

Series SGP/OGP • US Patent-Nr. 4,859,981

TC of 80ppm/°C combined with Precision Tolerances (0.1%-10%) and wide Ohmic Range (100Ω-10GΩ)

EBG offers the SGP series to meet the requirements of high resistance values combined with very high voltage requirements, while utilizing EBG's patented non-inductive design complete with in-process digital trimming to exact value.

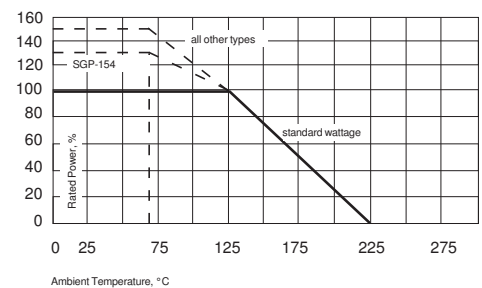
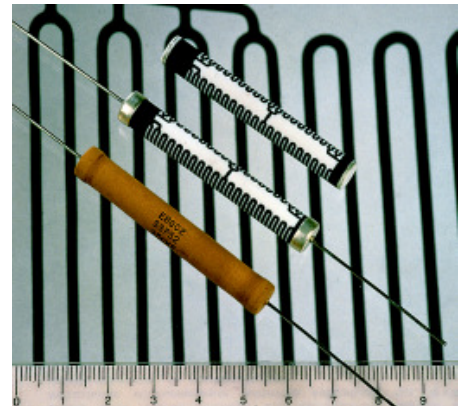
This series employs our special METOXFILM which demonstrates excellent stability while covering resistance ranges from 100Ω to 10GΩ, -all at high operating temperatures to 225°C. The power ratings and voltage ratings are for continuous operation, and have all been pre-tested to these requirements for steady state performance, as well as momentary overload conditions.

A summary of the features of the SGP series are:

- Resistance values up to 10GΩ
- Resistance tolerance from ± 0.1% to ± 10%
- Temperature Coefficient: 80ppm/°C
- Maximum continuous Operating Voltage to 48,000 V
- Life Stability: Typical ±0.02% per 1,000 hours
- Maximum operating temp. up to +225°C

Specifications:

- Resistance Tolerance: Standard: ±1% to ±10% (±2% to ±10% above 1Gohms) (tolerances down to ±0,1% on special request)
- Temperature Coefficient: Standard ±80ppm/°C from -15°C to +105°C, referenced to +25°C
- Voltage Coefficient: see diagram
- Dielectric Strength: 1,000VDC
- Insulation Resistance: 10GΩ, min.
- Overload/Overvoltage: 5 times rated power/125°C with applied voltage not to exceed 1.5 times maximum continuous operating voltage for 5 seconds. Overload/Overvoltage, ΔR 0.5% max.
- Load Life: 1,000 hours at 125°C and rated power, components with 1% Tol. ΔR 0.5% max., extended range ("S") ΔR=0.8% max.
- Moisture Resistance: MIL-Std-202, Method 106, ΔR 0.4% max.
- Thermal Shock: MIL-Std-202, Method 107, Cond.C, ΔR 0.25% max.
- Encapsulation: Silicone Conformal
- Lead Material: O.F.H.C. Copper tin plated.



** Our resistors are designed for operation in air and not aggressive atmospheres. For special applications (i.e. oil, casting, moulding, SF₆, etc.) please contact your nearest EBG representative.

