Vishay Sfernice

RWST

Fixed Wirewound High Power Vitreous Resistors Electrical Traction Model

The RWST vitreous wirewound high power resistors are known for their excellent reliability which has developed out of the Vishay Sfernice experience over several decades in the field of high current applications.

Extremely severe conditions of use are encountered in electrical traction including repeated overloads. To withstand such conditions the new RWST model is extremely rugged and is manufactured to a very carefully monitored process using the best materials.

NF F 16101, 10/1988 and 16102, 04/1992: Not applicable (our parts are made of metallic and refractory materials). NF C 93-214. Performances according to NF C 93-214.

DIMENSIONS in millimeters STAINLESS STEEL 304 L COLLARS "CS" TYPE 1 STAINLESS STEEL 304 L COLLARS "CS" TYPE 2 ØC Α 9賑 п Е Ψ ØВ ØВ 26 58 F G н G н WELDED STAINLESS STEEL 304 L COLLARS "AN" WELDED STAINLESS STEEL 304 L BAND "B" Ν ØВ Ø C ØU ØВ S øс Z

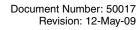


- 95 W to 800 W at 25 °C
- NF C 93-214
- RB 25 x 168, RB 30 x 250
- Rugged construction for use in severe environmental conditions
- Compliant to RoHS directive 2002/95/EC









For technical questions, contact: sfer@vishay.com



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DIMEN	DIMENSIONS in millimeters											
SERIES	CONNECTIONS	A ± 2	Ø B MAX.	Ø C MIN.	D	Е	F ± 0.5	G - 4/+ 0	H - 4/+ 0	J ± 0.5	к	L + 0.5 + 0
RWST 25 x 138	AN-B CS type 1	138	28	12	50 ± 1.5	27 ± 1	24	199	169	6.5	28.5 ± 1 9	
RWST 25 x 168	AN-B CS type 1	168	28	12	50 ± 1.5	27 ± 1	24	229	199	6.5	28.5 ± 1 9	
RWST 30 x 250	AN-B CS type 1	250	33	17	60 ± 1.5	30 ± 1	25	317	287	9	31± 1 13	
RWST 40 x 370	AN CS type 2	370	45	22	69 max.	45 ± 1.5	30	432	405	9	45 ± 1.5 18	
RWST 50 x 373	AN CS type 2	373	53	27.1	80 max.	51 ± 1.5	30	432	405	9	51 ± 1.5 18	
SERIES	CONNECTIONS	N ± 2	Р	Q - 0/+ 5	R - 0.3/+ 0.9	S MAX.	T±1	ØU	v	z	AVERAGE UNIT WEIGHT IN g (CS collars)	
RWST 25 x 138	AN-B CS type 1	117 ± 2	51.5 ± 1.5	15	26	38.5	23.5	5.7	33.5 ± 1	6	225	
RWST 25 x 168	AN-B CS type 1	147 ± 2	50 ± 1.5	15	26	38.5	23.5	5.7	33.5 ± 1	6	250	
RWST 30 x 250	AN-B CS type 1	227 ± 2	55 ± 1.5	18	31	43.5	26	5.7	36 ± 1	5	445	
RWST 40 x 370	AN CS type 2	332 ± 3	81.5 max.	-	-	-	-	9.2	57 ± 1.5	10	1400	
RWST 50 x 373	AN CS type 2	332 ± 3	92.5 max.	-	-	-	-	9.2	63 ± 1.5	11.5	22	00

MECHANICAL SPECIFICATIONS

Mechanical Protection Resistive Element Connections AN Collar or B Average Unit Weight Vitreous enamel Ni-Cr wire CS supporting collars on request 225 g to 2200 g

ENVIRONMENTAL SPECIFICATIONS

Temperature Limits Climatic Category - 55 °C + 450 °C

- 55 °C/+ 200 °C/56 days

ELECTRICAL SPEC	FICATIONS			
Resistance Range	2.7 Ω to 430 k Ω (E12, E24 preferred series values)			
Resistance Tolerance				
Standard	± 5 %			
Power Rating	95 W to 800 W at 25 °C			
Temperature Coefficient	75 ppm/°C (typical)			
Shelf Life	0.1 % year (typical)			

PERFORMANCE			
TESTS	CONDITIONS	REQUIREMENTS	TYPICAL VALUES AND DRIFTS
Short Time Overload	10 <i>P</i> _r during 5 s Voltage limited at < 5000 V	2 % or 0.05 Ω	0.5 %
Climatic Sequence	- 55 °C + 200 °C	2 % or 0.05 Ω Insulation resistance 100 M Ω	0.5 %
Humidity (Steady State)	56 days 95 % relative humidity	3 % or 0.05 Ω Insulation resistance 100 $M\Omega$	0.5 %
Thermal Shock	Load at 100 % <i>P</i> _r followed by cold temperature exposure at - 55 °C/15'	2 % or 0.05 Ω	0.5 %
Shock	Severity 50 A 9 shocks/each side	1 % or 0.05 Ω	0.25 %
Vibration	Severity 55B	1 % or 0.05 Ω	0.25 %
Terminal Strength AN B	Traction 40 Ncm Torque 60 Ncm	1 % or 0.05 Ω	0.5 %
Load Life	90'/30' cycle	5 %	1000 h 1 %
Eodd Ello	1000 h at Ṕ _r 25 °C	3 /6	5000 h 2 %

