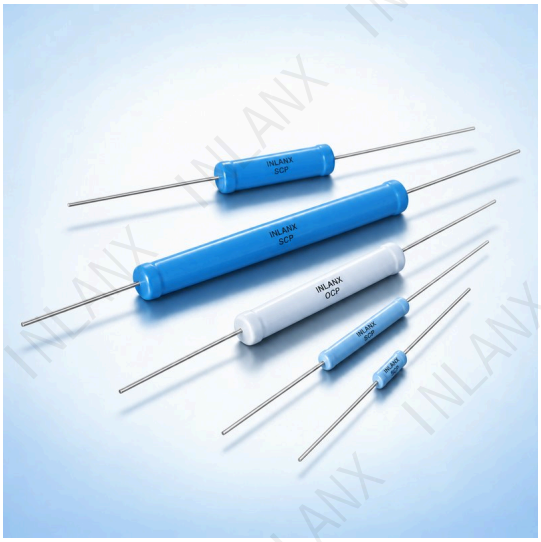
SCP / OCP

Cylindrical Thick-Film Non-Inductive High-Voltage Resistors

Features

- Cylindrical thick-film, non-inductive design.
- High mechanical strength and high thermal capacity compared with flat high-voltage resistors.
- Good switching and pulse performance.
- High-quality ceramic substrate for good thermal conductivity.
- General-purpose SCP / OCP cylindrical high-voltage resistors.



General Specifications

Parameter	Specification
Resistance range	100 Ω to 1 GΩ; other values on request
Tolerance	±1.0% to ±10%; ±0.1% available on request
TCR	±80 ppm/°C (25°C to 105°C); other requirements on request
Voltage coefficient	See voltage-coefficient curves
Maximum operating temperature	225°C
Dielectric withstand	1000 V DC
Insulation resistance	10 GΩ minimum
Overload	5 times rated power, not exceeding 1.5 times maximum continuous working voltage, for 5 s; ΔR≤±0.5%R0
Load life	1000 h at rated power; ΔR≤±0.50%R0; suffix S: ΔR≤±0.80%R0
Moisture resistance	MIL-STD-202, Method 106; ΔR≤±0.40%R0
Thermal shock	MIL-STD-202, Method 107, Condition C; ΔR≤±0.25%R0
Coating	Silicone resin
Lead material	Oxidation-resistant tinned copper wire
End caps	Silver-plated brass caps

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OCP Technical Ratings

Model	W at 25°C	W at 75°C	W at 125°C	Max. cont. kV	S max. kV	Min. Ω (1%)	Max. Ω (1%)	Max. Ω (2%)
OCP13	1.0	1.0	0.6	1.5	2.4	100	50M	500M
OCP20	1.5	1.5	1.0	2.0	3.2	200	100M	1G
OCP26	1.9	1.9	1.25	4.0	6.4	300	150M	2G
OCP30	2.5	2.5	1.5	5.0	8.0	500	250M	3G
OCP39	3.0	3.0	2.0	6.0	9.6	700	300M	5G
OCP52	3.3	3.3	2.5	10.0	12.0	400	2G	—

SCP Technical Ratings

Model	W at 25°C	W at 75°C	W at 125°C	Max. cont. kV	S max. kV	Min. Ω (1%)	Max. Ω (1%)	Max. Ω (2%)
SCP20	2.5	2.5	1.5	3.0	4.8	200	25M	1G
SCP26	3.7	3.7	2.5	4.0	6.4	250	300M	1G
SCP32	4.5	4.5	3.0	5.0	8.0	300	400M	1.5G
SCP39	5.2	5.2	3.5	8.0	12.8	400	500M	1.5G
SCP52	7.5	7.5	5.0	10.0	16.0	500	750M	2.5G
SCP78	11	11	7.5	15.0	24.0	900	1G	4G
SCP103	12	12	8.0	20.0	32.0	1K2	1G	2G
SCP124	15	15	10.0	25.0	40.0	1K5	1G	8G
SCP148	30	30	20.0	45.0	—	10K	3G	10G
SCP154	20	20	15.0	30.0	48.0	2K0	2G	10G

Resistance notation: K = 10^3, M = 10^6, G = 10^9; e.g. 1K2 = 1.2 kΩ. A dash indicates no value specified in the source.