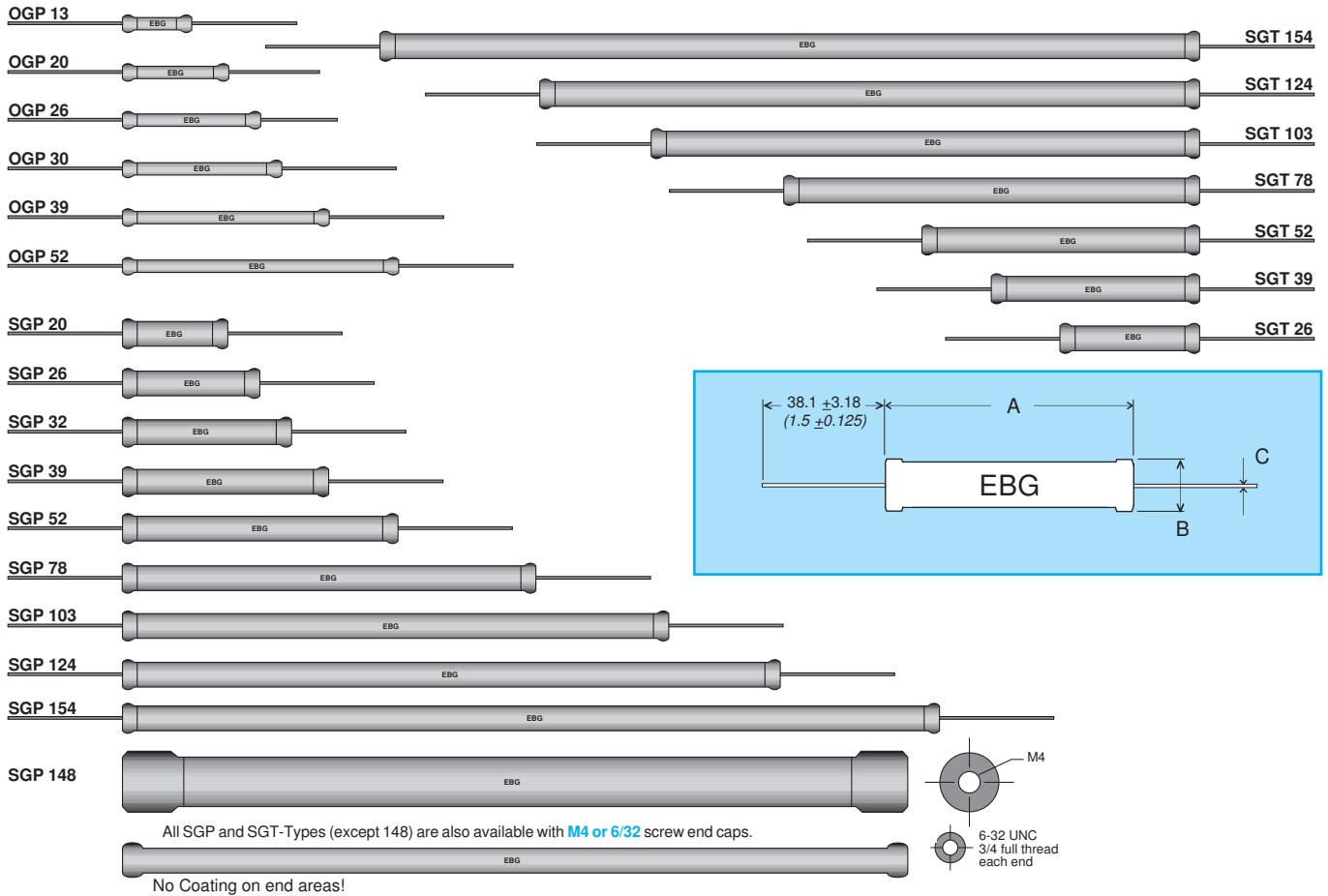
Voltages up to 60% higher than the table values may be obtained in special order by adding "S" to the model designation.

EBG's special patented (USPatent-Nr. 4,859,981) non-inductive construction offers an outstanding advantage over other techniques. The design incorporates a unique method of DIGITAL TRIMMING to value. Other less desirable methods include an "analog" method of abrading and removing the resistive material, frequently resulting in a weak section. EBG's patented process avoids this potential problem.

