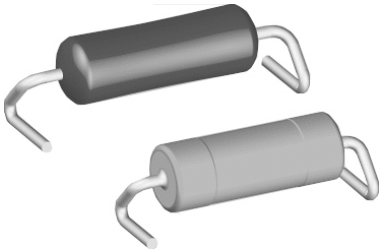
Wirewound Resistors, Surface Mount, Silicone or Cement Coated, High Power



FEATURES

- Low cost, high power (up to 3.75 W)
- All welded construction
- Ideal for pulsing application
- Ceramic core
- Available on tape and reel
- AEC-Q200 qualified available (1)
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

AUTOMOTIVE GRADE Available

Pb-free Available

e3

RoHS* Available

HALOGEN FREE Available

GREEN (5-2008) Available

Note

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

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.

STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	SIZE	POWER RATING $P_{25\,°C}$ W	RESISTANCE RANGE (2) Ω TCR (- 10 to - 80) ppm/K (3) (CLASS 1)	RESISTANCE RANGE (2) Ω TCR (100 to 180) ppm/K (CLASS 3)	RESISTANCE RANGE Ω TCR ± 50 ppm/°C	RESISTANCE RANGE Ω TCR ± 30 ppm/°C	TOLERANCE ± %	WEIGHT (typical) g	ENCAPS.
WSZ6720	6720	1.8 (4)	1 to 510	n/a	n/a	n/a	1	0.6	Cement
			0.22 to 510	n/a	n/a	n/a	2		
			0.10 to 510	24 to 3.3K	n/a	n/a	5		
			0.10 to 510	1.8 to 3.3K	n/a	n/a	10		
WSZ7532	7532	3.75	n/a	n/a	n/a	10 to 15K	1, 3	0.7	Silicone
			n/a	n/a	1 to 9.99	10 to 15K	5, 10		

Notes

(2) Lower TCR or other power range on request. Resistance value to be selected for ± 10 % tolerance from E12 and for ± 5 % from E24.

(3) ≤ 1 Ω ≤ 400 ppm/K.

(4) Power rating depends on the maximum temperature at the solder point, solder pad dimensions, the component placement density and the substrate material.

GLOBAL PART NUMBER INFORMATION

Global Part Numbering example: WSZ672011509KBM000

W	S	Z	6	7	2	0	1	1	5	0	9	K	B	M	0	0	0

GLOBAL MODEL	TCR/MATERIAL	VALUE	TOLERANCE CODE	PACKAGING	SPECIAL
WSZ6720	**1** = (-10 to -80) ppm/K WM 50 Class 1 **3** = (100 to 180) ppm/K WM 110 Class 3	**3 digit value** **1 digit multiplier** MULTIPLIER **7** = $*10^{-3}$ **8** = $*10^{-2}$ **9** = $*10^{-1}$ **0** = $*10^{0}$ **1** = $*10^{1}$ **2** = $*10^{2}$ **3** = $*10^{3}$	**F** = ± 1.0 % **G** = ± 2.0 % **J** = ± 5.0 % **K** = ± 10.0 %	**BM** = Lead (Pb)-free, tape/reel **LX** = Lead (Pb)-free, bulk	3 digits **000** = Standard

Historical Part Numbering example: WSZ6720 WM 50 15 Ω 10 % BM

WSZ6720	WM 50	15 Ω	10 %	BM
HISTORICAL MODEL	TCR/MATERIAL	VALUE	TOLERANCE CODE	PACKAGING

Global Part Numbering example: WSZ75321K000JTA

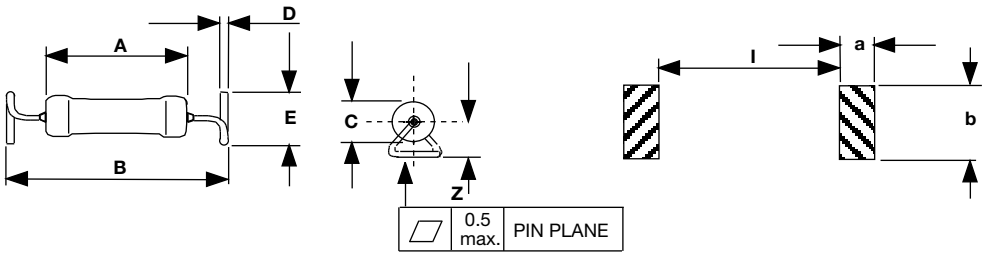
W	S	Z	7	5	3	2	1	K	0	0	0	J	T	A			

GLOBAL MODEL	VALUE	TOLERANCE CODE	PACKAGING	SPECIAL
WSZ7532	**R** = Decimal **K** = Thousand **54R15** = 54.15 Ω **1K325** = 1325 Ω	**F** = ± 1.0 % **G** = ± 2.0 % **H** = ± 3.0 % **J** = ± 5.0 % **K** = ± 10 %	**EA** = Lead (Pb)-free, tape/reel **EK** = Lead (Pb)-free, bulk **TA** = Tin/lead, tape/reel **BA** = Tin/lead, bulk	(Dash number) (Up to 3 digits) From **1 to 999** as applicable

