

1313C (1.30" x 1.30")

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◆ Product Features

High Q, High RF Current/Voltage, High RF Power, Low ESR/ESL, Low Noise, Non-Magnetic Ultra-Stable Performance.

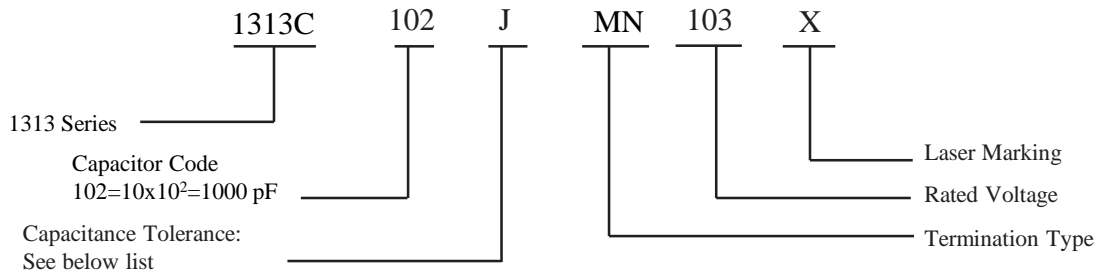
◆ Typical Application Fields

Semiconductor manufacturing, Inductive Heating, Inductively Coupled Plasma systems, Scientific Instruments, Medical, High Energy RF Power Transfer, Matching Circuits.

◆ 1313C Capacitance Table

Cap. pF	Code	Tol.	Rated WVDC	Cap. pF	Code	Tol.	Rated WVDC	Cap. pF	Code	Tol.	Rated WVDC		
200	201	G,J,K	10KV Code103	1800	182	G,J,K	10KV Code103	12000	123	J,K	3000V Code302		
220	221			2200	222			15000	153				
270	271			2700	272			22000	223				
300	301			3300	332	33000	333						
330	331			4700	472	47000	473						
390	391			5100	512	56000	563						
470	471			5600	562	68000	683	J,K	1000V Code102				
560	561			6800	682	82000	823						
680	681			7500	752	100000	104						
820	821			8200	822	120000	124						
1000	102												
1200	122												
1500	152												

◆ Part Numbering



Capacitance Tolerance		
Code	G	J
Tolerance	±2%	±5%
		±10%

◆ 1313C Non-Magnetic Lead Type and Dimensions

unit: inch (millimeter)

Series	Term. Code	Type/ Outlines	Capacitor Dimensions				Lead Dimensions			Plated Material
			Length Lc	Width Wc	Thick- ness Tc	Overlap B	Length LL	Width WL	Thickness TL	
1313C	MN	 Microstrip (Non-Mag)					.787 ± 0.02 (20.00 ± 0.5)	1.299 ± .020 (33.0 ± 0.5)	.012 ± .001 (0.30 ± 0.025)	Silver- plated Copper
1313C	AN	 Axial Ribbon (NonMag)	1.30 +.015 to -0.10 (33.02 ±0.38 to -0.25)	1.30 ±.010 (33.02 ± 0.25)	.173 ±.008 (4.40 ±0.20)					
1313C	FN	 Radial Ribbon (Non-Mag)					.669 ± 0.012 (17.00 ± 0.3)	0.157 ±.008 (4.0 ± 0.2)	.012 ±.001 (0.30 ± 0.025)	
1313C	P L	 Chip (Non-Mag)				.063 (1.60) max	-	-	-	Non-Mag, Copper Plated 100% Sn 90%Sn10%Pb Tin/Lead Solder over Nickel Plating

Note: "Non-Mag" means no magnetic materials. All leads are attached with high temperature solder and parts are RoHS Compliant.