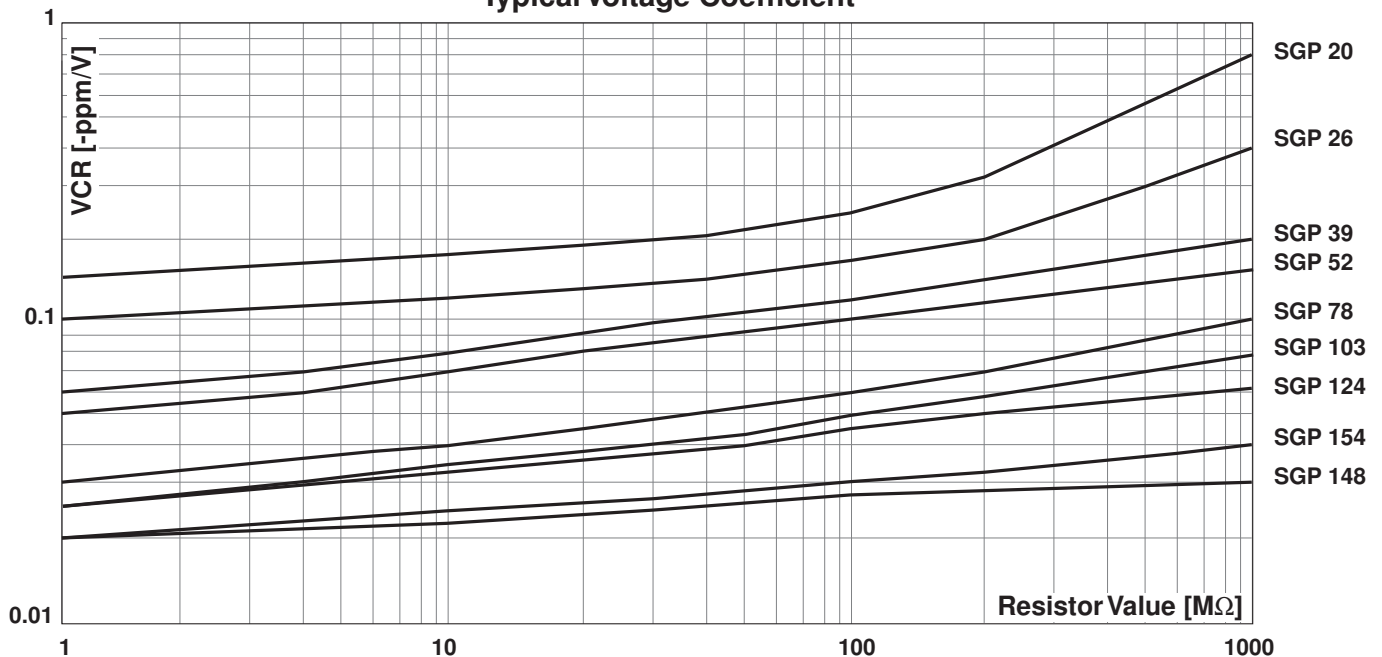
| Model No. | Watt age 25°C | Watt age 75°C | Watt age 125°C | Max. Cont. Oper. V (kV) | Max. KV "S" ** | Resistance F(±1%) | | s-Resistance Max (2% Tol.) | Dimensions in millimeter | | |
|-----------|---------------|---------------|----------------|-------------------------|----------------|-------------------|------|----------------------------|--------------------------|---------------|----------------|
| | | | | | | Min. ohmic values | Max. | | A ±0.50 ±0.02 | B ±0.50 ±0.02 | C ±0.05 ±0.002 |
| OGP 13 | 1.0 | 1.0 | 0.60 | 1.5 | 2.4 | 100 | 50M | 500M | 13.30 | 4.20 | 0.60 |
| OGP 20 | 1.5 | 1.5 | 1.00 | 2.0 | 3.2 | 200 | 100M | 1G | 19.70 | 4.20 | 0.60 |
| OGP 26 | 1.9 | 1.9 | 1.25 | 4.0 | 6.4 | 300 | 150M | 2G | 26.20 | 4.20 | 0.60 |
| OGP 30 | 2.5 | 2.5 | 1.50 | 5.0 | 8.0 | 500 | 250M | 3G | 32.30 | 4.20 | 0.60 |
| OGP 39 | 3.0 | 3.0 | 2.00 | 6.0 | 9.6 | 700 | 300M | 5G | 39.40 | 4.20 | 0.60 |
| OGP 52 | 3.3 | 3.3 | 2.50 | 10.0 | 12.0 | 400 | 2G | — | 49.50 | 4.20 | 0.60 |
| SGP 20 | 2.5 | 2.5 | 1.50 | 3.0 | 4.8 | 200 | 250M | 1G | 20.20 | 8.20 | 1.00 |
| SGP 26 | 3.7 | 3.7 | 2.50 | 4.0 | 6.4 | 250 | 300M | 1G | 26.90 | 8.20 | 1.00 |
| SGP 32 | 4.5 | 4.5 | 3.00 | 5.0 | 8.0 | 300 | 400M | 1.5G | 33.00 | 8.20 | 1.00 |
| SGP 39 | 5.2 | 5.2 | 3.50 | 8.0 | 12.8 | 400 | 500M | 1.5G | 39.50 | 8.20 | 1.00 |
| SGP 52 | 7.5 | 7.5 | 5.00 | 10.0 | 16.0 | 500 | 750M | 2.5G | 52.10 | 8.20 | 1.00 |
| SGP 78 | 11 | 11 | 7.50 | 15.0 | 24.0 | 900 | 1G | 4G | 77.70 | 8.20 | 1.00 |
| SGP 103 | 12 | 12 | 8.00 | 20.0 | 32.0 | 1K2 | 1G | 2G | 102.90 | 8.20 | 1.00 |
| SGP 124 | 15 | 15 | 10.00 | 25.0 | 40.0 | 1K5 | 1G | 8G | 123.70 | 8.20 | 1.00 |
| SGP 148 | 30 | 30 | 20.00 | 45.0 | — | 10K | 3G | 10G | 148.0 | 16.0 | — |
| SGP 154 | 20 | 20 | 15.00 | 30.0 | 48.0 | 2K0 | 2G | 10G | 153.70 | 8.20 | 1.00 |

In the above spec sheet, you will find our standard product, please contact your local manufacturing representative or call us direct to find out details of other options available regarding this style. Please see our website for the most updated information!

High Voltage Resistors – Overview



Typical Voltage Coefficient



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