For technical questions on the WSZ670, contact: ww1resistors@vishay.com; on the WSZ7532, contact: ww2bresistors@vishay.com

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DIMENSIONS



MODEL	DIMENSIONS in millimeters (inches)					
	A	B	C	D	E	Z
WSZ6720	13.2 max. (0.512 max.)	17 ± 0.5 (0.670)	4.8 max. (0.189 max.)	0.8 max. (0.031 max.)	5 ± 0.5 (0.20 ± 0.02)	3.6 ± 0.5 (0.142 ± 0.02)
WSZ7532	14.27 ± 1.57 (0.562 ± 0.062)	19.86 + 0.548 - 0.381 (0.782 + 0.021 - 0.015)	4.78 ± 0.8 (0.188 ± 0.031)	0.813 ± 0.051 (0.032 ± 0.002)	7.33 ± 1.6 (0.289 ± 0.062)	6.5 ± 1.12 (0.256 ± 0.044)

MODEL	SOLDER PAD DIMENSIONS in millimeters (inches)		
	a	b	l
WSZ6720	10 (0.394)	10 (0.394)	14.5 (0.57)
WSZ7532	4.0 (0.157)	9.50 (0.374)	15.05 (0.593)

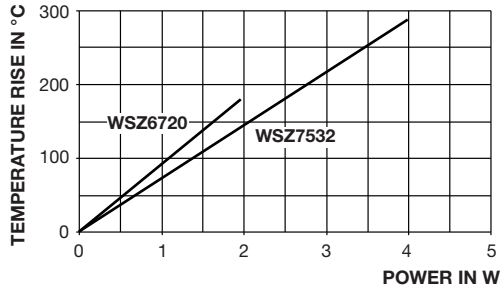
TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	WSZ6720	WSZ7532
Temperature Coefficient	ppm/°C	See Standard Electrical Specifications table	
Operating Temperature Range	°C	-55 to +250	-65 to +350
Maximum Working Voltage	V	$(P \times R)^{1/2}$	
Terminal Strength	lb	10 minimum	

PERFORMANCE

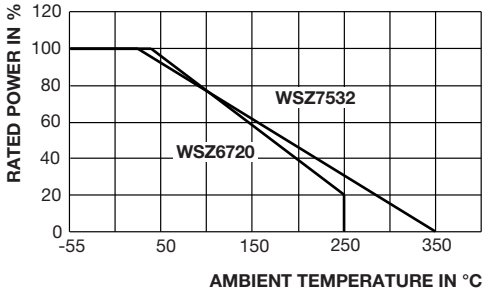
TEST	CONDITIONS OF TEST	TEST LIMITS	
		WSZ6720	WSZ7532
Temperature Cycling	-55 °C to +125 °C, 5 cycles, 15 min at each extreme	± 3 % ΔR	± (2 % + 0.05 Ω) ΔR
High Temperature Exposure	1000 h at + 250 °C	± 3 % ΔR	± (2 % + 0.05 Ω) ΔR
Short Time Overload	5 x rated power for 5 s	± 1 % ΔR	± (2 % + 0.05 Ω) ΔR
Shock, Specified Pulse	100 *g*'s for 6 ms, 10 shocks	± 1 % ΔR	± (2 % + 0.05 Ω) ΔR
Vibration, High Frequency	Frequency varied 10 Hz to 2000 Hz, 20 *g* peak, 2 directions 6 h each	± 1 % ΔR	± (2 % + 0.05 Ω) ΔR
Load Life	2000 h at rated power, +25 °C, 1.5 h "ON", 0.5 h "OFF"	± 3 % ΔR	± (3 % + 0.05 Ω) ΔR
Resistance to Soldering Heat	+260 °C solder, 10 s to 12 s dwell, 25 mm/s emergence	± 1 % ΔR	± (0.5 % + 0.05 Ω) ΔR

TEMPERATURE RISE



Measurement based on recommended solder pads

DERATING



PACKAGING

MODEL	REEL			
	TAPE WIDTH	DIAMETER	PIECES/REEL	CODE
WSZ6720	24 mm	330 mm	1250	BM
WSZ7532 (1)	32 mm/embossed plastic	330 mm/13"	350	EA/TA

Note

(1) Embossed carrier tape per EIA-481.

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