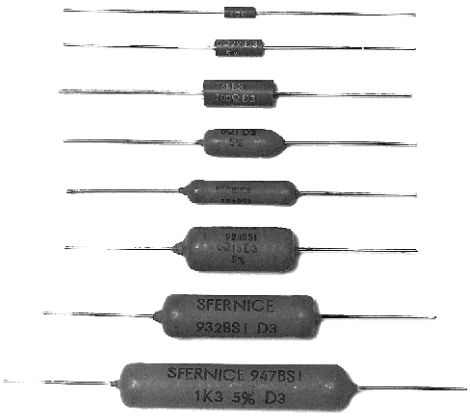
Molded and Insulated Wirewound Power Resistors Axial Leads

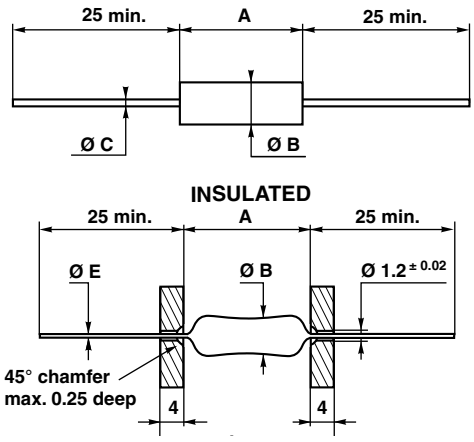


FEATURES

- 1 W to 10 W
- Excellent stability = Typical drift ± 1 % after 2000 h
- High power = Up to 10 W (25 °C)
- Low ohmic values = 0.01 Ω available
- Electrical insulation
- Climatic protection
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT

DIMENSIONS in millimeters



MOLDED	PROTECTION			
SERIES AND STYLE	A	Ø B	Ø C ± 0.1	WEIGHT (g)
58BSI	6.5 ± 0.2	2.4 ± 0.1	0.6	0.3
63BSI	10 ± 0.2	3.7 ± 0.1		0.45
68BSI	15 ± 0.5	5.6 ± 0.2	0.8	1.3
INSULATED	**PROTECTION**			
516BSI	17 ± 2	5.5 ± 1	0.8	1.6
523BSI	24 ± 2	5.5 ± 1		2.5
923BSI	26 ± 2	10 ± 1.5		6
932BSI	34 ± 3	10 ± 1.5		7.5
947BSI	51 ± 3	10 ± 1.5		10

STANDARD ELECTRICAL SPECIFICATIONS

MODEL	SIZE	RESISTANCE RANGE Ω	RATED POWER $P_{25\,°C}$ W	LIMITING ELEMENT VOLTAGE V	TOLERANCE ± %	TEMPERATURE COEFFICIENT ± ppm/°C
58BSI	058	0.1 to 2K	1	50	0.5, 1, 2, 5	100, 300
63BSI	063	0.025 to 4K	2	120	0.5, 1, 2, 5	100, 300
68BSI	068	0.01 to 15K	3	200	0.5, 1, 2, 5	100, 300
516BSI	516	0.01 to 20K	4	200	0.5, 1, 2, 5	100, 300
523BSI	523	0.015 to 40K	5	250	0.5, 1, 2, 5	100, 300
923BSI	923	0.02 to 60K	6	300	0.5, 1, 2, 5	100, 300
932BSI	932	0.035 to 100K	8	500	0.5, 1, 2, 5	100, 300
947BSI	947	0.06 to 150K	10	750	0.5, 1, 2, 5	100, 300

TECHNICAL SPECIFICATIONS

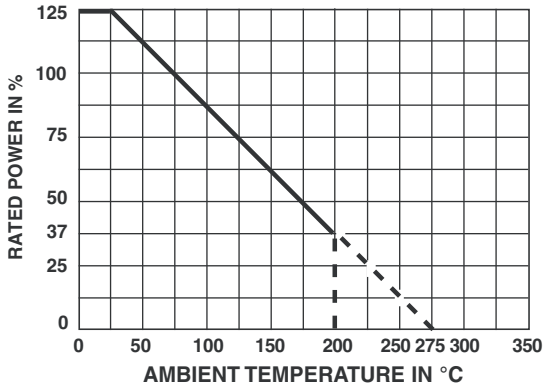
VISHAY SFERNICE SERIES			58BSI	63BSI	68BSI	516BSI	523BSI	923BSI	932BSI	947BSI
Ohmic Range in Relation to Temperature Coefficient	± 100 ppm/°C	± 0.5 % ± 5 %	0.1 Ω 2 kΩ	0.1 Ω 4 kΩ	0.1 Ω 15 kΩ	0.1 Ω 20 kΩ	0.1 Ω 40 kΩ	0.1 Ω 60 kΩ	0.1 Ω 100 kΩ	0.1 Ω 150 kΩ
	± 300 ppm/°C	± 1 % ± 5 %	-	0.025 Ω < 0.1 Ω	0.01 Ω < 0.1 Ω	0.01 Ω < 0.1 Ω	0.015 Ω < 0.1 Ω	0.02 Ω < 0.1 Ω	0.035 Ω < 0.1 Ω	0.06 Ω < 0.1 Ω

