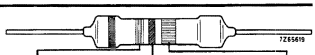
fixed resistors

carbon film

CR16 CR25 CR37
CR52 CR68 CR93

For detailed information
Handbook CM2a

Resistance ranges	from 1 Ω to 10 MΩ; E12 or E24 series				
Resistance tolerance	5 and 10%				
Abs. max. dissipation	CR16	0,2 W	CR52	0,67 W	
at T_{amb} = 70 °C	CR25	0,33 W	CR68	1,15 W	
	CR37	0,5 W	CR93	2 W	
Basic specification	IEC 115-1, 115-2				
Climatic category (IEC 68)	55/155/56				
Stability after load	see nomogram				



colour	first two digits of resistance value	multiplier	tolerance
black	0	1 x	
brown	1	10 x	
red	2	100 x	
orange	3	1 000 x	
yellow	4	10 000 x	
green	5	100 000 x	
blue	6	1 000 000 x	
violet	7		
grey	8		
white	9		
silver			± 10%
gold		0,1 x	± 5%

style	limiting voltage V(r.m.s.)	**rated dissipation at 70 °C W**	resistance range	tolerance %	series	catalogue no.
CR16	150	**0,2**	10 Ω - 220 kΩ	5	E24	2322 210 13 . . .
			270 kΩ - 1 MΩ	10	E12	2322 210 12 . . .
CR16 on reel			10 Ω - 220 kΩ	5	E24	2322 210 23 . .
			270 kΩ - 1 MΩ	10	E12	2322 210 22 . .
CR25	150	**0,33**	1 Ω - 1 MΩ	5	E24	2322 211 13 . .
			1,2 MΩ - 10 MΩ	10	E12	2322 211 12 . . .
CR25 on reel			1 Ω - 1 MΩ	5	E24	2322 211 23 . .
			1,2 MΩ - 10 MΩ	10	E12	2322 211 22 . .
CR25A	250	**0,33**	1 Ω - 1 MΩ	5	E24	2322 106 33 . .
			1,2 MΩ - 10 MΩ	10	E12	2322 106 32 . .
CR37	350	**0,5**	1 Ω - 1 MΩ	5	E24	2322 212 13 . .
			1,2 MΩ 10 MΩ	10	E12	2322 212 12 . . .
CR37 on reel			1 Ω - 1 MΩ	5	E24	2322 212 23 . .
			1,2 MΩ - 10 MΩ	10	E12	2322 212 22 .
CR52 [1]	500	**0,67**	1 Ω - 1 MΩ	5	E24	2322 213 13 .
CR68 [1]	750	**1,15**	1 Ω 1 MΩ	5	E24	2322 214 13 . .
CR93 [1]	1000	**2**	10 Ω - 1 MΩ	5	E24	2322 215 13 . .

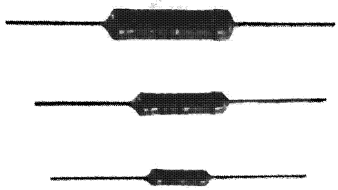
[1] For values > 1 MΩ see high-voltage resistors VR37 and VR68

Composition of the catalogue no.

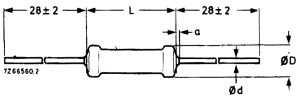
In the above-mentioned catalogue no., replace the first two dots by the first two digits of the resistance value.
Replace the third dot by a figure according to the following table:

1 - 9,1 Ω	8	10 - 91 kΩ	3
10 - 91 Ω	9	100 - 910 kΩ	4
100 - 910 Ω	1	1 - 9,1 MΩ	5
1 - 9,1 kΩ	2	10 MΩ	6

Example
Style CR25 (not on reel) 10 Ω, 5% cat. no. 2322 211 13109

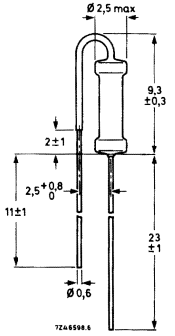


style	D_{max}	L_{max}	d	a_{max}
CR16	1,6	4,0	0,4	1,0
CR25	2,5	6,8	0,6	1,0
CR37	3,7	10	0,7	1,0
CR52	5,2	16,5	0,8	1,2
CR68	6,8	18	0,8	1,2
CR93	9,0	31,7	0,8	1,2



Style CR25A

The bent lead is partly covered with an insulating lacquer having a breakdown voltage of at least 50 V(d.c.)



Nomogram to find style or stability

Example
What is the stability of a 10 kΩ resistor, style CR25, operating at
0,3 W in an ambient of 60 °C ?

Find 0,3 W on CR25 style column.

Follow the line right, down, left, to the stability axis. ΔR/R is 1% over 1000 working hours.

Use the reverse procedure to find right style for a given stability and dissipation.