



- Surface mount thick film technology
- High ohmic SMD resistors
- 10MΩ to 1TΩ resistance range
- Suitable for high vacuum applications - no organics
- PtAg Terminals for conductive epoxy applications & soldering
- Working voltage up to 6kV
- High temperature applications up to 300°C
- Low temperature & voltage dependency
- Non magnetic



Technical Data

Table 1

Size	0402	0603	0805	1206	1210	2512	4020
Power rating P_{70} (W) ($P_{155} = 0W$)	0.05W	0.1W	0.125W	0.25W	0.35W	1kW ¹	2kW ¹
Working voltage U_{-1} , U_{eff} (V) Standard (trimmed), untrimmed, Tol. $\geq 5\%$	30V 60V	75V 150V	100V 200V	200V 400V	300V 600V	1.5V 2kV	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)							
10M - 100M ± % ppm/°C ppm/V	5, 10, 20 50, 100 500	2, 5, 10, 20 50, 100 100	2, 5, 10, 20 50, 100 500	1, 2, 5, 10, 20 25, 50, 100 250	1, 2, 5, 10, 20 25, 50, 100 25	1, 2, 5, 10, 20 25, 50, 100 25	1, 2, 5, 10 25, 50, 100 10
>100M - 500M ± % ppm/°C ppm/V	5, 10, 20 100, 250 1000	2, 5, 10, 20 100, 250 500	2, 5, 10, 20 100, 250 500	2, 5, 10, 20 50, 100, 250 500	2, 5, 10, 20 250, 100, 250 50	1, 5, 10, 20 25, 50, 100 50	1, 2, 5, 10, 20 25, 50, 100 25
>500M - 1G ± % ppm/°C ppm/V	5, 10, 20 250, 500 1000	5, 10, 20 250, 500 500	5, 10, 20 250, 500 500	5, 10, 20 25, 50, 100 100	5, 10, 20 100, 250 250	1, 5, 10, 20 100, 250 50	1, 5, 10, 20 25, 50, 100 25
>1G - 10G ± % ppm/°C ppm/V	10, 20, 30 1000, 2000 2000	5, 10, 20, 30 500, 1000 1000	5, 10, 20 500, 1000 1000	5, 10, 20, 30 500, 1000 500	5, 10, 20 250, 500 250	2, 5, 10, 20 100, 250 100	2, 5, 10, 20 100, 250 50
>10G - 100G ± % ppm/°C ppm/V	10, 20, 30 2000, 3000 5000	10, 20, 30 1000, 2000 3000	10, 20, 30 1000, 2000 1000	5, 10, 20, 30 1000, 2000 1000	5, 10, 20 500, 1000 500	5, 10, 20 250, 500 250	5, 10, 20, 30 250, 500 100
>100G - 1T ± % ppm/°C ppm/V	On request	On request	SRV series	SRV series	10, 20, 30 1000, 2000 2000	10, 20, 30 500, 1000 1000	10, 20, 30 500, 1000 500

1) At continuous power dissipation the dimensions of solder-pads have to secure a sufficient heat removal

2) Continuous operating voltage (U_{eff}) $V \leq \sqrt{P \cdot R}$ or max. working voltage (whichever is the lower)

3) Temp. coefficient TCR: in ppm, K; +25°C to +125°C; TCR lower than standard TCR (highest value) or >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 +300°C
Climatic category acc. to EN 60068-1	55, 300, 56
Solderability acc. to EN 60068-2-58 (lead-free and lead-containing) ⁵	250°C, 3s
Max. soldering temperature acc. to EN 60068-2-58	260°C, 10s

The temperature coefficient is valid for the temperature range +25°C to +125°C (85°C for special TCR)

The final measuring of the resistors takes place at room temperature!

Please pay attention to the interconnection technology at high temperature applications.

Long term stability	< 1GΩ	< 10GΩ	≥ 10GΩ
Load Life 70°C/1000h	< 1%	< 2%	< 5%
Storage 125°C/1000h	< 0.5%	< 1%	< 2%
Max. voltage/1000h	< 0.5%	< 1%	< 2%

⁵ Up to 6 months after shipment (air, 30°C/60%rH) or up to 12 months at storage in nitrogen or in evacuated dry packs.

