

# CRS-Series Standard Chip Resistors

Sizes: 0402, 0603, 0805, 1206

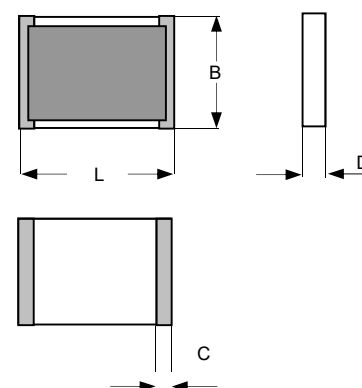
## Features:

- Chip resistors in thick film technology
- Resistance element glass-passivated
- Nickel-barrier / matte Tin terminations
- RF-versions untrimmed
- Resistance values up to 500 MΩ
- Working voltage up to 400 Volts
- Suitable for high vacuum applications – no organics



## Dimensions:

Size	L	B	D	C
0402	0.95 <sup>+0.10/-0.05</sup>	0.48 <sup>+0.10/-0.05</sup>	0.28 <sup>+0.10/-0.05</sup>	0.1 <sup>+0.1/-0.05</sup>
0603	1.50 <sup>+0.15/-0.05</sup>	0.80 <sup>+0.15/-0.05</sup>	0.40 <sup>+0.15/-0.05</sup>	0.2 <sup>+0.2/-0.1</sup>
0805	2.00 <sup>+0.15/-0.05</sup>	1.25 <sup>+0.15/-0.05</sup>	0.40 <sup>+0.15/-0.05</sup>	0.3 <sup>+0.2/-0.1</sup>
1206	3.20 <sup>+0.15/-0.05</sup>	1.50 <sup>+0.2/-0.05</sup>	0.40 <sup>+0.15/-0.05</sup>	0.3 <sup>+0.2/-0.1</sup>



L = Length, B = Width, D = Thickness, C = Width of wrap around (in mm)  
Larger sizes on request

## Packaging:

Bulk in plastic bags – minimum quantity 100 pieces per value (500 pcs. for new manufacturing runs)  
Embossed carrier tape acc. to EN 60286-3 – minimum 500 pieces per value  
Reel diameter 180 mm or 330 mm

## Ordering Data:

Type – value – tolerance – temperature coefficient TK

Example: *CRS 0805 100K ±1% - TK100*

Untrimmed parts are indicated by the extension “NA” in the order code:

Type – NA – value – tolerance– temperature coefficient TK

Example: *CRS 0805-NA 100K ±10% TK100*

Without requirement for the temperature coefficient TK, the standard value (highest value in table) will be supplied.

# CRS-Series Standard Chip Resistors

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## Technical data – depending on size:

Size	0402	0603	0805	1206
Power rating $P_{70}$ (mW) ( $P_{155} = 0$ mW)	50	100	125	250
Max. working voltage (V) <sup>1)</sup>				
Standard (trimmed)	30	75	100	200
NA (untrimmed, Tol. $\geq 5\%$ )	60	150	200	400

Ranges / Tolerances / Temperature coefficient TK <sup>2)</sup>				
0R1 – <1R	–	10/20% TK250	5/10/20% TK250	5/10/20% TK250
1R – <10R	10/20% TK250	5/10/20% TK100/250	2/5/10/20% TK100/250	2/5/10/20% TK100/250
10R – <100R	5/10/20% TK100	1/.../20% TK100	1/.../20% TK50/100	1/.../20% TK50/100
100R – 1M	1/2/5/10/20% TK50/100	1/.../20% TK50/100	0.5/.../20% TK50/100	0.5/.../20% TK50/100
>1M – 10M	2/5/10/20% TK100/250	1/.../20% TK50/100	0.5/.../20% TK50/100	0.5/.../20% TK50/100
>10M – 100M	5/10/20% TK100/250	1/.../20% TK50/100	0.5/.../20% TK50/100	0.5/.../20% TK50/100
>100M – 500M	–	5/.../20% TK100/250	2/.../20% TK100/250	2/.../20% TK100/250

<sup>1)</sup> Continuous operating voltage ( $U_{-}$ ,  $U_{eff}$ ):  $V \leq \sqrt{P \cdot R}$  or max. working voltage (the lower value)

<sup>2)</sup> Temperature coefficient TK: in ppm/K; +25°C...+125°C; TK below standard TK (highest value): +25°C...+85°C

Zero-Ohm-Jumper: < 50 mOhm

Other values of resistance, tolerance, temperature coefficient TK and VCR on request and agreement only

## Technical data – general:

Operating temperature range	-55°C ... +155°C
Climatic category acc. to EN 60068-1	55/155/56
Solderability acc. to EN 60068-2-58 (lead free and lead-containing)	250°C, 3s
Max. soldering temperature acc. to EN 60068-2-58	260°C, 10s

Long term stability	< 10R	10R – 100M	> 100M
Storage 125°C/1000h	< 1%	< 0.5%	< 1%
Storage 155°C/1000h	< 2%	< 1%	< 2%
Load Life $P_{70}/70^{\circ}\text{C}/1000\text{h}$	< 1%	< 0.5%	< 1%
Short term overload	< 0.5%	< 0.25%	< 0.5%
Damp heat (56d/40°C/96%)	< 1%	< 0.5%	< 1%

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