

## Thickfilm Resistor CS 009

### ► Resistance ranges, tolerances and TC's

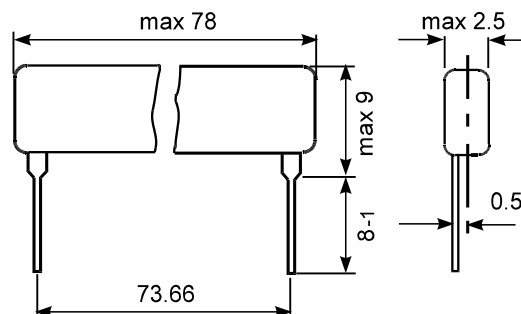
Tolerance	± 1%	± 2%	± 5%	± 10%
Resistance ranges	100K - 100M	>100M - 500M	>500M - 2G	>2G - 20G

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

### ► Ratings by IEC 60115-1

Thermal resistance $R_{th}$		max. 20 K/W
Limited element voltage		$\cong 20\,000\text{ V}$
Rated dissipation	$P_{70}$ ( $\vartheta_o = 125\text{ °C}$ )	3.0 W
	$P_{40}$ ( $\vartheta_o = 125\text{ °C}$ )	4.7 W
Climatic category		55 / 125 / 56
Insulation voltage		> 500 V
Insulation resistance		> $10^{10}\ \Omega$
Temp. characteristics	$\leq 250M$	$\pm 100 \times 10^{-6}/\text{°C}$
	$> 250M$	$\pm 250 \times 10^{-6}/\text{°C}$
Voltage coefficient		$< 5 \times 10^{-6} / \text{V}$
Weight (100 pcs.)		ca. 210 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 009



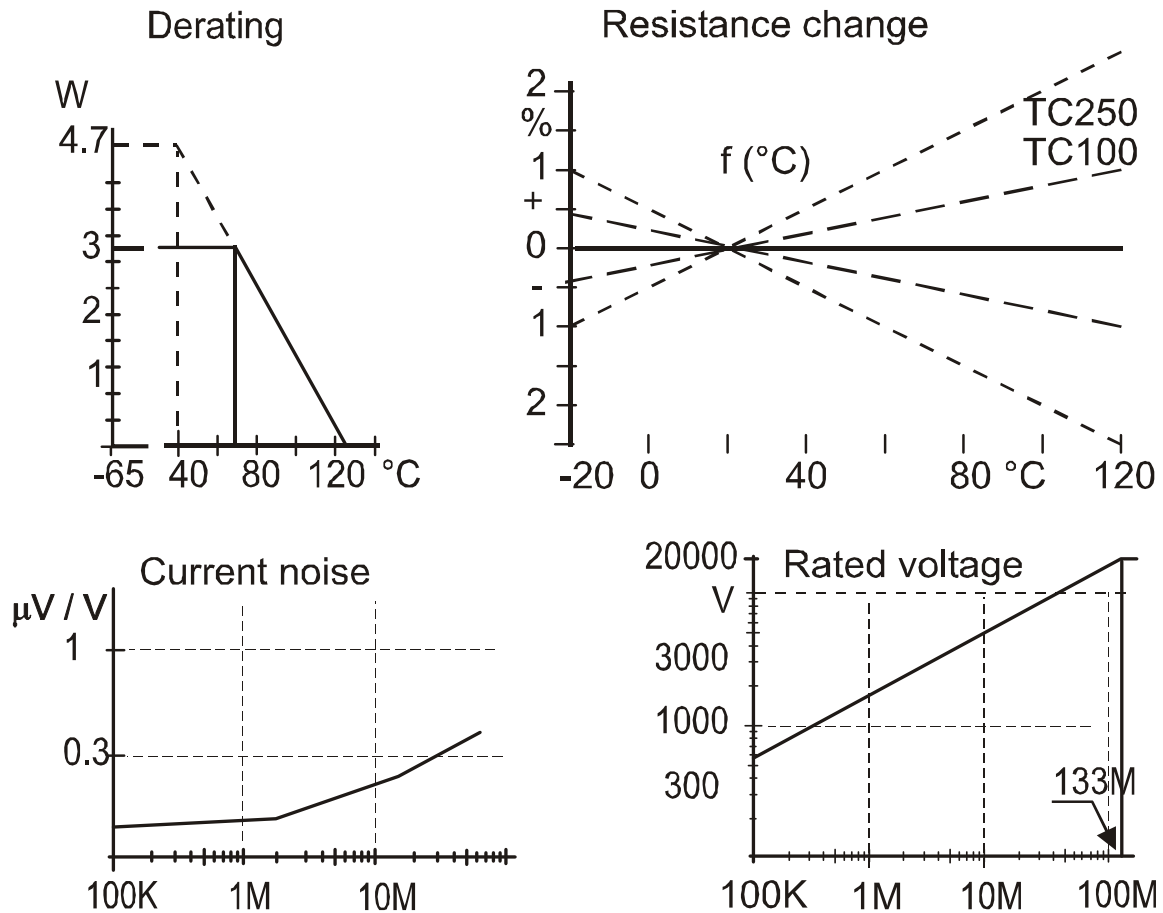
### ► Tests

	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	$260 \pm 5\text{ °C}$ , 10 s	$\Delta R \leq \pm (0.10\%R)$
4.19	Rapid change of temp.	$-65\text{ °C}$ , $155\text{ °C}$ , 5x	$\Delta R \leq \pm (0.25\%R)$
4.24	Damp heat, steady	$40\text{ °C}$ , 93% r.H., 56 d	$\Delta R \leq \pm (0.25\%R)$
4.25	Endurance at $70\text{ °C}$	$U_{rat}$ or $U_{max}$ 1000 h	$\Delta R \leq \pm (0.25\%R)$
		$U_{rat}$ or $U_{max}$ 8000 h	$\Delta R \leq \pm (0.50\%R)$

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

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## Rating curves



## Standard Values

2M	1%	10M	1%	100M	1%	1G	5%
		20M	1%	200M	2%	2G	5%
		30M	1%	300M	2%		
4M	1%	40M	1%	400M	2%	4G	10%
		50M	1%	500M	2%		
		60M	1%	600M	5%	10G	10%
		80M	1%	800M	5%	20G	10%

## Order examples

CS 009      10G      10%

—      —      —

type    rated resistance    tolerance

**Thickfilm Resistor  
CS 009**

**Rated voltage**