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Outline Dimensions

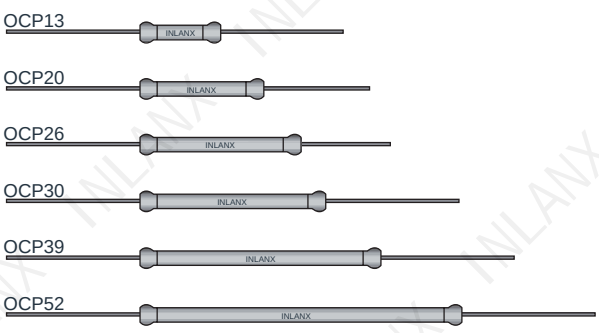


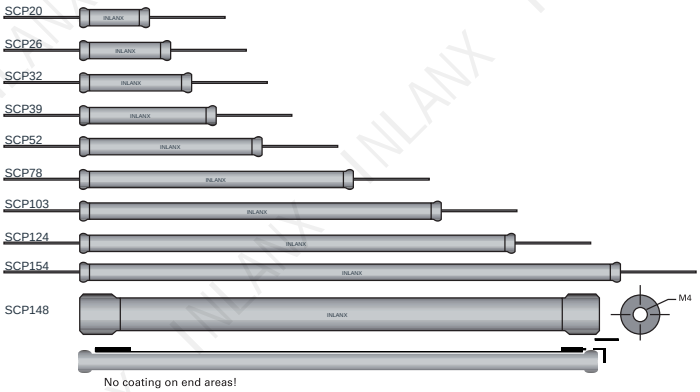
A: body length; B: body diameter; C: lead diameter. Dimensions below retain source millimetre/inch values.

Model	A (mm)	A (in)	B (mm)	B (in)	C (mm)	C (in)
OCP13	13.30	0.524	4.20	0.165	0.60	0.024
OCP20	19.70	0.776	4.20	0.165	0.60	0.024
OCP26	26.20	1.031	4.20	0.165	0.60	0.024
OCP30	32.30	1.272	4.20	0.165	0.60	0.024
OCP39	39.40	1.551	4.20	0.165	0.60	0.024
OCP52	49.50	1.949	4.20	0.165	0.60	0.024
SCP20	20.2	0.795	8.20	0.323	1.00	0.040
SCP26	26.9	1.059	8.20	0.323	1.00	0.040
SCP32	33.0	1.3	8.20	0.323	1.00	0.040
SCP39	39.5	1.555	8.20	0.323	1.00	0.040
SCP52	52.1	2.051	8.20	0.323	1.00	0.040
SCP78	77.7	3.059	8.20	0.323	1.00	0.040
SCP103	102.9	4.051	8.20	0.323	1.00	0.040
SCP124	123.7	4.870	8.20	0.323	1.00	0.040
SCP148	155.0	6.11	16.0	0.63	—	—
SCP154	153.7	6.051	8.20	0.323	1.00	0.040

Tolerances: A ±1.0 mm / ±0.04 in; B ±0.50 mm / ±0.02 in; C ±0.05 mm / ±0.002 in. Lead length: 38.1 ±3.18 mm (as dimensioned).

