11 ms, 5 pulses	± (0.1 % + 0.05 Ω) ΔR
Vibration	Frequency varied 10 Hz to 500 Hz in 1 min, 3 directions, 9 h	± (0.1 % + 0.05 Ω) ΔR
Load life	1000 h at rated power, + 70 °C, 1.5 h "ON", 0.5 h "OFF"	± (1.0 % + 0.05 Ω) ΔR
Resistance to solder heat	+ 260 °C solder, 10 s to 12 s dwell, 25 mm/s emergence	± (0.5 % + 0.05 Ω) ΔR

PACKAGING				
MODEL	REEL			
	TAPE WIDTH	DIAMETER	PIECES/REEL	CODE
WSC01/2	12 mm/embossed plastic	330 mm/13"	2000	EA/TA
WSC0001/WSC2515	16 mm/embossed plastic	330 mm/13"	2000	EA/TA
WSC0002/WSC4527	24 mm/embossed plastic	330 mm/13"	1200	EA/TA
WSC6927	32 mm/embossed plastic	330 mm/13"	725	EA/TA

Note

- Embossed carrier tape per EIA-481.



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