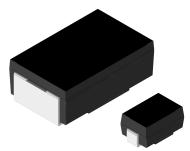


Wirewound Resistors, Precision Power, Surface Mount



DESIGN TOOLS (click logo to get started)



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 Ayrton-Perry winding (WSN in lieu of WSC, maximum resistance is one-half WSC range)
- AEC-Q200 qualified (1)
- · Material categorization: for definitions of please compliance see www.vishay.com/doc?99912







HALOGEN FREE

GREEN (5-2008)

Notes

- This datasheet provides information about parts that are RoHS-compliant and / or parts that are non-RoHS-compliant. For example, parts with lead (Pb) terminations are not RoHS-compliant. Please see the information / tables in this datasheet for details.
- Follow link to Overview of Automotive Grade Products for more details: www.vishav.com/doc?49924.
- (1) Flame retardance test may not be applicable to some resistor technologies.

STANDARD ELECTRICAL SPECIFICATIONS							
GLOBAL MODEL	HISTORICAL MODEL	SIZE	POWER RATING P _{70 °C}	RESISTANCE RANGE Ω	TOLERANCE ± %	WEIGHT (typical) g/1000 pieces	ENCAPSULATION
WSC01/2	WSC-1/2	2012	0.5	0.1 to 4.99	0.5, 1, 5	90	Ероху
WSC0001 (2)	WSC-1	2515	1	0.1 to 2.77K	0.5, 1, 5	165	Thermoplastic (1)
WSC2515	WSC2515	2515	1	0.1 to 2.5K	0.5, 1, 5	165	Thermoplastic
WSC0002	WSC-2	4527	2	0.1 to 4.92K	0.5, 1, 5	760	Thermoplastic (1)
WSC4527	WSC4527	4527	2	0.1 to 4.92K	0.5, 1, 5	760	Thermoplastic
WSC6927	WSC6927	6927	3	0.1 to 8K	0.5, 1, 5	1675	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.

 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

 As of February 19, 2016, the WSC0001 was obsoleted by PCN-DR-013-2015; the WSC2515 is a drop-in replacement. You may contact your sales representative or submit an inquiry via ww2bresistors@vishay.com for supporting information.

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

GLOBAL PART NUMBER INFORMATION Global Part Numbering example: WSC2515R7000FEA (visit www.vishav.net Vishay Dale parts numbering manual for all options) 2 5 1 5 0 Α Ε GLOBAL MODEL TOLERANCE SIZE **VALUE PACKAGING SPECIAL** $D = \pm 0.5 \%$ $F = \pm 1.0 \%$ $G = \pm 2.0 \%$ $H = \pm 3.0 \%$ $J = \pm 5.0 \%$ **EA** = lead (Pb)-free, tape / reel **EK** = lead (Pb)-free, bulk WSC R = decimal 01/2 (dash number) 2515 0002 up to 2 digits) from **1 to 99 K** = thousand $R7000 = 0.70 \Omega$ TA = tin / lead, tape / reel (R86) BA = tin / lead, bulk (B43) as applicable **1K500** = 1.5 kΩ $K = \pm 10 \%$

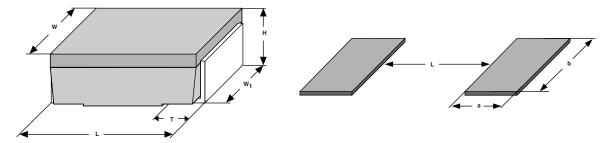
Note

Revision: 13-Oct-16

Packaging code: EB (lead (Pb)-free) and TB (tin / lead) are non-standard packaging codes designating 1000 piece reels. These non-standard packaging codes are identical to our standard EA (lead (Pb)-free) and TA (tin / lead), except that they have a package quantity of 1000 pieces.



DIMENSIONS in inches (millimeters)

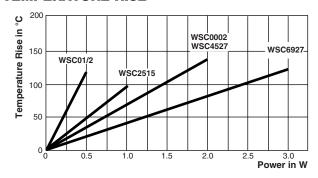


GLOBAL	DIMENSIONS						SOLDER PAD DIMENSIONS		
MODEL	L	Н	Т	W	W ₁	а	b	L	
WSC01/2	0.200 ± 0.020 (5.08 ± 0.508)	0.096 ± 0.015 (2.44 ± 0.381)	0.040 ± 0.010 (1.02 ± 0.254)	0.125 ± 0.005 (3.18 ± 0.127)	0.050 ± 0.010 (1.27 ± 0.254)	0.085 (2.16)	0.070 (1.78)	0.080 (2.03)	
WSC2515	0.250 ± 0.020 (6.35 ± 0.508)	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)	

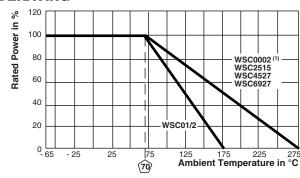
Notes

- 3D models available: www.vishav.com/doc?30328.
- Surface mount solder profile recommendations: www.vishay.com/doc?31052.
- Refer to WSC, WSN conversion guide for detailed construction drawings: www.vishay.com/doc?49616.

TEMPERATURE RISE



DERATING



Note

(1) As of 1/1/2010, 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			
Short time overload	5 x rated power for 5 s	± 0.2 % + 0.05 Ω			
Low temperature storage	-65 °C for 24 h	± 0.2 % + 0.05 Ω			
High temperature exposure	1000 h at + 275 °C (+175 °C for WSC01/2)	± 0.5 % + 0.05 Ω			
Bias humidity	+85 °C, 85 % RH, 10 % bias, 1000 h	± 0.2 % + 0.05 Ω			
Mechanical shock	100 g's for 6 ms, 5 pulses	± 0.1 % + 0.05 Ω			
Vibration	Frequency varied 10 Hz to 500 Hz in 1 min, 3 directions, 9 h	± 0.1 % + 0.05 Ω			
Load life	1000 h at rated power, +70 °C, 1.5 h "ON", 0.5 h "OFF"	± 1.0 % + 0.05 Ω			
Resistance to solder heat	+260 °C solder, 10 s to 12 s dwell, 25 mm/s emergence	± 0.5 % + 0.05 Ω			



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PACKAGING						
MODEL	REEL					
MODEL	TAPE WIDTH DIAMETER PIECES/REEL		PIECES/REEL	CODE		
WSC01/2	12 mm/embossed plastic	330 mm/13"	2000	EA/TA		
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		

Notes

- Embossed carrier tape per EIA-481.
- Additional packaging details at www.vishay.com/doc?20051.



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