

# Types MC and MCN Multilayer RF Capacitors

## High-Frequency, High-Power, High-Voltage Chips with Nonmagnetic Option



Rugged flexibility and compatibility with FR4 boards make Type MC and MCN capacitors ideal for use where other multilayer caps aren't recommended because of cracking. The natural mica dielectric retains its high-Q to many megahertz, so higher frequency applications are limited by the circuit inductance, not the Type MC capacitor. **Nonmagnetic** Type MCN chips are available for MRI and other high frequency applications that often use more expensive porcelain ceramic chips.

### Highlights

- Extremely high Q at UHF/VHF frequencies
- Free from thermal cracking, FR4 compatible
- Wave solderable
- Nonmagnetic option
- Exceed 2 mm bend test
- Better than porcelain
- High RF current —  $dV/dt$  20,000 V/ $\mu$ s
- Rock stable: No change with time, V & f

### Applications

- MRI Coils and Generators
- RF Instruments
- Power Amplifiers
- Tuned LCR Circuits
- CATV
- Ground and Flight Mobile Radio
- Lasers
- Software - Defined Frequency-Hopping Radio

### Specifications

- Voltages:** 100 Vdc, 500 Vdc, and 1000 Vdc  
**Capacitance Range:** 0.5 pF to 2,200 pF  
**Capacitance Tolerance:**  $\pm 0.1$  pF to  $\pm 5\%$   
**Temperature Range:**  $-55$  °C to  $+125$  °C  
**Case Sizes:** 0805, 1210, 1812, and 2220

### Ratings

### RoHS Compliant

Cap (pF)	Catalog Part Number	Case Type
<b>100 Vdc</b>		
0.5	MC08CA0R5D-F	0805
1.0	MC08CA010D-F	0805
2.0	MC08CA020D-F	0805
3.0	MC08CA030D-F	0805
4.0	MC08CA040D-F	0805
5.0	MC08CA050D-F	0805
6.0	MC08CA060D-F	0805
7.0	MC08CA070D-F	0805
8.0	MC08CA080D-F	0805
9.0	MC08CA090D-F	0805
10.0	MC08CA100D-F	0805
12.0	MC08EA120J-F	0805
15.0	MC08EA150J-F	0805
18.0	MC08EA180J-F	0805
20.0	MC08EA200J-F	0805
22.0	MC08EA220J-F	0805
24.0	MC08EA240J-F	0805
27.0	MC08EA270J-F	0805
30.0	MC08EA300J-F	0805
33.0	MC08FA330J-F	0805
36.0	MC08FA360J-F	0805
39.0	MC08FA390J-F	0805
43.0	MC08FA430J-F	0805
47.0	MC08FA470J-F	0805
50.0	MC08FA500J-F	0805
51.0	MC08FA510J-F	0805
56.0	MC08FA560J-F	0805
62.0	MC08FA620J-F	0805

Cap (pF)	Catalog Part Number	Case Type
<b>100 Vdc</b>		
68	MC08FA680J-F	0805
75	MC08FA750J-F	0805
82	MC08FA820J-F	0805
91	MC08FA910J-F	0805
100	MC08FA101J-F	0805
47	MC12FA470J-F	1210
50	MC12FA500J-F	1210
51	MC12FA510J-F	1210
56	MC12FA560J-F	1210
62	MC12FA620J-F	1210
68	MC12FA680J-F	1210
75	MC12FA750J-F	1210
82	MC12FA820J-F	1210
91	MC12FA910J-F	1210
100	MC12FA101J-F	1210
110	MC12FA111J-F	1210
120	MC12FA121J-F	1210
130	MC12FA131J-F	1210
150	MC12FA151J-F	1210
160	MC12FA161J-F	1210
180	MC12FA181J-F	1210
200	MC12FA201J-F	1210
220	MC12FA221J-F	1210
240	MC12FA241J-F	1210
250	MC12FA251J-F	1210
270	MC12FA271J-F	1210
300	MC12FA301J-F	1210
330	MC12FA331J-F	1210

Cap (pF)	Catalog Part Number	Case Type
<b>100 Vdc</b>		
360	MC12FA361J-F	1210
390	MC12FA391J-F	1210
430	MC12FA431J-F	1210
250	MC18FA251J-F	1812
270	MC18FA271J-F	1812
300	MC18FA301J-F	1812
330	MC18FA331J-F	1812
360	MC18FA361J-F	1812
390	MC18FA391J-F	1812
430	MC18FA431J-F	1812
470	MC18FA471J-F	1812
500	MC18FA501J-F	1812
510	MC18FA511J-F	1812
560	MC18FA561J-F	1812
620	MC18FA621J-F	1812
680	MC18FA681J-F	1812
750	MC18FA751J-F	1812
820	MC18FA821J-F	1812
910	MC22FA911J-F	2220
1000	MC22FA102J-F	2220
1100	MC22FA112J-F	2220
1200	MC22FA122J-F	2220
1500	MC22FA152J-F	2220
1800	MC22FA182J-F	2220
2000	MC22FA202J-F	2220
2200	MC22FA222J-F	2220