MECHANICAL SPECIFICATIONS	
Mechanical Protection	Molded or painted (insulated)
Resistive Element	CuNi or CrNi
Substrate	Alumina
Connections	Sn/Ag/Cu 99/0.3/0.7

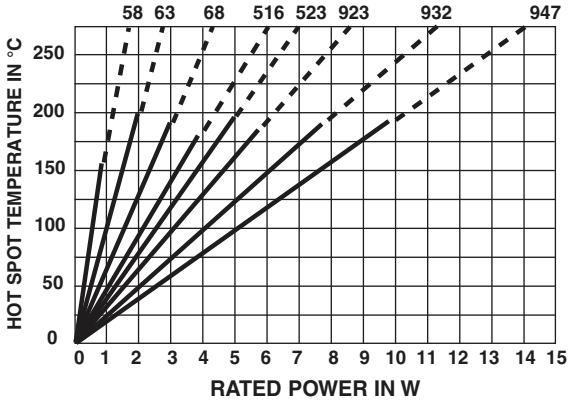
ENVIRONMENTAL SPECIFICATIONS	
Temperature Range	- 55 °C to + 275 °C
Climatic Category	55/200/56

PERFORMANCE			
TESTS	**CONDITIONS**	**REQUIREMENTS**	**TYPICAL VALUES AND DRIFTS**
Dielectric Strength	IEC 60115-1 1000 V_{RMS} for 923 to 947 500 V_{RMS} for 58 to 523	± (0.1 % + 0.05 Ω)	± (0.1 % + 0.05 Ω)
Short Time Overload	IEC 60115-1 5 P_n/5 s for P_r < 5 W 10 P_n/5 s for P_r ≥ 5 W	± (0.2 % + 0.05 Ω)	± (0.1 % + 0.05 Ω)
Endurance	IEC 60115-1 90'/30' P_r at 25 °C, 2000 h	± (1 % + 0.05 Ω)	± (0.1 % + 0.05 Ω)
Endurance at High Temperature	250 h at 275 °C	± (0.5 % + 0.05 Ω)	± (0.3 % + 0.05 Ω)
Thermal Shock	Load at 100 % P_r followed by cold temp. exposure at - 55 °C	± (0.2 % + 0.05 Ω)	± (0.1 % + 0.05 Ω)
Climatic Sequence	IEC 60115-1 - 55 °C/+ 200 °C 5 cycles	± (0.5 % + 0.05 Ω) Insulation resistance ≥ 100 MΩ	± (0.3 % + 0.05 Ω) Insulation resistance > 10 GΩ
Damp Heat, Steady State	IEC 60115-1/IEC 60068-2-78 56 days, 40 °C, 93 % RH	± (0.5 % + 0.05 Ω) Insulation resistance ≥ 100 MΩ	± (0.3 % + 0.05 Ω) Insulation resistance > 10 GΩ
Moisture Resistance	MIL-STD-202 method 106	± (0.2 % + 0.05 Ω) Insulation resistance ≥ 100 MΩ	± (13 % + 0.05 Ω) Insulation resistance > 10 GΩ
Shock	MIL-STD-202 100 *g* method 205 - test C	± (0.1 % + 0.05 Ω)	± (0.05 % + 0.05 Ω)
Vibration	MIL-STD-202 method 204 - Test D: 20 *g* 10Hz/2000 Hz	± (0.1 % + 0.05 Ω)	± (0.05 % + 0.05 Ω)

POWER RATING



TEMPERATURE RISE



MARKING

GEKA trademark, model, style, nominal resistance (in Ω), tolerance (in %), manufacturing date.
Because of lack of space, small styles are marked with ohmic value (in Ω), and tolerance (in %) only.

ORDERING INFORMATION

BSI	63	U22	2 %	± 100 ppm/°C	TR300	e1
MODEL	STYLE	OHMIC VALUE	TOLERANCE	TEMPERATURE COEFFICIENT	PACKAGING	LEAD (Pb)-FREE

GLOBAL PART NUMBER INFORMATION

B	S	I	0	6	3	2	R	8	7	0	F	R	2	2	

GLOBAL MODEL	SIZE	OHMIC VALUE	TOLERANCE	PACKAGING	SPECIAL
BSI	**058** **063** **068** **516** **523** **923** **932** **947**	The first digits are significant figures and the last digit specifies the number of zeros to follow. R designates decimal point. **2R870** = 2.87 Ω **1R200** = 1.2 Ω **10020** = 10 000 Ω **R3300** = 0.33 Ω ...	**D** = 0.5 % **F** = 1 % **G** = 2 % **J** = 5 %	Size 058, 063: **R22** = Reel (3000 pieces) **R17** = Reel (1250 pieces) **A22** = AM (1000 pieces) Size 516, 523, 923, 932: **A15** = AM (250 pieces) **B19** = Bulk (30 pieces) Other packaging existing	As applicable Ex = **AD7**

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