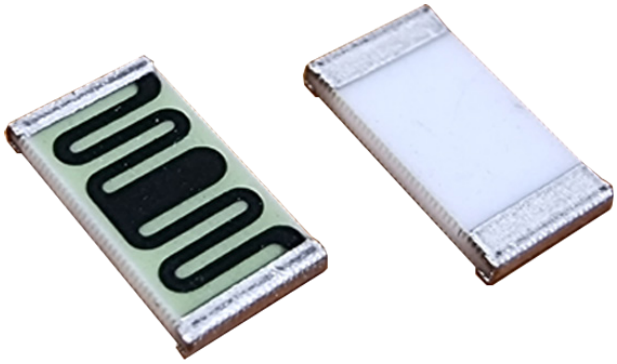
SXV Series
Precision High Ohmic SMD Chip Resistors



- Precision high ohmic SMD resistors
- Suitable for high vacuum applications - no organics
- Surface mount thick film technology
- 100KΩ to 100G Resistance range
- Nickel barrier, matte tin terminations
- Glass passivated resistor element
- Working voltages up to 6kV
- Power rating up to 6W
- Low temperature & voltage dependency
- Lower TCR & VCR available on request

e3 ELV RoHS Compliant ✓ 2000/53/EC 2011/65/EC

Technical Data — **Table 1**

Size	0805	1206	1210	2010	2512	4020
Power rating P_{70} (W) (P_{155} = 0W)	0.125W	0.25W	0.35W	0.75W & 1W [2]	1W & 2W [2]	2W & 3W [2]
Working voltage $U_{\_1}$, U_{eff} (V) Standard (trimmed) U (untrimmed, Tol. ≥5%)	200V 400V	600V 1kV	800V 1.2kV	1.5kV 2kV	2.5kV 3.5kV	4kV 6kV
Resistance / Tolerance % / Temperature Coefficient (TCR) ppm˚C[3] / Voltage Coefficient (VCR) ppm/V[4] (Lower resistance tolerances, TCR & VCR on request & by agreement)						
100K - 100M ± %	0.5, 1, 2, 5, 10	0.5, 1, 2, 5, 10	0.5, 1, 2, 5, 10	0.5, 1, 2, 5, 10	0.5, 1, 2, 5, 10	0.25, 0.5, 1, 2, 5, 10
100K - 100M ppm/˚C	25, 50, 100	25, 50, 100	25, 50, 100	25, 50, 100	25, 50, 100	25, 50, 100
100K - 100M ppm/V	100	50	50	25	10	5
>100M - 1G ± %	2, 5, 10, 20	2, 5, 10, 20	1, 2, 5, 10, 20	1, 2, 5, 10, 20	1, 2, 5, 10, 20	0.5, 1, 2, 5, 10, 20
>100M - 1G ppm/˚C	50, 100, 250	50, 100, 250	25, 50, 100	25, 50, 100	25, 50, 100	25, 50, 100
>100M - 1G ppm/V	250	100	50	50	25	10
>1G - 10G ± %	5, 10, 20	5/10/20	2, 5, 10, 20	2, 5, 10, 20	2, 5, 10, 20	1, 2, 5, 10, 20
>1G - 10G ppm/˚C	250, 500	100/250	50, 100, 250	25, 50, 100	25, 50, 100	25, 50, 100
>1G - 10G ppm/V	500	250	100	100	50	10
>10G - 100G ± %	10, 20, 30	10, 20, 30	5, 10, 20, 30	5, 10, 20, 30	5, 10, 20, 30	2, 5, 10, 20, 30
>10G - 100G ppm/˚C	1000, 2000	500, 1000	500, 1000	250, 500	100, 250, 500	50, 100, 250
>10G - 100G ppm/V	1000	500	500	250	100	50

[1]) Continuous operating voltage ($U_{\_}$, U_{eff}): $V \leq \sqrt{(P*R)}$ or max. working voltage (the lower value)

[2]) At continuous power dissipation the dimensions of solder-pads must secure sufficient heat removal. Power Mode (SXV2010 at **1W**; SXV2512 at **2W**; SXV4020 at **3W**): The temperature of the resistor element is higher than in standard mode! Higher power rating requires adequate heat removal (e.g. increased solder pads or Cu-thicknesses). The user has to ensure solder joints will not run over their load limit. The resistor must not exceed the specified operating temperature range.

