

Thickfilm Resistor CS 104 / CS 104 C

► Resistance ranges, tolerances and TC's

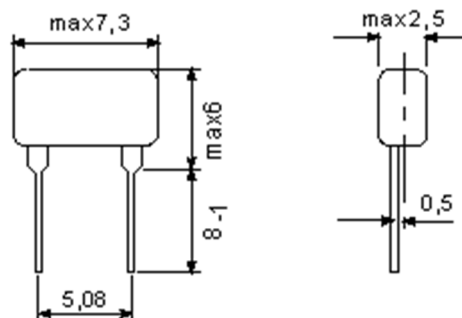
Tolerance	± 1%	± 2%	± 5%	± 10%
Resistance ranges	10K - 10M	>10M - 100M	>100M - 250M	>250M - 1G

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} ($\vartheta_0 = 125^\circ\text{C}$)	0.25 W	
	P_{40} ($\vartheta_0 = 125^\circ\text{C}$)	0.38 W	
Climatic category	55 / 125 / 56		
Insulation voltage	> 500 V		
Insulation resistance	> $10^{10} \Omega$		
Temp. characteristics	$\pm 25 \times 10^{-6} / ^\circ\text{C}$		
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 104



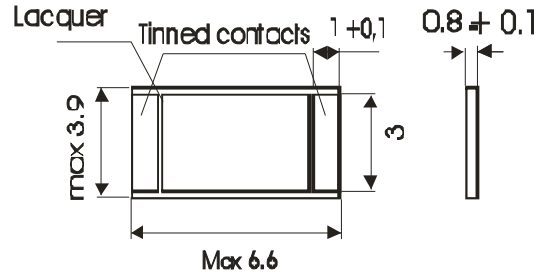
► Tests

	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.

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► Dimensions CS 104 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, $2,5 \times U_{\text{rat}}$ or $2 \times U_{\text{max}}$	$\Delta R \leq \pm (0.10\%R)$
4.18	Soldering-Resistance to heat	$260 \pm 5 \text{ }^\circ\text{C}$, 10 s	$\Delta R \leq \pm (0.10\%R)$
4.19	Rapid change of temp.	-65°C , 155°C , 5x	$\Delta R \leq \pm (0.25\%R)$
4.31	Substrat bending test	10x, 1mm	$\Delta R \leq \pm (0.10\%R)$
4.25	Endurance at $70 \text{ }^\circ\text{C}$	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 104	50M	2%
—	—	—
type	rated resistance	tolerance

CS 104C	50M	2%
—	—	—
type	rated resistance	tolerance

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► Rating curves

