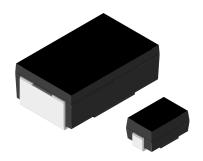


Metal Film Resistors, Power, Surface Mount



Note

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.

FEATURES

- Molded encapsulation
- · Wraparound compliant terminations eliminate risk of solder fillet cracking
- Solderable terminations
- Excellent stability at different environmental conditions
- High power ratings (up to 2 W)
- AEC-Q200 qualified available (1)
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

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











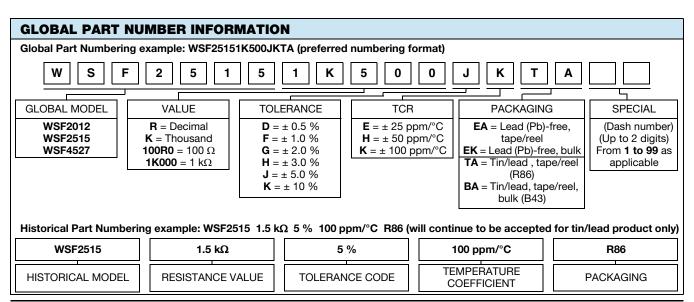
(5-2008)

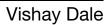
STANDARD ELECTRICAL SPECIFICATIONS						
GLOBAL MODEL	SIZE INCH	POWER RATING P _{70 °C} W	TOLERANCE ± %	RESISTANCE RANGE Ω	TEMPERATURE COEFFICIENT ⁽⁴⁾ ± ppm/°C	ENCAPSULATION
WSF2012	2012	0.5	0.5, 1, 5	5.0 to 1.43K ⁽²⁾	100	Ероху
WSF2515	2515	1.0	0.5, 1, 5	10 to 10K	100	Thermoplastic
WSF4527	4527	2.0 (3)	0.5, 1, 5	10 to 100K	100	Thermoplastic

TECHNICAL SPECIFICATIONS				
PARAMETER	UNIT	WSF2012	WSF2515	WSF4527
Dielectric withstanding voltage	V_{AC}	> 500	> 500	> 500
Insulation resistance	Ω	> 109		
Operating temperature range	°C	- 65/+ 175	- 65/+ 175	- 65/+ 150
Maximum working voltage	V	(P x R) ^{1/2}	(P x R) ^{1/2}	(P x R) ^{1/2 (3)}
Weight/1000 pieces (typical)	g	90	165	760

Notes

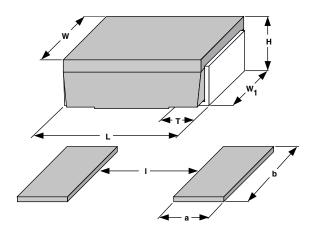
- Part marking: 1/2 W DALE, value; 1 W model, value, tolerance, date code; 2 W DALE, model, value, tolerance, date code.
- E96 values only.
- Resistance values above 31.25 kΩ are limited to 250 V maximum working voltage.
- ± 50 ppm/°C and ± 25 ppm/°C available





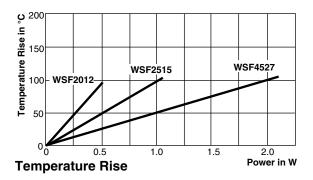


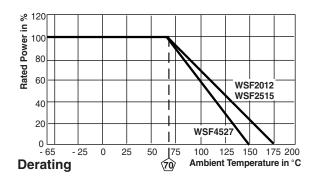
DIMENSIONS



MODEL	DIMENSIONS in inches (millimeters)					
WODEL	L	Н	T	W	W ₁	
WSF2012	0.200 ± 0.020 (5.08 ± 0.508)	0.096 ± 0.015 (2.44 ± 0.381)				
WSF2515	0.250 ± 0.020 (6.35 ± 0.508)					
WSF4527	0.455 ± 0.020 (11.56 ± 0.508)					

MODEL	SOLDER PAD DIMENSIONS in inches (millimeters)					
MODEL	а	b	I			
WSF2012	0.085 (2.16)	0.070 (1.78)	0.080 (2.03)			
WSF2515	0.090 (2.29)	0.115 (2.92)	0.120 (3.05)			
WSF4527	0.155 (3.94)	0.230 (5.94)	0.205 (5.21)			





PERFORMANCE				
TEST	CONDITIONS OF TEST	TEST LIMITS		
Thermal shock	-55 °C to +150 °C, 1000 cycles, 15 min at each extreme	± (1.0 % + 0.05 Ω) ΔR		
Short time overload	5 x rated power for 5 s	± (0.5 % + 0.05 Ω) ΔR		
Low temperature storage	-65 °C for 24 h	± (0.5 % + 0.05 Ω) ΔR		
High temperature exposure	1000 h at +175 °C (150 °C for WSF4527)	± (1.0 % + 0.05 Ω) ΔR		
Bias humidity	+85 °C, 85 % RH, 10 % Bias, 1000 h	± (0.5 % + 0.05 Ω) ΔR		
Moisture resistance	MIL-STD-202 method 106, 0 % power, 7a and 7b not required	± (0.5 % + 0.05 Ω) ΔR		
Mechanical shock	100 g's for 6 ms, 5 pulses	± (0.5 % + 0.05 Ω) ΔR		
Vibration	Frequency varied 10 Hz to 500 Hz in one min, 3 directions, 9 h	± (0.5 % + 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				
MODEL	TAPE WIDTH	DIAMETER	PIECES/REEL	CODE		
WSF2012	12 mm/embossed plastic	330 mm/13"	2000	EA/TA		
WSF2515	16 mm/embossed plastic	330 mm/13"	2000	EA/TA		
WSF4527	24 mm/embossed plastic	330 mm/13"	1200	EA/TA		

Note

• Embossed Carrier Tape per EIA-481.



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Revision: 02-Oct-12 Document Number: 91000

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AR03BTC0390 AR03BTC1102 AR03BTC1103 AR03BTC1201 AR03BTC2000 AR03BTC2201 AR03BTC2203 AR03BTC2490

AR03BTC3003 AR03BTC3302 AR03BTC3901 AR03BTC4220 AR03BTC4223N AR03BTC5602 AR03BTC5603 AR03BTC5900

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AR05BTC1202 AR05BTC1300 AR05BTC14R3 AR05BTC1500 AR05BTC1523 AR05BTC1620 AR05BTC1623

AR05BTC1760 AR05BTC1800 AR05BTC1823
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