[3]) Temperature coefficient TCR: in ppm/°C; +25°C to +125°C; TCR lower than standard TCR (highest value) or R >100G: +25°C to +85°C

[4]) VCR: typical values, all negative, not for all temperature coefficient values available

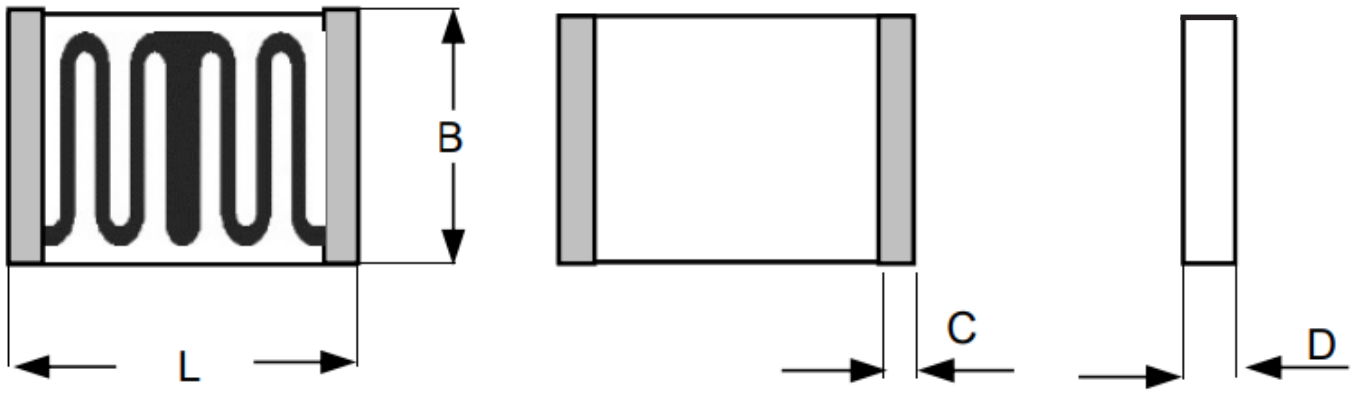
Technical Data - General

Operating temperature range	-55°C to +155°C		
Climatic category acc. to EN 60068-1	55, 155, 56		
Solderability acc. to EN 60068-2-58 (lead-free and lead-containing) [4]	250°C, 3s		
Max. soldering temperature acc. to EN 60068-2-58	260°C, 10s		
Long term stability	**< 1G**	**< 10G**	**≥ 10G**
Load Life 70°C/1000h	< 0.25%	< 0.5%	< 1%
Storage 125°C/1000h	< 0.5%	< 1%	< 2%
Max. voltage/1000h	< 0.5%	< 1%	< 2%

Other data according to EN 140401-802 (CECC 40401-802)

Dimensions (mm)				Table 2
Size	**L (Length)**	**B (Width)**	**D (Thickness)**	**C (Wrap around width)**
0805	2.00 +0.15/-0.05	1.25 +0.15/-0.05	0.40 +0.15/-0.05	0.3 +0.2/-0.1
1206	3.20 +0.15/-0.05	1.50 +0.2/-0.05	0.40 +0.15/-0.05	0.3 +0.2/-0.1
1210	3.20 +0.15/-0.05	2.50 +0.2/-0.05	0.50 +0.15/-0.05	0.8 ±0.2
2010	5.10 +0.15/-0.05	2.50 +0.2/-0.05	0.60 +0.20/-0.1	1.2 ±0.2
2512	6.30 +0.15/-0.05	3.50 +0.2/-0.05	0.60 +0.15/-0.05	0.9 ±0.2
4020	10.20 +0.20/-0.05	5.10 +0.2/-0.05	0.60 +0.20/-0.1	0.9 ±0.2

Dimensions — Fig. 1



Packaging	
Bulk in plastic bags	Contact Durakool for minimum order quantities
Embossed carrier tape acc. to IEC 60286-3	Contact Durakool for minimum order quantities
Reel diameter	180 or 330mm

Example Ordering Code

S	X	V	2	0	1	0	U	9	0	G	0	K	5	0	0

Series
SXV

Case Size
0805, 1206, 1210, 2010, 2512, 4020

Trimming
T = Trimmed
U = Untrimmed

Resistance Ω
100K - 100G

Tolerance ± % (See table 1)

B ± 0.1	**F** ± 1	**K** ± 10
C ± 0.25	**G** ± 2	**M** ± 20
D ± 0.5	**J** ± 5	**N** ± 30

Temperature Coefficient TCR
5 to 2000ppm (See table 1)

NB: Standard TCR will be the highest value in the table unless otherwise requested. Measuring voltage will be 10V. Other voltages are available - specific requirements must be requested.