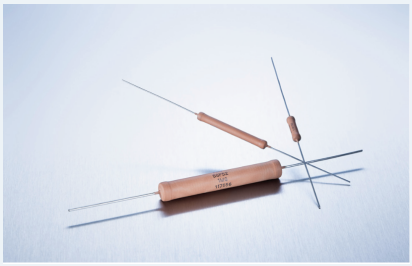
High-voltage resistors

SGPA

High-voltage resistor datasheet

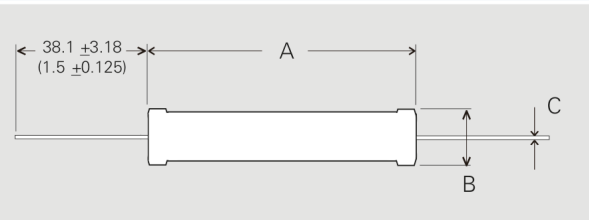
The original METOXFILM and digital trimming process provide a wide resistance range and long-term stability. Continuous power and voltage ratings were tested under steady-state and momentary overload conditions.

Non-inductive, RoHS compliant. S versions reach 48 kV and up to 60% higher working voltage for selected models. The source cites U.S. Patent 4,859,981.

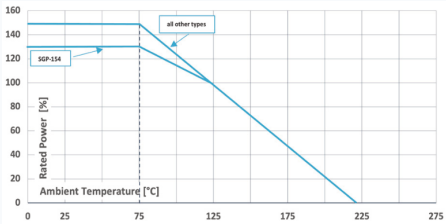


Technical specifications

Parameter	Specification or test condition
Resistance range	100 Ω-10 GΩ, see model tables
Resistance tolerance	Standard ±1% to ±10%. Down to ±0.1% on request for selected values.
Temperature coefficient	±80 ppm/°C at +85 °C, referenced to +25 °C. ±25 ppm/°C or lower on request for selected models and values.
Maximum operating temperature	+225 °C
Voltage coefficient	See typical curve
Dielectric strength	1000 V DC max. (25 °C, RH 75%)
Insulation resistance	≥10 GΩ (1000 V DC)
Overload / overvoltage	5× rated power at 125 °C for 5 s, applied voltage ≤1.5× maximum continuous operating voltage, ΔR ≤0.5%.
Load life	1000 h at 125 °C and rated power. ΔR ≤0.2% for 1% tolerance units and ≤0.5% for S versions.
Load life stability	Typical ±0.02% per 1000 h
Moisture resistance	MIL-STD-202, 106, ΔR ≤0.4%
Thermal shock	MIL-STD-202, 107 C, ΔR ≤0.25%
Encapsulation	Standard silicone coating. Two coats of polyimide, glass and other coatings on request.
Terminal options	6-32, M4 (1 N·m max.) or custom screw caps. Ø0.8 mm gold leads on request for SGP.
Lead material	Tin-plated OFHC copper
Weight	Model dependent, details on request



Axial outline (mm / in)



Rated power (%) vs. ambient temperature (°C)

SGPA

Model ratings and dimensions

Dimensions in mm (in). A and B tolerance: ±0.50 mm (±0.02 in). C tolerance: ±0.05 mm (±0.002 in).

OGP

Model	W 25 °C	W 75 °C	W 125 °C	Max. kV	S max. kV**	Min. Ω	Max. Ω	S max. Ω	A	B	C
OGP-13	1.0	1.0	0.60	1.5	2.4	100	50 M	500 M	13.30 (0.524)	4.20 (0.165)	0.60 (0.024)
OGP-20	1.5	1.5	1.00	2.0	3.2	200	100 M	1 G	19.70 (0.776)	4.20 (0.165)	0.60 (0.024)
OGP-26	1.9	1.9	1.25	4.0	6.4	300	150 M	2 G	26.20 (1.031)	4.20 (0.165)	0.60 (0.024)
OGP-30	2.5	2.5	1.50	5.0	8.0	500	250 M	3 G	32.30 (1.272)	4.20 (0.165)	0.60 (0.024)
OGP-39	3.0	3.0	2.00	6.0	9.6	700	300 M	5 G	39.40 (1.551)	4.20 (0.165)	0.60 (0.024)
OGP-52	3.3	3.3	2.50	10.0	12.0	400	2 G	-	49.50 (1.949)	4.20 (0.165)	0.60 (0.024)

SGP

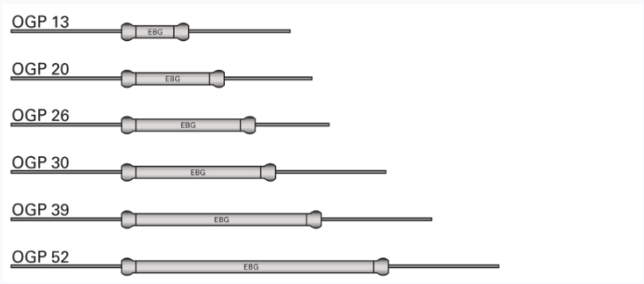
Model	W 25 °C	W 75 °C	W 125 °C	Max. kV	S max. kV**	Min. Ω	Max. Ω	S max. Ω	A	B	C
SGP-20	2.5	2.5	1.50	3.0	4.8	200	250 M	1 G	20.20 (0.795)	8.20 (0.323)	1.00 (0.040)
SGP-26	3.7	3.7	2.50	4.0	6.4	250	300 M	1 G	26.90 (1.059)	8.20 (0.323)	1.00 (0.040)
SGP-32	4.5	4.5	3.00	5.0	8.0	300	400 M	1.5 G	33.00 (1.3)	8.20 (0.323)	1.00 (0.040)
SGP-39	5.2	5.2	3.50	8.0	12.8	400	500 M	1.5 G	39.50 (1.555)	8.20 (0.323)	1.00 (0.040)
SGP-52	7.5	7.5	5.00	10.0	16.0	500	750 M	2.5 G	52.10 (2.051)	8.20 (0.323)	1.00 (0.040)
SGP-78	11	11	7.50	15.0	24.0	900	1 G	4 G	77.70 (3.059)	8.20 (0.323)	1.00 (0.040)
SGP-103	12	12	8.00	20.0	32.0	1K2	1 G	2 G	102.90 (4.051)	8.20 (0.323)	1.00 (0.040)
SGP-124	15	15	10.00	25.0	40.0	1K5	1 G	8 G	123.70 (4.870)	8.20 (0.323)	1.00 (0.040)
SGP-148	30	30	20.00	45.0	-	10 K	3 G	10 G	148.00 (5.83)	16.00 (0.63)	-
SGP-154	20	20	15.00	30.0	48.0	2 K	2 G	10 G	153.70 (6.051)	8.20 (0.323)	1.00 (0.040)