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

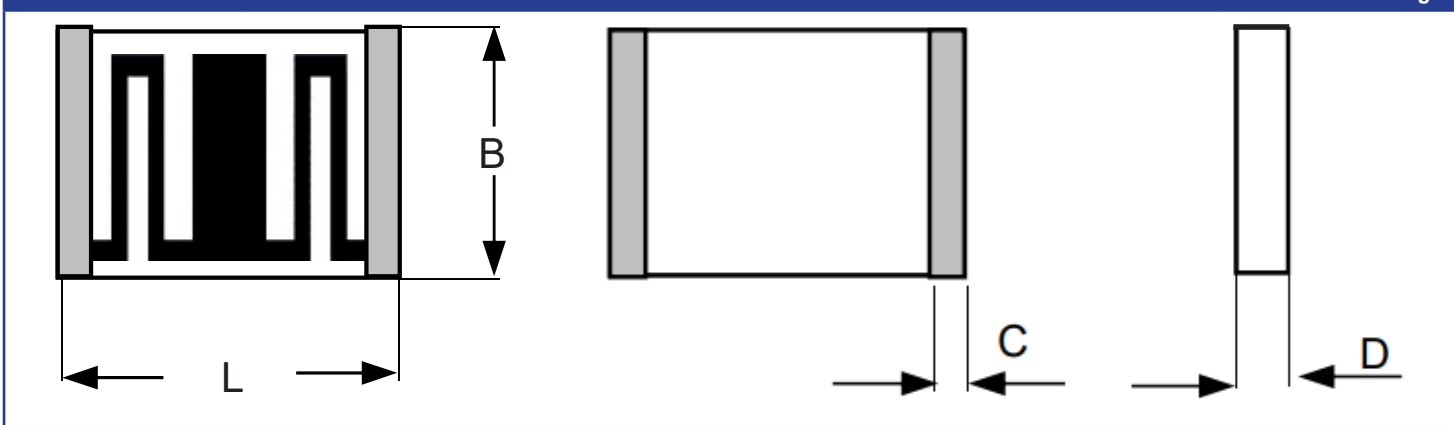
Dimensions (mm)

Table 2

Size	L (Length)	B (Width)	D (Thickness)	C (Wrap around width)
0402	0.95 +0.10/-0.05	0.48 +0.10/-0.05	0.28 +0.10/-0.05	0.1 +0.1/-0.05
0603	1.50 +0.15/-0.05	0.80 +0.15/-0.05	0.40 +0.15/-0.05	0.2 +0.2/-0.1
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
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 +0.15/-0.05	5.10 +0.2/-0.05	0.60 +0.15/-0.05	0.9 ±0.2

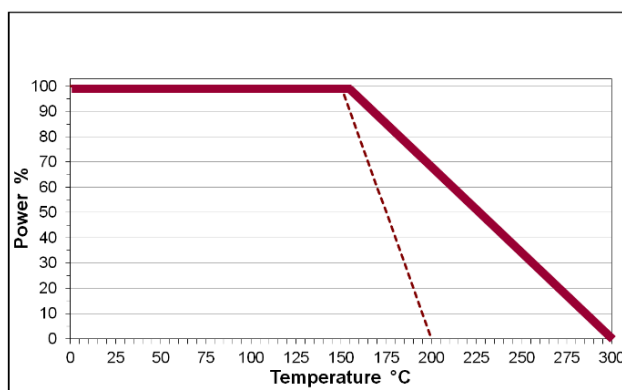
Dimensions

Fig. 1



High Temperature Derating Curve

Fig. 2



Packaging

Bulk in plastic bags	Contact Durakool for minimum order quantities
Blister tape acc. to EN 60286-3	Contact Durakool for minimum order quantities
Reel diameter	180 or 330mm

Example Ordering Code

S Z X S 2 5 1 2 T 1 0 0 K F 2 5					
Series	Case Size	Trimming	Resistance Ω	Tolerance ± % (See table 1)	Temperature Coefficient TCR
SZXS	0402, 0603, 0805, 1206, 1210, 2512, 4020	T = Trimmed U = Untrimmed	10M - 1T	F ± 1 G ± 2 J ± 5 K ± 10 M ± 20 N ± 30	50 to 3000ppm (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.

SZXS 121521FW

Specifications are subject to change without notice. E&OE.