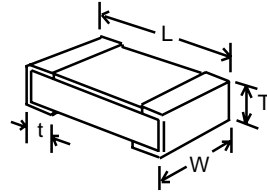


# THICK FILM CHIP RESISTORS AND JUMPERS

## MC SERIES 50mW (0201) to 3W (2040)

## ZC SERIES Zero-ohm Chip Jumpers



- Industry's widest selection -
  - 0.1Ω to 22M, 50mW to 3W, 0.25% to 5%, TC's to 50ppm
- 0402, 0603, 0805, 1206 sizes heavily stocked in 1% & 5% (other sizes available from stock in many popular values)

### OPTIONS

- Lead-free solder terminations (Option 'W')
- User-trimmable chips (Option 'U')
- Increased pulse capability (Option 'P')
- Mil-spec screening/burn-in, special marking, non-standard values & TC, high frequency designs, etc., are an RCD specialty!

### Industry's lowest prices!

RCD's Series MC resistors utilize precision thick film technology offering inherently low inductance, exceptional reliability, and superior performance under demanding applications. Heavy solder plating with *NO LEACH™* nickel barrier assures superb solderability and long shelf life. State-of-the-art production line enables the industry's most precise accuracies (as tight as 0.25% 50ppm!) thereby replacing more costly thin-film chips in many applications. **RCD offers low cost offshore assembly of SM and leaded PCB's. Why not consider us to assemble your products?**

RCD Type MC, ZC	Wattage Rating	Std TC** ppm/°Ctyp	Res. Range ±0.5% Tol**	Res. Range ±1% Tol**	Resis Range ±5% Tol**	MC Voltage Rating**	TYPE ZC Jumper**	Dimensions Inch [mm]			
								L	W	T	t
0201	.05W	100		10Ω to 22KΩ		25V	1 Amp Max. 50mΩ Max.	.024±.002	.012±.002	.010±.002	.006±.002
		200		22.1K to 1MΩ	10Ω to 1MΩ			[0.6±.03]	[.3±.03]	[.25±.03]	[.15±.05]
		400			1- 9.1Ω, 1.1M- 2.2M						
0402 Stock item	.063W	100		10Ω to 1MΩ		50V	1 Amp Max. 50mΩ Max.	.040±.004	.020±.004	.014±.004	.010±.004
		200		1Ω to 9.76Ω	10Ω to 1MΩ			[1.00±.1]	[.5±.1]	[.35±.1]	[.25±.1]
		400			1- 9.1Ω, 1.1M- 4.7M						
0603 Stock item	.1W	100	10Ω to 1M	10Ω to 1MΩ		50V	1 Amp Max. 50mΩ Max.	.061±.005	.031±.004	.016±.006	.010±.006
		200			10Ω to 1MΩ			[1.55±.12]	[.8±.1]	[.40±.15]	[.25±.15]
		400		1Ω to 9.76Ω	1- 9.1Ω, 1.1M- 10M						
0805 Stock item	.125W	100	10Ω to 1M	10Ω to 1MΩ		150V	1.5Amp Max. 50mΩ Max.	.079±.005	.050±.006	.020±.006	.016±.008
		200			10Ω to 1MΩ			[2.0±.15]	[1.25±.15]	[.50±.15]	[.4±.2]
		400		0.1-9.76Ω, 1.02M-10M	0.1-9.1Ω, 1.1M-20M						
1206 Stock item	.25W	100	10Ω to 1M	10Ω to 1MΩ		200V	2 Amp Max. 50mΩ Max.	.126±.008	.061±.006	.024±.006	.020±.008
		200		1.02M to 5.6M	10Ω to 5.6MΩ			[3.2±.2]	[1.55±.15]	[.61±.15]	[.51±.2]
		400		0.1-9.76Ω, 5.62M-10M	0.1-9.1Ω, 6.2M-22M						
1210	.33W	100	10Ω to 1M	10Ω to 1MΩ		200V	3 Amp Max. 50mΩ Max.	.126±.008	.098±.008	.024±.008	.020±.010
		200		1.02M to 5.6M	10Ω to 5.6MΩ			[3.2±.2]	[2.5±.2]	[.6±.2]	[.5±.25]
		400		0.1-9.76Ω, 5.62M-10M	0.1-9.1Ω, 6.2M-22M						
2010	.75W	100	10Ω to 1M	10Ω to 1MΩ		200V	3 Amp Max. 50mΩ Max.	.197±.008	.102±.008	.024±.008	.020±.010
		200		1.02M to 5.6M	10Ω to 5.6MΩ			[5.0±.2]	[2.6±.2]	[.6±.2]	[.50±.25]
		400		0.1-9.76Ω, 5.62M-10M	0.1-9.1Ω, 6.2M-22M						
2512	1.0W	100	10Ω to 1M	10Ω to 1MΩ		250V	4 Amp Max. 50mΩ Max.	.250±.01	.125±.010	.024±.008	.034±.021
		200		1.02M to 5.6M	10Ω to 5.6MΩ			[6.35±.25]	[3.2±.25]	[.6±.2]	[.86±.53]
		400		0.1-9.76Ω, 5.62M-10M	0.1-9.1Ω, 6.2M-22M						
2040	2.0/3.0*	100		10Ω to 1MΩ		350V	N/A	.201±.008	.402±.008	.024±.008	±.018
		200			10Ω to 1MΩ			[5.1±.2]	[10.2±.2]	[.6±.2]	[1.4±.46]
		400			1- 9.1Ω						

