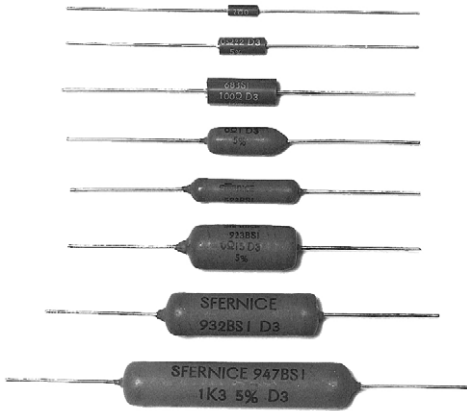


# Molded and Insulated Wirewound Power Resistors Axial Leads



## 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  $\Omega$  available
- Electrical insulation
- Climatic protection
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

DIMENSIONS in millimeters					
	<b>MOLDED</b>	<b>PROTECTION</b>			
	<b>SERIES AND STYLE</b>	<b>A</b>	<b>Ø B</b>	<b>Ø C ± 0.1</b>	<b>WEIGHT (g)</b>
	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
	<b>INSULATED</b>	<b>PROTECTION</b>			
	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 $\Omega$	RATED POWER $P_{25^\circ\text{C}}$ W	LIMITING ELEMENT VOLTAGE V	TOLERANCE $\pm \%$	TEMPERATURE COEFFICIENT $\pm \text{ppm}/^\circ\text{C}$
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	$\pm 100 \text{ ppm}/^\circ\text{C}$	$\pm 0.5\%$	0.1 $\Omega$	0.1 $\Omega$	0.1 $\Omega$	0.1 $\Omega$	0.1 $\Omega$	0.1 $\Omega$	0.1 $\Omega$	0.1 $\Omega$
		$\pm 5\%$	2 k $\Omega$	4 k $\Omega$	15 k $\Omega$	20 k $\Omega$	40 k $\Omega$	60 k $\Omega$	100 k $\Omega$	150 k $\Omega$
Temperature coefficient	$\pm 300 \text{ ppm}/^\circ\text{C}$	$\pm 1\%$ $\pm 5\%$	-	0.025 $\Omega$ < 0.1 $\Omega$	0.01 $\Omega$ < 0.1 $\Omega$	0.01 $\Omega$ < 0.1 $\Omega$	0.015 $\Omega$ < 0.1 $\Omega$	0.02 $\Omega$ < 0.1 $\Omega$	0.035 $\Omega$ < 0.1 $\Omega$	0.06 $\Omega$ < 0.1 $\Omega$

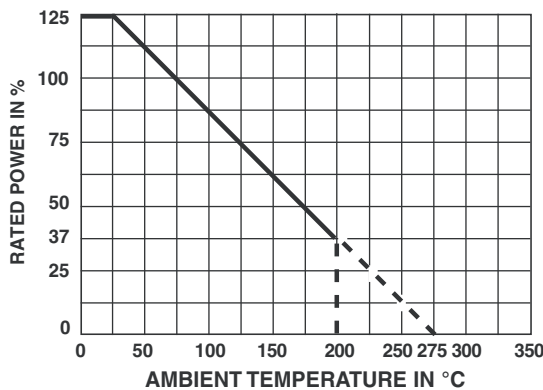


MECHANICAL SPECIFICATIONS	
Mechanical Protection	Molded or painted (insulated)
Resistive Element	CuNi or CrNi
Substrate	Alumina
Connections	Sn/Ag/Cu 99/0.3/0.7

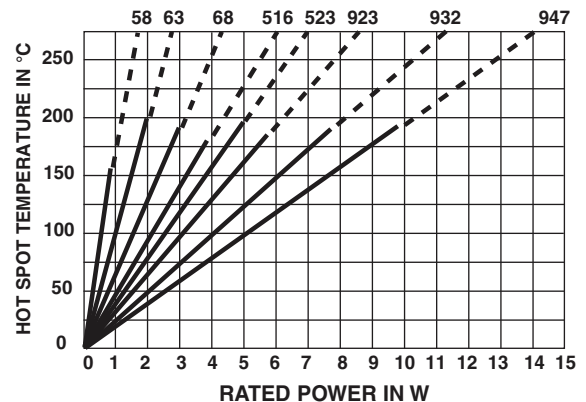
ENVIRONMENTAL SPECIFICATIONS	
Temperature Range	- 55 °C to + 275 °C
Climatic Category	55/200/56