OCP / SCP Body Variants

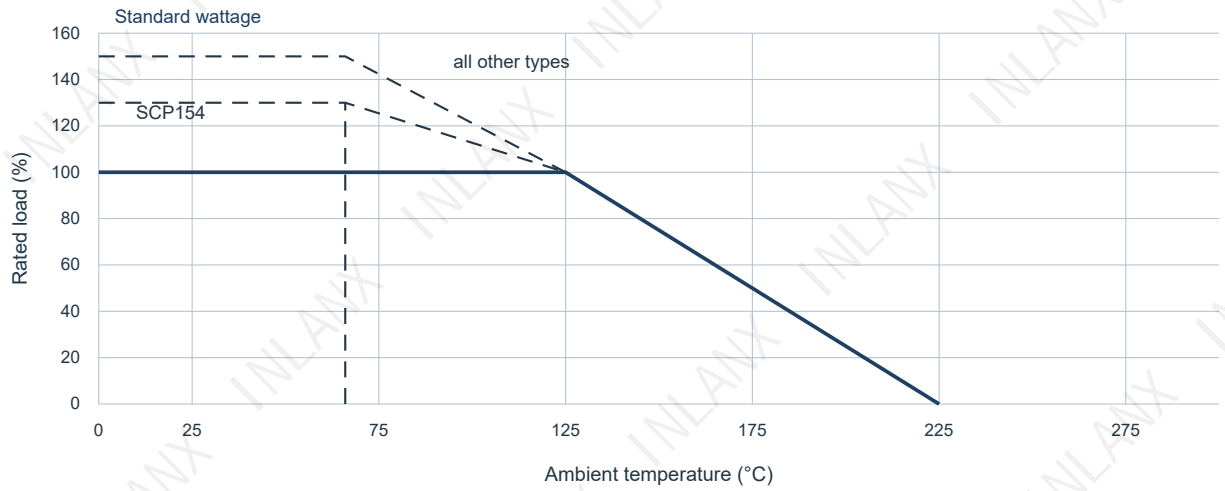




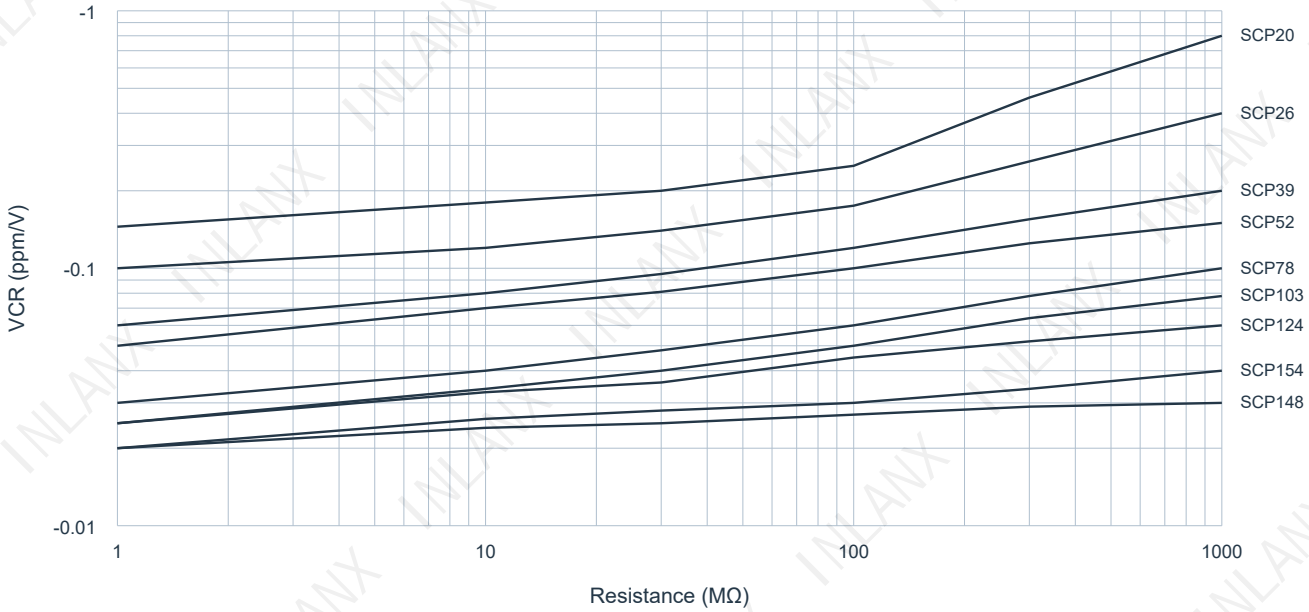
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Power Derating



Voltage Coefficient



Example: SCP154 at 100 MΩ has a typical voltage coefficient of -0.03 ppm/V.

All SCP and SCT types except 148 can also be supplied with M4 or 6/32 threaded end caps. Overall length increases with screw end caps; end areas are uncoated.

Ordering Example

SCP32 | 3M6 | 1% | 80 ppm/°C