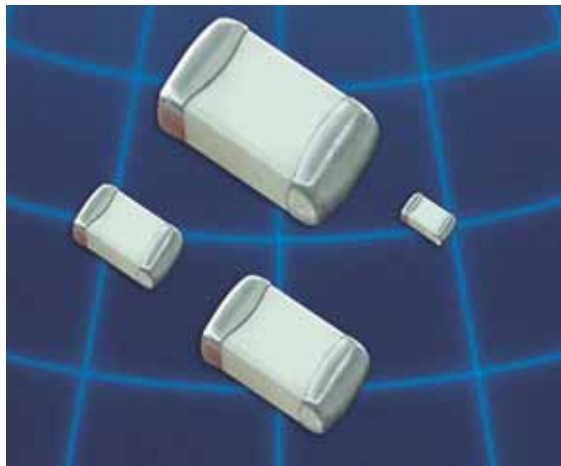


S-SERIES ULTRA-LOW ESR CAPACITORS



KEY FEATURES

- RoHS Compliant
- Lowest available ESR
- Custom Values & Tolerances Available
- Self Resonant Frequencies to 25.0 GHz
- Lead Free Terminations Standard ("V" Code)
- Sn/Pb Terminations Optional ("T" Code)
- Free MLCSoft® for SPICE & S-Parameter Modeling Data

APPLICATIONS

- Base station Products
- Wireless LAN
- RF Integrated Circuits
- Decoupling, By-pass, DC Blocking
- Portable Wireless Products
- Cable Components
- RF Matching Networks

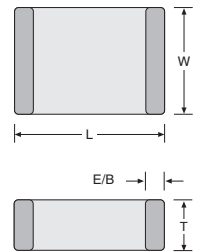
Dielectric
RF Performance

S Series	BEST
C Series	BETTER
L Series	BETTER
NPO	?

AVAILABLE CAPACITANCE SELECTION

R07 / 0402 (1005)

	Inches	Length	Width	Thickness	End Band
	(mm)	.040 ±.004 (1.02 ±0.1)	.020 ±.004 (0.51 ±0.1)	.020 ±.004 (0.51 ±0.1)	.010 ±.006 (0.25 ±.15)
0.2 pF					
0.3 pF					
0.4 pF					
0.5 pF					
0.6 pF					
0.7 pF					
0.8 pF					
0.9 pF					
1.0 pF					
1.1 pF					
1.2 pF					
1.3 pF					
1.5 pF					
1.8 pF					
2.0 pF					
2.2 pF					
2.4 pF					
2.7 pF					
3.0 pF					
3.3 pF					
3.6 pF					
3.9 pF					
4.3 pF					
4.7 pF					
5.1 pF					
5.6 pF					
6.2 pF					
6.8 pF					
7.5 pF					
8.2 pF					
9.1 pF					
10 pF					
11 pF					
12 pF					
13 pF					
15 pF					
16 pF					
18 pF					
20 pF					
22 pF					
24 pF					
27 pF					
30 pF					
33 pF					



R14 / 0603 (1608)

	Inches	Length	Width	Thickness	End Band
	(mm)	.062 ±.006 (1.57 ±0.15)	.032 ±.006 (0.81 ±0.15)	.030 +.005 -.003 (0.76 +.13-.08)	.014 ±.006 (0.35 ±.15)
0.2 pF					
0.3 pF					
0.4 pF					
0.5 pF					
0.6 pF					
0.7 pF					
0.8 pF					
0.9 pF					
1.0 pF					
1.1 pF					
1.2 pF					
1.3 pF					
1.5 pF					
1.8 pF					
2.0 pF					
2.2 pF					
2.4 pF					
2.7 pF					
3.0 pF					
3.3 pF					
3.6 pF					
3.9 pF					
4.3 pF					
4.7 pF					
5.1 pF					
5.6 pF					
6.2 pF					
6.8 pF					
7.5 pF					
8.2 pF					
9.1 pF					
10 pF					
11 pF					
12 pF					
13 pF					
15 pF					
16 pF					
18 pF					
20 pF					
22 pF					
24 pF					
27 pF					
30 pF					
33 pF					
36 pF					
39 pF					
43 pF					
47 pF					
56 pF					
68 pF					
82 pF					
100 pF					
120 pF					
150 pF					
180 pF					
220 pF					