◆ Performance

Item	Specifications
Quality Factor (Q)	Less than 1000pF, Q value more than 2000, Test frequency 1MHz; Greater than 1000pF, Q value more than 2000, Test frequency 1KHz;
Insulation Resistance (IR)	Test Voltage: 500V 10 ⁵ Megohms min. @ +25°C at rated WVDC. 10 ⁴ Megohms min. @ +125°C at rated WVDC.
Rated Voltage	See Rated Voltage Table.
Dielectric Withstanding Voltage (DWV)	150% of Voltage for 5 seconds, 500VDC < Rated Voltage ≤ 1250VDC 120% of Voltage for 5 seconds, Rated Voltage > 1250VDC
Operating Temperature Range	-55°C to +175°C
Temperature coefficient (TC)	0 ± 30ppm/°C
Capacitance Drift	±0.02% or ±0.02pF, whichever is greater.
Piezoelectric Effects	None

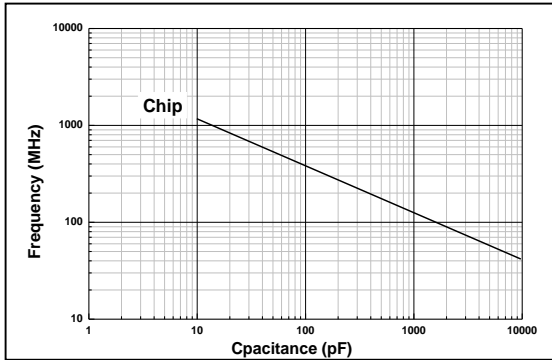
Capacitors are designed and manufactured to meet the requirements of MIL-PRF-55681 and MIL-PRF-123.

◆ Environmental Tests

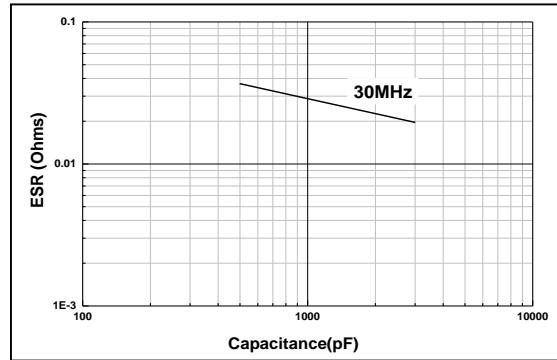
Item	Specifications	Method
Thermal shock	DWV: the initial value IR: Shall not be less than 30% of the initial value. Capacitance change: no more than 0.5% or 0.5 pF, whichever is greater.	MIL-STD-202, Method 107, Condition A. At the maximum rated temperature (-55°C and 125°C) stay 30 min, the time of removing shall not be more than 3 minutes. Perform the five cycles.
Moisture resistance		MIL-STD-202, Method 106.
Humidity (steady state)	DWV: the initial value IR: the initial value Capacitance change: no more than 0.3% or 0.3pF, whichever is greater.	MIL-STD-202, Method 103, Condition A, With 1.5 Volts D.C. applied while subjected to an environment of 85°C with 85% relative humidity for 240 hours minimum.
Life	IR: Shall not be less than 30% of the initial value. Capacitance change: no more than 2.0% or 0.5 pF, whichever is greater.	MIL-STD-202, Method 108, for 2000 hours, at 125°C, 120% of Voltage for Capacitors, 500VDC < Rated Voltage ≤ 1250VDC; 100% of Voltage for Capacitors, Rated Voltage > 1250VDC.
Terminal strength	Force : 30lbs typical, Duration time: 5 to 10 seconds.	MIL-STD-202, Method 211A, Test condition A. Applied a force and maintained for a period of 5 to 10 seconds. The force shall be in the direction of the axes of the terminations.

◆ **1313C Performance Curves**

Self Resonant Frequency vs Capacitance



ESR vs Capacitance measured @ 30MHz

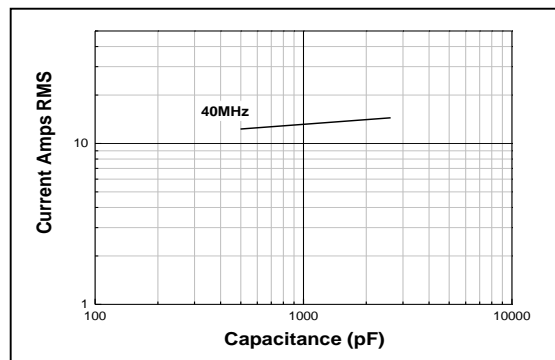


Test Conditions:

Typical responses for sample placed across a 1.1-inch gap in a 114-mil-wide Micro-strip on 60 mil FR4 PCB.

Measurements de-embedded to sample edges using TRL calibration procedures.

1313C Rated Current vs Frequency



Please contact Passive Plus, Inc. to begin discussions for a Custom Assembly.