	SPECIAL FEATURES										
Power Rating at 25 °C 95 W 160 W 280 W 500 W 7 Maximum Power Rating at 25 °C 110 W 180 W 320 W 600 W 8 8 Ohmic Range (E12, E24 series) 2.7 Ω 82 kΩ 2.7 Ω 100 kΩ 4.7 Ω 220 kΩ 8.2 Ω 360 kΩ 12 Ω Limiting Element Voltage 1400 V 1900 V 3000 V 4500 V 55	RWST STYLE	25 x 138		25 x 168		30 x 250		40 x 370		50 x 373	
Maximum Power Rating at 25 °C 110 W 180 W 320 W 600 W 8 Ohmic Range (E12, E24 series) 2.7 Ω 82 kΩ 2.7 Ω 100 kΩ 4.7 Ω 220 kΩ 8.2 Ω 360 kΩ 12 Ω Limiting Element Voltage 1400 V 1900 V 3000 V 4500 V 5	Designation NF C 93-214	-		RB 25 x 168		RB 30 x 250		-		-	
at 25 °C 10 W 180 W 320 W 600 W 8 Ohmic Range (E12, E24 series) 2.7 Ω 82 kΩ 2.7 Ω 100 kΩ 4.7 Ω 220 kΩ 8.2 Ω 360 kΩ 12 Ω Limiting Element Voltage 1400 V 1900 V 3000 V 4500 V 5	Power Rating at 25 °C	95 W		160 W		280 W		500 W		700 W	
Limiting Element Voltage 1400 V 1900 V 3000 V 4500 V 5		110 W		180 W		320 W		600 W		800 W	
	Ohmic Range (E12, E24 series)	i es) 2.7 Ω 82 k		2.7 Ω	100 kΩ	4.7 Ω	220 kΩ	8.2 Ω	360 kΩ	12 Ω	430 kΩ
	Limiting Element Voltage	1400 V		1900 V		3000 V		4500 V		5000 V	
Critical Resistance $18 k\Omega$ $20 k\Omega$ $30 k\Omega$ $36 k\Omega$ $36 k\Omega$	Critical Resistance	cal Resistance 18 kΩ		20 kΩ		30 kΩ		36 kΩ		30 kΩ	

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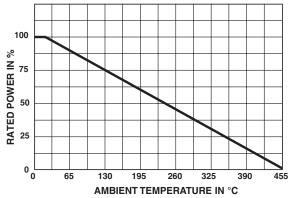


NON INDUCTIVE WINDING

For high frequencies, low self induction resistors are available with special windings. RWSTNI designation.

MODEL AND STYLE	RWSTNI	RWSTNI	RWSTNI	RWSTNI	RWSTNI
	25 x 138	25 x 168	30 x 250	40 x 370	50 x 373
OHMIC RANGE	22 Ω	22 Ω	120 Ω	120 Ω	150 Ω
(E12 SERIES)	2.5 kΩ	4 kΩ	6.8 kΩ	8.2 kΩ	8.2 kΩ

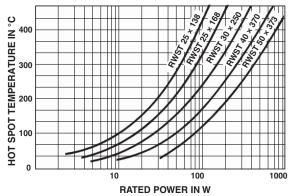
POWER RATING



MARKING

Vishay Sfernice trademark, model, style, nominal resistance (in Ω), tolerance (in %), manufacturing date.

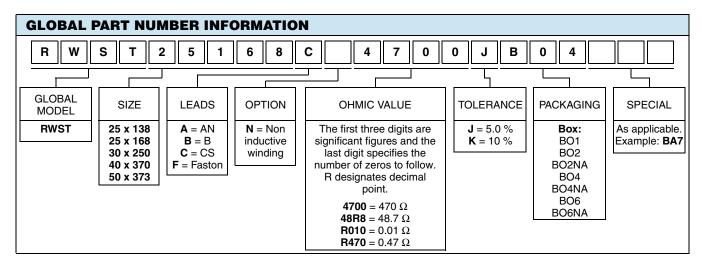
TEMPERATURE RISE



PACKAGING

Box: Fixed quantity depending on size and connections

ORDE	RING I	FORMATION						
RWST	25 x 138			В	56U	±5%	B06	е
MODEL	STYLE	NON-INDUCTIVE WINDING	SPECIAL DESIGN	CONNECTIONS	OHMIC VALUE	TOLERANCE	PACKAGING	LEAD (Pb)-FREE
		Optional	Optional		Custom items are subject to extra-charge and min. order. Please see price list.			





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