Wirewound Resistors, Industrial High Power, Vitreous Tubular

- 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
- Material categorization: for definitions of compliance please see <u>www.vishay.com/doc?99912</u>

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.





COMPLIANT



"CS" Type 1 Collars

Vishay Sfernice



RWST

Vishay Sfernice

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	AVERAG WEIGH (CS co	E UNIT T IN g ollars)
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	22	25
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	25	0
RWST 30 x 250	AN-B CS type 1	227 ± 2	55 ± 1.5	18	31	43.5	26	5.7	36 ± 1	5	44	5
RWST 40 x 370	AN CS type 2	332 ± 3	81.5 max.	-	-	-	-	9.2	57 ± 1.5	10	14	00
RWST 50 x 373	AN CS type 2	332 ± 3	92.5 max.	-	-	-	-	9.2	63 ± 1.5	11.5	22	00

STANDARD ELECTRICAL SPECIFICATIONS								
MODEL	SIZE	RESISTANCE RANGE Ω	RATED POWER P _{25 °C} W	TOLERANCE ± %				
RWST 25 x 138	25138	2.7 to 82K	95	5				
RWST 25 x 168	25168	2.7 to 100K	160	5				
RWST 30 x 250	30250	4.7 to 220K	280	5				
RWST 40 x 370	40370	8.2 to 360K	500	5				
RWST 50 x 373	50373	12 to 390K	700	5				

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

ENVIRONMENTAL SPECIFICATIONSTemperature Range-55 °C +450 °CClimatic Category-55 °C / +200 °C / 56 days

TECHNICAL SPECIFICATIONS

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		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 %	
	1000 h at <i>P</i> _r 25 °C	5 78	5000 h 2 %	

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RWST

SPECIAL FEATURES

SPECIAL FEATURES								
RWST STYLE	25 x 138	25 x 168	30 x 250	40 x 370	50 x 373			
Designation NF C 93-214	-	RB 25 x 168	RB 30 x 250	-	-			
Maximum Power Rating at 25 °C	110 W	180 W	320 W	600 W	800 W			
Ohmic Range (E12, E24 series)	2.7 Ω to 82 kΩ	2.7 Ω to 100 k Ω	4.7 Ω to 220 kΩ	8.2 Ω to 360 k Ω	12 Ω to 430 kΩ			
Limiting Element Voltage	1400 V	1900 V	3000 V	4500 V	5000 V			
Critical Resistance	18 kΩ	20 kΩ	30 kΩ	36 kΩ	30 kΩ			

NON INDUCTIVE WINDING

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

MODEL AND STYLE	RWSTNI 25 x 138	RWSTNI 25 x 168	RWSTNI 30 x 250	RWSTNI 40 x 370	RWSTNI 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



TEMPERATURE RISE

PACKAGING



Box: Fixed quantity depending on size and connections

MARKING

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

ORDERING INFORMATION RWST 25 x 138 в 56U ± 5 % B06 е MODEL STYLE NON-INDUCTIVE SPECIAL CONNECTIONS OHMIC VALUE TOLERANCE PACKAGING LEAD WINDING DESIGN (Pb)-FREE Custom items are subject to extra-charge Optional Optional and min. order. Please see price list. **GLOBAL PART NUMBER INFORMATION** R W S т 2 5 6 8 С 4 7 0 0 В 0 4 1 J GLOBAL SIZE LEADS OPTION OHMIC VALUE TOLERANCE PACKAGING SPECIAL MODEL RWST **J** = 5.0 % 25 x 138 $\mathbf{A} = AN$ N = non The first three digits are Box: As applicable. 25 x 138 25 x 168 30 x 250 40 x 370 50 x 373 BO1 BO2 BO2NA Example: BA7 $\mathbf{B} = \mathbf{B}$ $\mathbf{C} = \mathbf{CS}$ inductive significant figures and the last digit specifies the winding F = faston number of zeros to follow. R designates decimal BO4 point. **4700** = 470 Ω BO4NA BO6 **48R8**= 48.7 Ω**R010**= 0.01 ΩBO6NA **R470** = 0.47 Ω

RELATED DOCUMENTS

APPLICATION NOTES

Packaging Information

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