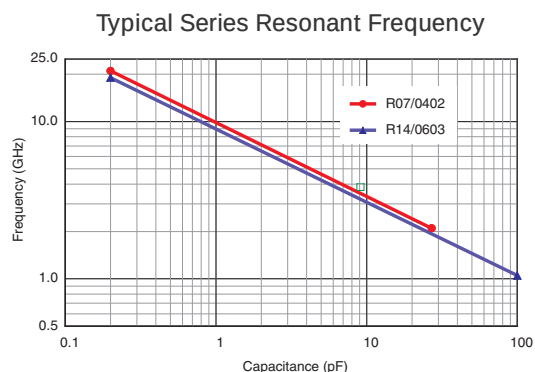
R15 / 0805 (1012)

	Inches	Length	Width	Thickness	End Band
	(mm)	.080 ±.008 (2.03 ±0.20)	.050 ±.008 (1.27 ±0.20)	.040 ±.006 (1.02 ±.15)	.020 ±.010 (0.50 ±.25)
0.3 pF					
0.5 pF					
0.7 pF					
0.9 pF					
1.0 pF					
1.1 pF					
1.2 pF					
1.3 pF					
1.5 pF					
1.8 pF					
2.0 pF					
2.2 pF					
2.4 pF					
2.7 pF					
3.0 pF					
3.3 pF					
3.6 pF					
3.9 pF					
4.3 pF					
4.7 pF					
5.1 pF					
5.6 pF					
6.2 pF					
6.8 pF					
7.5 pF					
8.2 pF					
9.1 pF					
10 pF					
11 pF					
12 pF					
13 pF					
15 pF					
16 pF					
18 pF					
20 pF					
22 pF					
24 pF					
27 pF					
30 pF					
33 pF					
36 pF					
39 pF					
43 pF					
47 pF					
56 pF					
68 pF					
82 pF					
100 pF					
120 pF					
150 pF					
180 pF					
220 pF					

Selection charts represents basic C/V capability in this series. Please contact the factory for capacitance, voltage, case size combinations not shown.

DIELECTRIC CHARACTERISTICS

TEMPERATURE COEFFICIENT:	0 ± 30ppm /°C, -55 to 125°C
QUALITY FACTOR:	2,500 min., 10,000 typical
INSULATION RESISTANCE:	>10 G @ 25°C, WVDC; 125°C IR is 10% of 25°C rating.
DIELECTRIC STRENGTH:	2.5 X WVDC Min., 25°C, 50 mA max
TEST PARAMETERS:	1MHz ±50kHz, 1.0±0.2 VRMS, 25°C
AVAILABLE CAPACITANCE:	Size 0402: 0.2 - 33 pF Size 0603: 0.2 - 100 pF Size 0805: 0.3 - 220 pF



MECHANICAL & ENVIRONMENTAL CHARACTERISTICS

	SPECIFICATION	TEST PARAMETERS
SOLDERABILITY:	Solder coverage 90% of metalized areas No termination degradation	Preheat chip to 120°-150°C for 60 sec., dip terminals in rosin flux then dip in Sn62 solder @ 240°±5°C for 5±1 sec
RESISTANCE TO SOLDERING HEAT:	No mechanical damage Capacitance change: ±2.5% or 0.25pF Q>500 I.R. >10 G Ohms Breakdown voltage: 2.5 x WVDC	Preheat device to 80°-100°C for 60 sec. followed by 150°-180°C for 60 sec. Dip in 260°±5°C solder for 10±1 sec. Measure after 24±2 hour cooling period
TERMINAL ADHESION:	Termination should not pull off. Ceramic should remain undamaged.	Linear pull force* exerted on axial leads soldered to each terminal. *0402 2.0lbs, 0603 2.0lbs (min.)
PCB DEFLECTION:	No mechanical damage. Capacitance change: 2% or 0.5pF Max	Glass epoxy PCB: 0.5 mm deflection
LIFE TEST:	No mechanical damage Capacitance change: ±3.0% or 0.3 pF Q>500 I.R. >1 G Ohms Breakdown voltage: 2.5 x WVDC	Applied voltage: 200% rated voltage, 50 mA max. Temperature: 125°±3°C Test time: 1000+48-0 hours
THERMAL CYCLE:	No mechanical damage. Capacitance change: ±2.5% or 0.25pF Q>2000 I.R. >10 G Ohms Breakdown voltage: 2.5 x WVDC	5 cycles of: 30±3 minutes @ -55°+0/-3°C, 2-3 min. @ 25°C, 30±3 min. @ +125°+3/-0°C, 2-3 min. @ 25°C Measure after 24±2 hour cooling period
HUMIDITY, STEADY STATE:	No mechanical damage. Capacitance change: ±5.0% or 0.50pF max. Q>300 I.R. 1 G-Ohm Breakdown voltage: 2.5 x WVDC	Relative humidity: 90-95% Temperature: 40°±2°C Test time: 500 +12/-0 Hours Measure after 24±2 hour cooling period
HUMIDITY, LOW VOLTAGE:	No mechanical damage. Capacitance change: ±5.0% or 0.50pF max. Q>300 I.R. = 1 G-Ohm min. Breakdown voltage: 2.5 x WVDC	Applied voltage: 1.5 VDC, 50 mA max. Relative humidity: 85±2% Temperature: 40°±2°C Test time: 240 +12/-0 Hours Measure after 24±2 hour cooling period
VIBRATION:	No mechanical damage. Capacitance change: ±2.5% or 0.25pF Q>1000 I.R. 10 G-Ohm Breakdown voltage: 2.5 x WVDC	Cycle performed for 2 hours in each of three perpendicular directions Frequency range 10Hz to 55 Hz to 10 Hz traversed in 1 minute. Harmonic motion amplitude: 1.5mm