PERFORMANCE			
TESTS	CONDITIONS	REQUIREMENTS	TYPICAL VALUES AND DRIFTS
Dielectric Strength	IEC 60115-1 1000 V <sub>RMS</sub> for 923 to 947 500 V <sub>RMS</sub> for 58 to 523	± (0.1 % + 0.05 Ω)	± (0.1 % + 0.05 Ω)
Short Time Overload	IEC 60115-1 5 P <sub>n</sub> / 5 s for P <sub>r</sub> < 5 W 10 P <sub>n</sub> / 5 s for P <sub>r</sub> ≥ 5 W	± (0.2 % + 0.05 Ω)	± (0.1 % + 0.05 Ω)
Endurance	IEC 60115-1 90' / 30' P <sub>r</sub> 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 <sub>r</sub> 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**

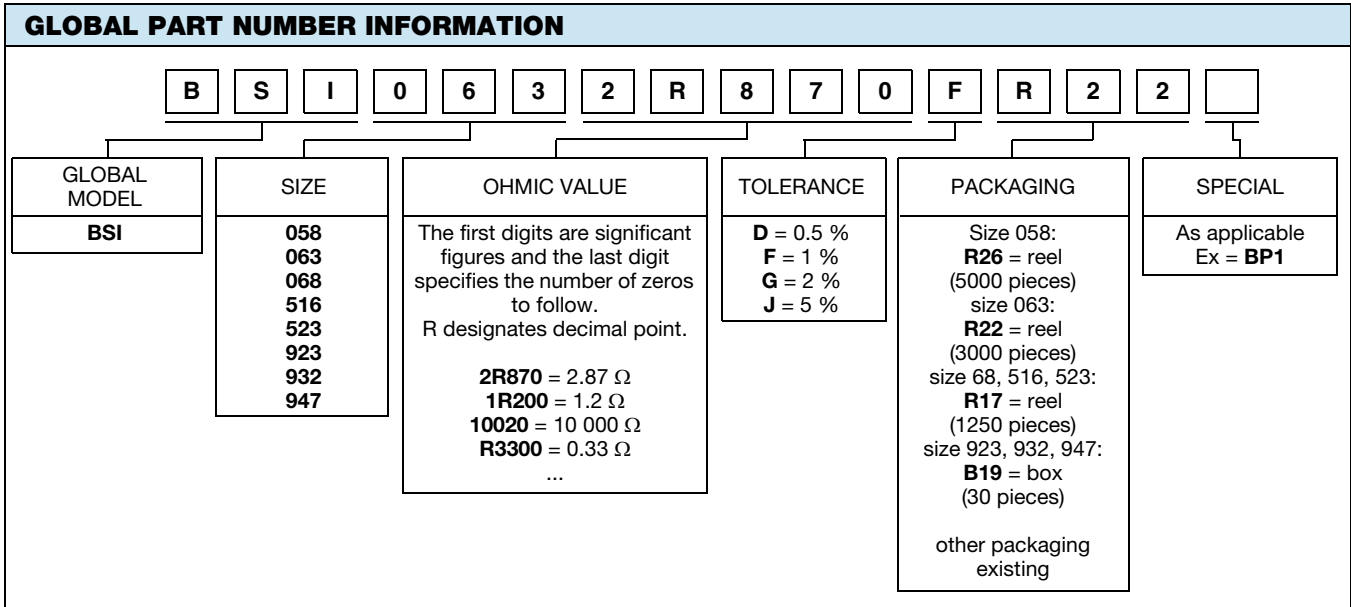


**MARKING**

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





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