

Passive Components: 9000, 9100 Series

MIS Chip Capacitors

Description

The **MicroMetrics** MMI 9000 and 9100 series Chip Capacitors feature high stand-off voltage and low dielectric loss due to our use of nitride/oxide dielectric layers. Gold bonding surfaces, top and bottom, provide ease of bonding and minimum contact resistance. MIS Capacitors have high insulation resistance, low dissipation factor, and a low temperature coefficient, which are features that produce devices with excellent long term stability.

Applications

The 9000 and 9100 series Capacitors are used in applications requiring DC blocking, RF bypassing or fixed tuning of oscillators, multipliers, filters and matching networks.

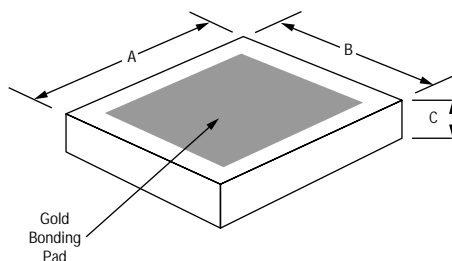
Features

- High Reliability Silicon Nitride/Oxide Dielectric
- Low Loss and High Q
- Long Term Reliability and Stability

Packaging

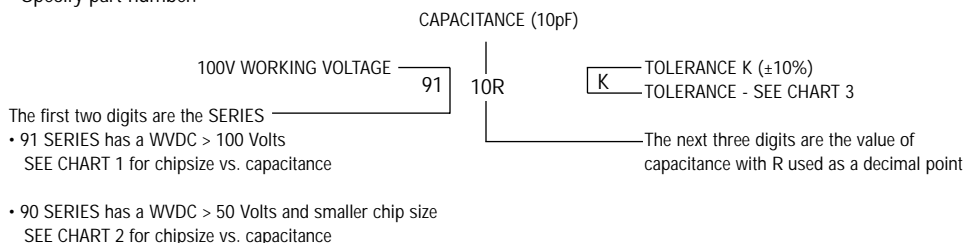
- Chip, Vial Pak, Wafer Form

Chip Outline



HOW TO ORDER:

- Go to CHART 1 (9100 Series > 100 Volt Working Voltage). Select capacitance range required. Check CHIP size for compatibility with your circuit.
- Go to CHART 2 (9000 Series > 50 Volt Working Voltage) for smaller chip size with lower working voltage.
- Specify part number.



EXAMPLES: 9110RK = >100 WVDC 10 pF $\pm 10\%$ with a .020" CHIP SIZE. 902R0J = > 50 WVDC 2.0 pF $\pm 5\%$ with a .010" CHIP SIZE

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Electrical Characteristics

Chart 1
9100 Series Capacitors Working Voltage >100V

Capacitance Range	Chip Size $\pm .002"$ Dim A x Dim B x Dim C	Type
.1 pf thru 1.9 pf	.010" x .010" x .005"	910R1 thru 911R9
2.0 pf thru 9.9 pf	.015" x .015" x .005"	912R0 thru 919R9
10.0 pf thru 29 pf	.020" x .020" x .006"	9110R thru 9129R
30.0 pf thru 49 pf	.030" x .030" x .006"	9130R thru 9149R
50.0 pf thru 99 pf	.040" x .040" x .008"	9150R thru 9199R
100 pf thru 199 pf	.050" x .050" x .008"	91100 thru 91199
200 pf thru 399 pf	.070" x .070" x .008"	91200 thru 91399

Chart 2
9000 Series Capacitors Working Voltage >50V

Capacitance Range	Chip Size $\pm .002"$ Dim A x Dim B x Dim C	Type
2.0 pf thru 10.0 pf	.010" x .010" x .005"	902R0 thru 9010R
10.0 pf thru 29 pf	.015" x .015" x .005"	9010R thru 9029R
30.0 pf thru 49 pf	.020" x .020" x .006"	9030R thru 9049R
50.0 pf thru 99 pf	.030" x .030" x .006"	9050R thru 9099R
100 pf thru 199 pf	.040" x .040" x .008"	90100 thru 90199R
200 pf thru 399 pf	.050" x .050" x .008"	90200 thru 90399R
400 pf thru 600 pf	.070" x .070" x .008"	90400 thru 90600R

Chart 3
Beam Lead Capacitors 9000 Series VB750

Capacitance Range	Pkg Style	Type
.05 to 1.0 pf	14-2	90R5 thru 901R0
1.0 to 2.2 pf	14-2	901R0 thru 902R2
2.2 to 4.7 pf	14-2	902R2 thru 904R7
5.6 $\pm 20\%$ pf	14-2	905R6M
6.8 $\pm 20\%$ pf	14-2	906R8M
8.2 $\pm 20\%$ pf	14-2	908R2M
10 $\pm 20\%$ pf	14-3	9010R0M
15 $\pm 20\%$ pf	14-3	9015R0M
22 $\pm 20\%$ pf	14-3	9022R0M
33 $\pm 20\%$ pf	14-3	9033R0M
47 $\pm 20\%$ pf	14-4	9047R0M
68 $\pm 20\%$ pf	14-4	9068R0M
82 $\pm 20\%$ pf	14-4	9082R0M
100 $\pm 20\%$ pf	14-4	90100R0M

CHART 4

Tolerance \pm	
A = .05 pf	G = 2%
B = .1pf	J = 5%
C = .25 pf	K = 10%
D = .5 pf	M = 20%
F = 1%	

Standard Tolerance is $\pm 10\%$

Maximum Ratings

Operating Temperature	-55°C to 150°C
Storage Temperature	-65°C to 200°C
Temperature Coefficient	190 ppm/ °C Max 40ppm/ °C Typical
Voltage Breakdown	Varies according