\* 2040 chips may be operated up to 3W with consideration of mounting density, termination pad area, board material, and ambient temperature to control self-heating to 155°C. \*\* Extended range avail.

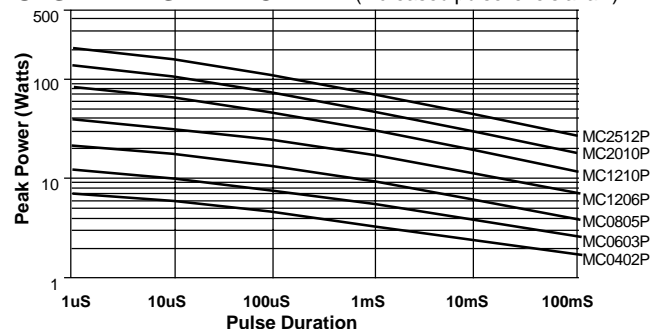
### TYPICAL PERFORMANCE

Thermal Shock (-55° to +125°C)	0.2% ΔR
Overload (2.5x W, 5S, NTE 2x rated V)	1% ΔR
Low Temp. Operation (-55°C)	0.2% ΔR
High Temp. Exposure (125°C, 100hrs)	0.5% ΔR
Resistance to Solder Heat	0.2% ΔR
Moisture Resistance	0.5% ΔR
Load Life(1000 hrs.)	1.0% ΔR
Operating Temp. (+175°C avail.)	-55 to +155°C
Power Derating (above 70°C)	Derate by 1.18%/°C

**P/N DESIGNATION: MC 1206 - 2210 - F T**

- RCD Type:** MC or ZC
- Chip Size:** 0201 to 2040
- Options:** W, U, P, etc (leave blank if std)
- Resis. Value:** 4 digit code if tol. is 0.25% to 1% (R100=.1Ω, 1R00=1Ω, 10R0=10Ω, 1000=100Ω, 1001=1KΩ) 3 digit code if tol. is 2% or 5% (R10=0.1Ω, 1R0=1Ω, 100=10Ω, 101=100Ω, 102=1KΩ) Leave blank on ZC zero-ohm chips
- Tolerance:** J=5%, G=2%, F=1%, D=0.5%, C=0.25% Leave blank on ZC zero-ohm chips. Opt.U trimmable chips use W=±15%, M=±20%, U=0 to +30%)
- Packaging:** B=Bulk, T=Tape & Reel
- TC:** 50=50ppm, 101=100ppm, 201=200ppm (leave blank if std)

### PULSE WITHSTAND CHART (increased pulse levels avail.)



Pulse capability is dependent on res. value, waveform, repetition, etc. Chart is a general guide for Opt. P version, single or infrequent pulses, with peak voltage levels not exceeding 150V for 0402 & 0603 size, 300V for 0805, 400V for 1206 & 1210, 450V for 2010 & 2512. Max pulse wattage for standard parts (w/o Opt.P) is 50% less, max pulse voltage is 50V less. Increased pulse levels available. For improved performance and reliability, a 30% pulse derating factor is recommended (50% for frequent pulses, high values, etc). Consult RCD for application assistance. Verify selection by evaluating under worst-case conditions.