

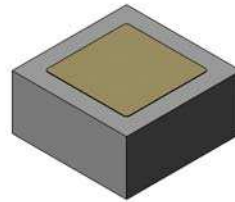
Chip Capacitors

91 Series Datasheet



Features

- High Working Voltage: 100 V
- Wide Range of Capacitance: 0.1 to 399 pF
- Excellent Stability
- RoHS Compliant



Applications

- DC block, RF bypass

DESCRIPTION

The Aeroflex / Metelics 91 series of chip capacitors features silicon nitride/silicon dioxide dielectric layers for high reliability and stable capacitance over time. These metal-insulator-semiconductor (MIS) capacitors have high insulation resistance and low dissipation factor for excellent high frequency performance and reliability. Capacitors are available with capacitance from 0.1 pF up to 399 pF. The working voltage of the 91 series is 100 V.

The top contact and backside terminals are gold.

Capacitors from this family of rugged devices are capable of reliable operation in all military, commercial and industrial applications. They are RoHS compliant.

Environmental Capabilities

The 91 series chip capacitors are capable of meeting the environmental requirements of MIL-STD-750 and MIL-STD-883.

ESD Rating

Chip capacitors are susceptible to damage from ESD events. Proper ESD prevention procedures should be followed. The ESD rating for this family of devices is Class 0 (HBM).

Part Number

The part number for the 91 family of chip capacitors consists of 6 characters. The left most two characters identify the product family. Characters in positions 3, 4 and 5 indicate the nominal capacitance value of the capacitor, in pF. The rightmost character indicates the capacitance tolerance.

For example, part number 9110RK describes a chip capacitor with the following characteristics:

- "91" indicates working voltage is 100 V
- "10R" indicates the nominal capacitance value is 10.0 pF (the character "R" represents the radix point)
- "K" indicates the capacitance tolerance is $\pm 10\%$ of the nominal value



Capacitance Values

Working Voltage = 100 V

Model Number	Capacitance (pF)
910R1 through 911R9	0.1 to 1.9
912R0 through 919R9	2 to 9.9
9110R through 9129R	10 to 29
9130R through 9149R	30 to 49
9150R through 9199R	50 to 99
91100 through 91199	100 to 199
91200 through 91399	200 to 399

Capacitance Tolerance

Capacitance Tolerance Indicator	Capacitance Tolerance
A	± 0.05 pF
B	± 0.1 pF
C	± 0.25 pF
D	± 0.5 pF
F	± 1%
G	± 2%
J	± 5%
K (standard tolerance value)	± 10%
M	± 20%

Absolute Maximum Ratings

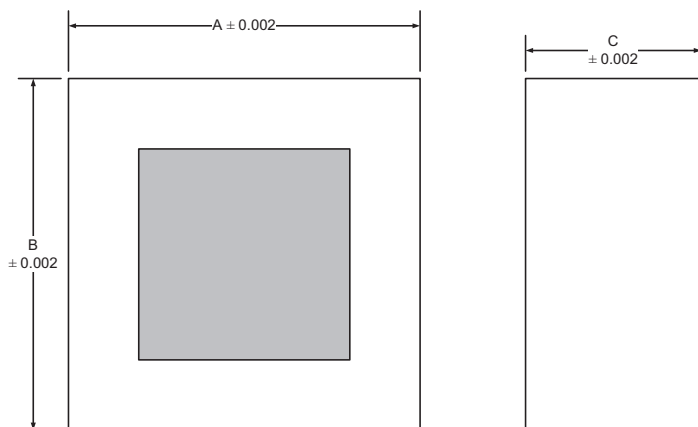
T_A = 25 °C (Unless otherwise noted)

Parameter	Conditions	Absolute Maximum Value
Reverse DC Voltage		100 V
Operating Temperature		-55 °C to 150 °C
Storage Temperature		-65 °C to 200 °C

Assembly Instructions

Die attach of the 91xxxx chip capacitors may be accomplished with eutectic solder, such as Au 80 / Sn 20, or conductive epoxy. Au wire or ribbon may be bonded to the top contact using thermocompression bonding or thermalsonic bonding. The wire or ribbon should be attached at or near the center of the top contact.

Die Outline



ALL DIMENSIONS IN INCHES

Die Dimensions

Model Number	DIM A	DIM B	DIM C
910R1 through 911R9	0.010	0.010	0.005
912R0 through 919R9	0.015	0.015	0.005
9110R through 9129R	0.020	0.020	0.006
9130R through 9149R	0.030	0.030	0.006
9150R through 9199R	0.040	0.040	0.008
91100 through 91199	0.050	0.050	0.008
91200 through 91399	0.070	0.070	0.008

All dimensions in inches.

Part Number Ordering Information

Part Number	Description	Packaging
(Model Number)(tolerance indicator)-W	Chip Capacitor	Waffle Pack (Quantity = 400)

Contact the factory for other packaging options.

Example: the part number for a 1.5 pF, \pm 5% capacitor in a waffle pack is 911R5K-W

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