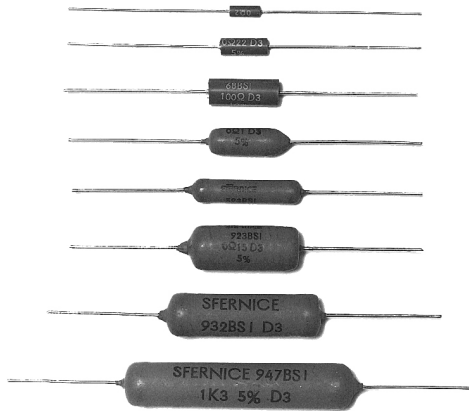


Molded and Insulated Wirewound Power Resistors Axial Leads



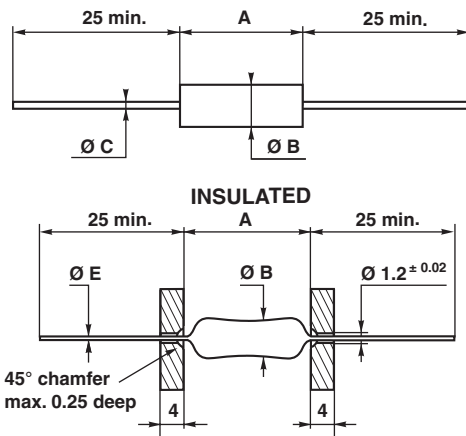
FEATURES

- 1 W to 10 W
- Excellent stability = Typical drift $\pm 1\%$ after 2000 h
- High power = Up to 10 W (25 °C)
- Low ohmic values = 0.01 Ω available
- Electrical insulation
- Climatic protection
- Compliant to RoHS directive 2002/95/EC



RoHS
COMPLIANT

DIMENSIONS in millimeters



MOLDED	PROTECTION			
	SERIES AND STYLE	A	Ø B	Ø C ± 0.1
58BSI	6.5 \pm 0.2	2.4 \pm 0.1	0.6	0.3
63BSI	10 \pm 0.2	3.7 \pm 0.1		
68BSI	15 \pm 0.5	5.6 \pm 0.2	0.8	1.3
INSULATED	PROTECTION			
516BSI	17 \pm 2	5 \pm 1	0.8	1.6
523BSI	24 \pm 2	5 \pm 1		2.5
923BSI	26 \pm 2	9 \pm 1		6
932BSI	34 \pm 3	9 \pm 1		7.5
947BSI	51 \pm 3	9 \pm 1		10

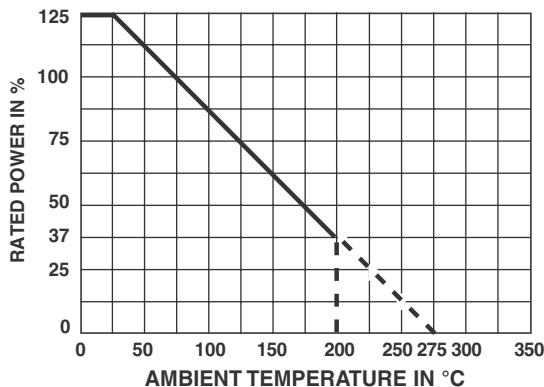
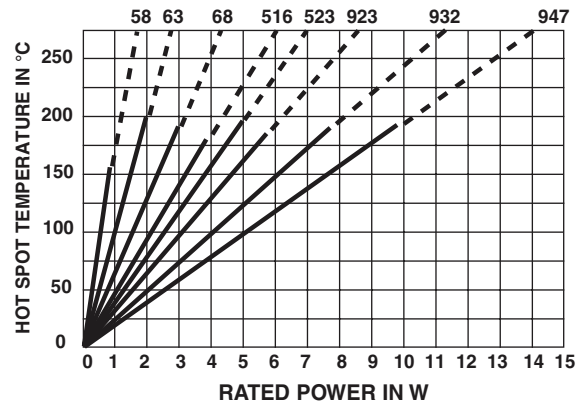
TECHNICAL SPECIFICATIONS

VISHAY SFERNICE SERIES	58BSI	63BSI	68BSI	516BSI	523BSI	923BSI	932BSI	947BSI
Power Rating at + 25 °C	1 W	2 W	3 W	4 W	5 W	6 W	8 W	10 W
Ohmic Range	0.1 Ω to 2 k Ω	0.025 Ω to 4 k Ω	0.01 Ω to 15 k Ω	0.01 Ω to 20 k Ω	0.015 Ω to 40 k Ω	0.02 Ω to 60 k Ω	0.035 Ω to 100 k Ω	0.06 Ω to 150 k Ω
Ohmic Range in Relation to ± 100 ppm/°C	$\pm 0.5\%$ $\pm 5\%$	0.1 Ω 2 k Ω	0.1 Ω 4 k Ω	0.1 Ω 15 k Ω	0.1 Ω 20 k Ω	0.1 Ω 40 k Ω	0.1 Ω 60 k Ω	0.1 Ω 100 k Ω
Temperature Coefficient ± 300 ppm/°C	$\pm 1\%$ $\pm 5\%$	-	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
Limiting Element Voltage	50 V	120 V	200 V	200 V	250 V	300 V	500 V	750 V

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...947 500 V _{RMS} for 58...523	± (0.1 % + 0.05 Ω)	± (0.1 % + 0.05 Ω)
Short Time Overload	IEC 60115-1 5 P _r /5 s for P _r < 5 W 10 P _r /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)	± (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							



Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and/or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk and agree to fully indemnify and hold Vishay and its distributors harmless from and against any and all claims, liabilities, expenses and damages arising or resulting in connection with such use or sale, including attorneys fees, even if such claim alleges that Vishay or its distributor was negligent regarding the design or manufacture of the part. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.