

# DATA SHEET

**SMD POWER RESISTORS**  
ZC – MELF/MINI-MELF



Product Specification – Jun. 18, 2003 V.0



**SMD-Metal Film Resistors**  
**MELF Style**

**Specification**

Type		ZC0204 501	ZC0207 500
Style		0204	0207
Power rating P <sub>70</sub>	W	0,25	1,0
Resistance range	Ω	see Page 2	
E-series		see Page 2	
Tolerance	%	see Page 2	
Temperature coefficient	10 <sup>-6</sup> K <sup>-1</sup>	see Page 2	
max. cont. working voltage	V <sub>RMS</sub>	200	500
Voltage coefficient	10 <sup>-6</sup> V <sup>-1</sup>	< 1	
Insulation voltage (1min.)	V <sub>RMS</sub>	300	500
Insulation resistance	Ω	> 10 <sup>4</sup> M	> 10 <sup>4</sup> M
Derating	°C	linear 70 ... 155 (0W)	linear 70 ... 155 (0W)
Climatic category		55/155/56	55/155/56
Temperature range	°C	- 55 ... 155	- 55 ... 155
Thermal resistance	KW <sup>-1</sup>	200	85
Failure rate (Total, ϕ <sub>0</sub> max., 60% conf. lev.)	10 <sup>-9</sup> h <sup>-1</sup>	< 10	< 5
Endurance (P <sub>70</sub> , @ 70°C, 1000h, interm.)	$\left[ \frac{\Delta R}{R} \right]$ %	± 1,5	± 1,5
Damp heat, steady state (40°C, 93% r.h., 56d)	$\left[ \frac{\Delta R}{R} \right]$ %	± 0,5	± 0,5
Climatic sequence	$\left[ \frac{\Delta R}{R} \right]$ %	± 0,1	

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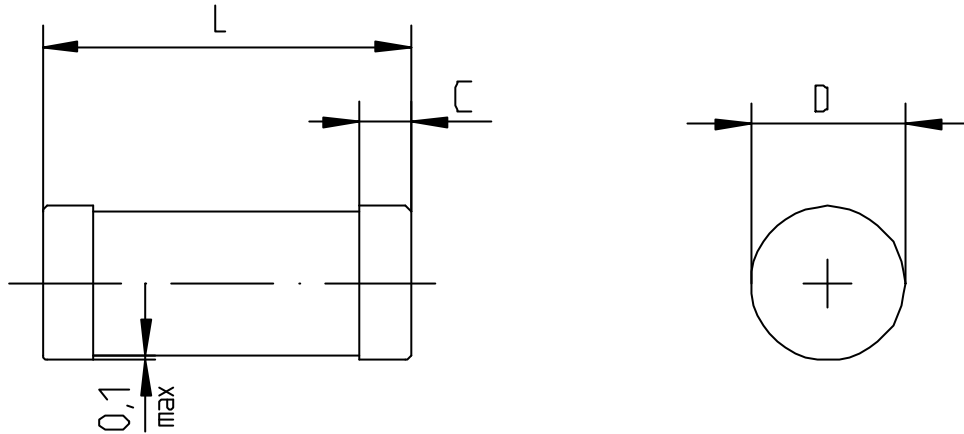
Type		ZC0204	ZC0207
Terminal strength		Board-bend test CECC 00802; 10 x 2mm	
Resistance to soldering heat (260°C, 10s)	$\left[ \frac{\Delta R}{R} \right] \%$	± 0,25	± 0,25
Solderability		Solder-bath test CECC 00802, 95% wetting	
Current noise (DIN/IEC 195)	dB	R < 10K: -25 R > 10K: -25 + 8 / decade	
Nonlinearity	dB	110	
OR0 (Jumper) Current rating		2A (R <sub>max.</sub> = R015)	
Marking		DIN-IEC-Colour code, 5 bands	

Resistance range ZC0207	Resistance range ZC0204	Tolerance	Temperature coefficient	E-series
0R1 .. 0R2	0R22 ... 0R91	± 5%	100 * 10 <sup>-6</sup> K <sup>-1</sup>	E 24
0R22 ... 0R91	0R51 ... 0R91	± 2%	100 * 10 <sup>-6</sup> K <sup>-1</sup>	E 24
1R ... 10M	1R ... 10M	± 1%	50 * 10 <sup>-6</sup> K <sup>-1</sup>	E 24/E 96
1R .. 2M2	10R ... 475K	± 0,5%	50 * 10 <sup>-6</sup> K <sup>-1</sup>	E 24/E 96
--	10R ... 475K	± 0,5%	25 * 10 <sup>-6</sup> K <sup>-1</sup>	E 24/E 96
--	10R ... 221K	± 0,5%	15 * 10 <sup>-6</sup> K <sup>-1</sup>	E 24/E 96
10R .. 1M	22R ... 330K	± 0,25%	25 * 10 <sup>-6</sup> K <sup>-1</sup>	E 24/E 96
--	22R ... 221K	± 0,25%	15 * 10 <sup>-6</sup> K <sup>-1</sup>	E 24/E 96
100R .. 511K	43R ... 330K	± 0,1%	25 * 10 <sup>-6</sup> K <sup>-1</sup>	E 24/E 96
--	43R ... 221K	± 0,1%	15 * 10 <sup>-6</sup> K <sup>-1</sup>	E 24/E 96

Tolerance	Coding	Temperaturecoefficient	Coding	Coating
5%	J	100	F	light green
2%	G	50	E	light green
1%	F	25	D	pink
0,5%	D	15	C	violett
0,25%	C			
0,1%	B			

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Dimensions in mm:



Typ	L	C	$\phi D$ max.
ZC0204	3,6 -0,2	0,5 +0,35	1,4
ZC0207	5,8 -0,3	0,9 $\pm$ 0,30	2,2

Packaging:

Type	Packaging	Pieces	Tolerance
ZC0204	8mm Blistertape	2500	1%, 2%, 5%
	7 inch	3000	0,1%, 0,25%, 0,5%
	8mm Blistertape	10000	all
	13 inch		
ZC0207	12mm Blistertape	1500	all
	7 inch		

Ordering example:    ZC0204    F    K    E    07    1K0  
                                  Type    Tolerance    Blister Tape    TC    Reel Diameter    R-Value