** S versions are intended for air and non-aggressive atmospheres. Confirm oil, casting, molding or SF□ applications separately.

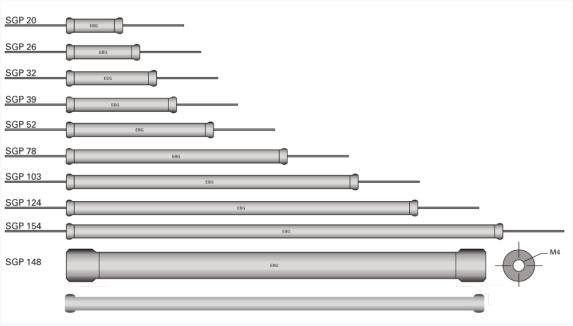
The source lists M4 or 6-32 screw caps for SGP and SGT types except 148. Caps increase the overall length. End areas are uncoated.

SGPA

Series outlines and voltage coefficient

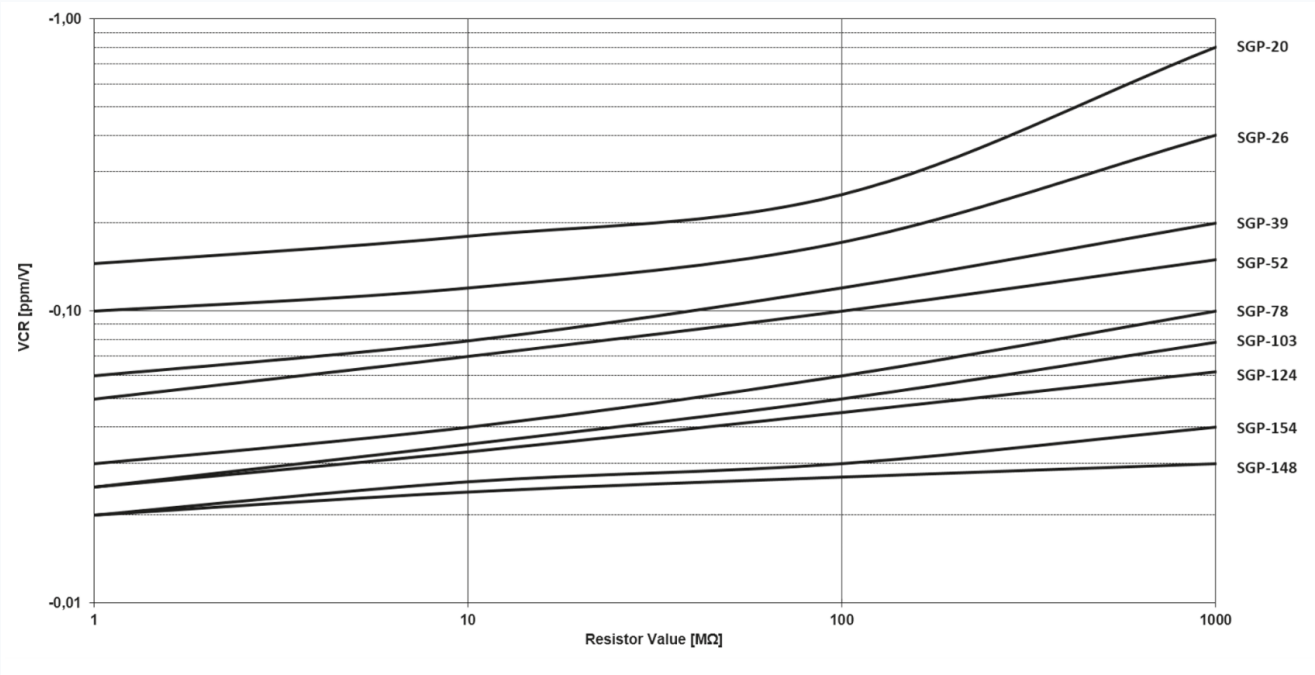


OGP outlines



SGP outlines

Typical SGP voltage coefficient



Vertical axis: voltage coefficient (ppm/V) · Horizontal axis: resistance (MΩ)

Example: SGP-154 at 100 MΩ has a typical voltage coefficient of -0.03 ppm/V.

Ordering information

Model / resistance / tolerance / TCR
SGP-103 10M 1% 80ppm or OGP-20 10M 5% 25ppm
High voltage: SGP-154-S 300M 2% 80ppm or OGP-39-S 100M 1% 25ppm

Technical source

Miba Resistors datasheet (2026) · Miba_Resistors_SGP_OGP_2026.pdf
Ratings are for selection guidance and refer to the original manufacturer models. Confirm special configurations and suitability for the intended operating conditions.