

Thickfilm Resistor CS 004 / CS 004C

► Resistance ranges, tolerances and TC's

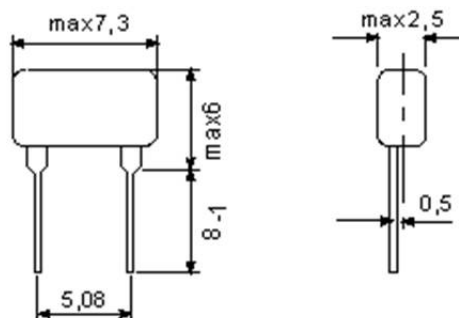
Tolerance	± 1%	± 2%	± 5%	± 10%
Resistance ranges	10K - 10M	>10M - 100M	>100M - 250M	>250M - 1G

All values within the resistance range are available.
Lower tolerance-values upon request.

► Ratings by IEC 60115-1

Thermal resistance R_{th}		max. 220 K/W
Limited element voltage		≅ 250 V
Rated dissipation	P_{70} ($\vartheta_o = 125^\circ\text{C}$)	0.25 W
	P_{40} ($\vartheta_o = 125^\circ\text{C}$)	0.38 W
Climatic category		55 / 125 / 56
Insulation voltage		> 500 V
Insulation resistance		> $10^{10} \Omega$
Temp. characteristics	≤ 50M	± $100 \times 10^{-6} / ^\circ\text{C}$
	> 50M	± $250 \times 10^{-6} / ^\circ\text{C}$
Voltage coefficient		< $0,5 \times 10^{-6} / \text{V}$
Weight (100 pcs.)		ca. 15 g
Marking		letter
Cleaning solvents		For the removal of flux can be used: ethanol, methanol, isopropanol, propanol, butanol and water; reaction time max. 5 minutes

► Dimensions CS 004



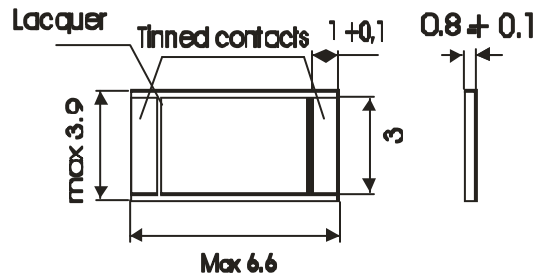
► Tests

	Test	Conditions	Requirements
4.13	Overload	5 s, $2,5 \times U_{rat}$ or $2 \times U_{max}$	$\Delta R \leq \pm (0.10\%R)$
4.18	Soldering-Resistance to heat	$260 \pm 5^\circ\text{C}$, 10 s	$\Delta R \leq \pm (0.10\%R)$
4.19	Rapid change of temp.	-65°C , 155°C , 5x	$\Delta R \leq \pm (0.25\%R)$
4.24	Damp heat, steady	40°C , 93% r.H., 56 d	$\Delta R \leq \pm (0.25\%R)$
4.25	Endurance at 70°C	U_{rat} or U_{max} 1000 h	$\Delta R \leq \pm (0.25\%R)$
		U_{rat} or U_{max} 8000 h	$\Delta R \leq \pm (0.25\%R)$

Section numbers of test and performance requirements refer to IEC 60115-1.

Thickfilm Resistor CS 004 / CS 004C

► Dimensions CS 004 C



► Ratings by IEC 60115-1

Voltage against ambient	75 V
Mounting	Face down
Weight (100 pcs)	ca. 12 g

► Tests

	Test	Conditions	Requirements
4.13	Overload	5 s, 2,5 x U _{rat} or 2 x U _{max}	$\Delta R \leq \pm (0.10\%R)$
4.18	Soldering-Resistance to heat	260 ± 5 °C, 10 s	$\Delta R \leq \pm (0.10\%R)$
4.19	Rapid change of temp.	-65°C, 155°C, 5x	$\Delta R \leq \pm (0.25\%R)$
4.31	Substrat bending test	10x, 1mm	$\Delta R \leq \pm (0.10\%R)$
4.25	Endurance at 70 °C	U _{rat} or U _{max} 1000 h	$\Delta R \leq \pm (0.50\%R)$
		U _{rat} or U _{max} 8000 h	$\Delta R \leq \pm (1.00\%R)$

Section numbers of test and performance requirements refer to IEC 60115-1.

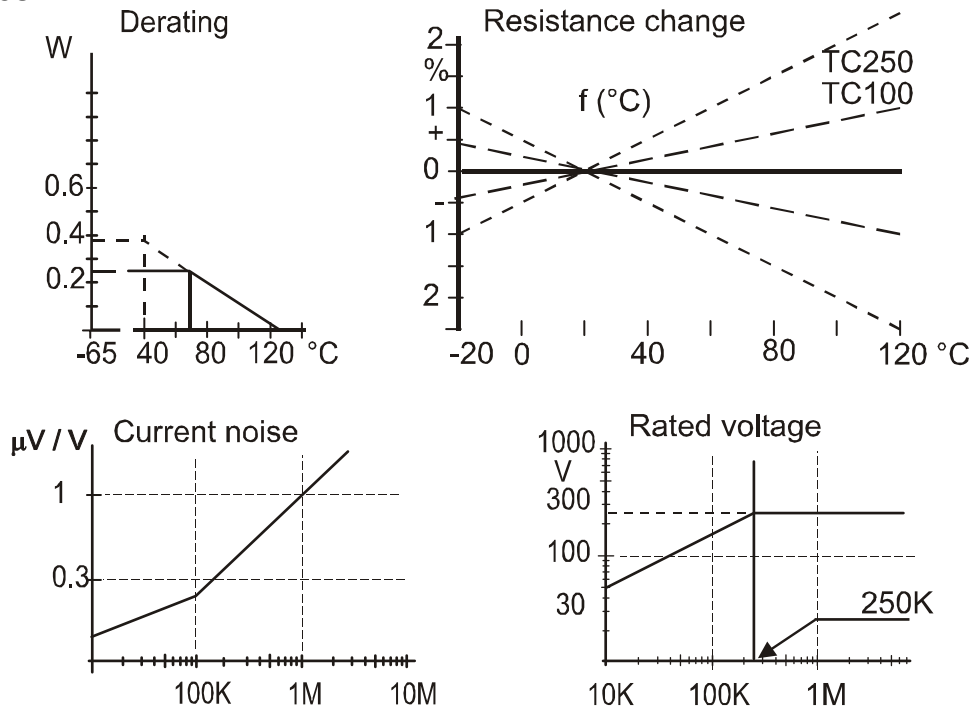
► Order examples

CS 004 50M 2%
 ────┬───┬───┬───
 type rated resistance tolerance

CS 004C 50M 2%
 ────┬───┬───┬───
 type rated resistance tolerance

Thickfilm Resistor CS 004 / CS 004C

► Rating curves



► Standard Values

1M	1%	10M	1%	100M	2%
1M2	1%	12M	2%	120M	5%
1M5	1%	15M	2%	150M	5%
1M8	1%	18M	2%	180M	5%
2M	1%	20M	2%	200M	5%
2M2	1%	22M	2%	220M	5%
2M7	1%	27M	2%	240M	5%
3M	1%	30M	2%	500M	10%
3M3	1%	33M	2%	1G	10%
3M6	1%	36M	2%		
3M9	1%	39M	2%		
4M3	1%	43M	2%		
4M7	1%	47M	2%		
5M	1%	50M	2%		
5M6	1%	56M	2%		
6M8	1%	68M	2%		
8M2	1%	82M	2%		