HOW TO ORDER

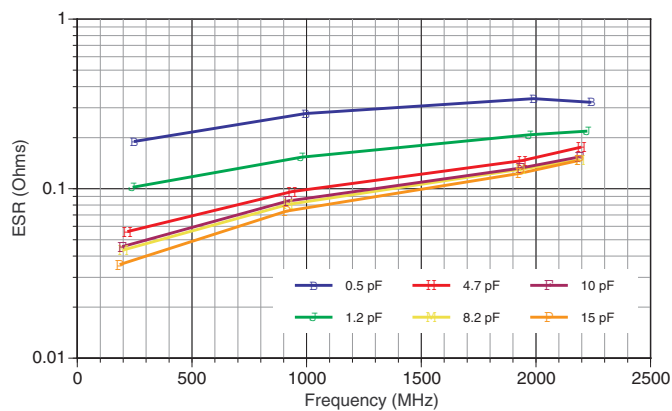
251	R14	S	101	J	V	4	Y
VOLTAGE 500 = 50 V 251 = 250 V	CASE SIZE See Chart	DIELECTRIC S = S Dielectric	CAPACITANCE 1st two digits are significant; third digit denotes number of zeros, R = decimal. 1R0 = 1.0 pF 101 = 100 pF	TOLERANCE ** A = ± 0.05 pF * B = ± 0.10 pF * C = ± 0.25 pF F = ± 1 % G = ± 2 % J = ± 5 % K = ± 10 % * Values < 10 pF ** Values ≤ 2.0 pF	TERMINATION V = Ni/Sn T = Ni/Sn/Pb	MARKING 4 = Unmarked (Not Available) 6 = EIA "J" Code * * 0805 Only	TAPE MODIFIER Code Type Reel SIZES 0201 - 0603: T Paper 7" Y Paper 5" SIZE 0805: E Embossed 7" Z Embossed 5" Tape specifications conform to EIA RS481

Part number written: 251R14S101JV4Y

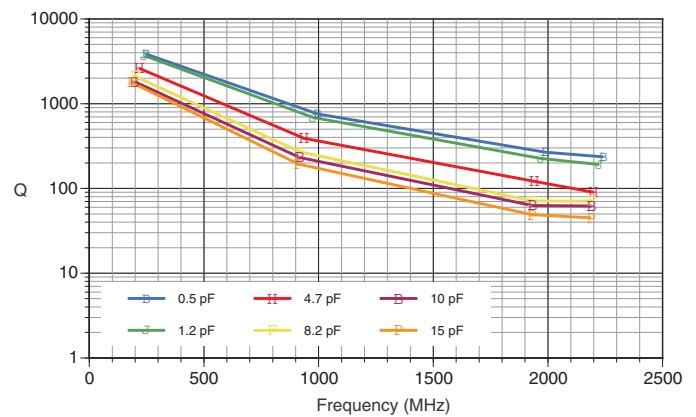


RF CHARACTERISTICS VERSUS FREQUENCY

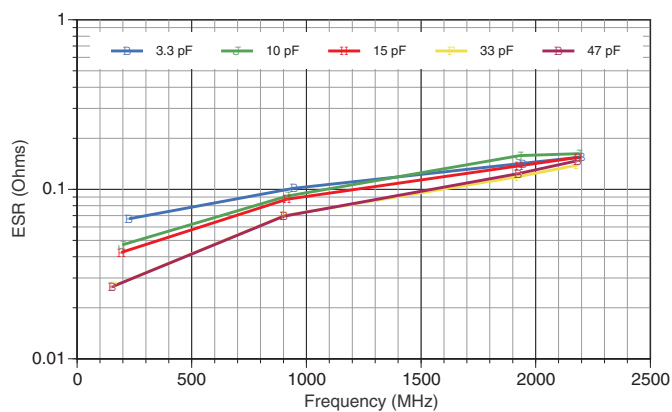
Equivalent Series Resistance: 0402/R07S



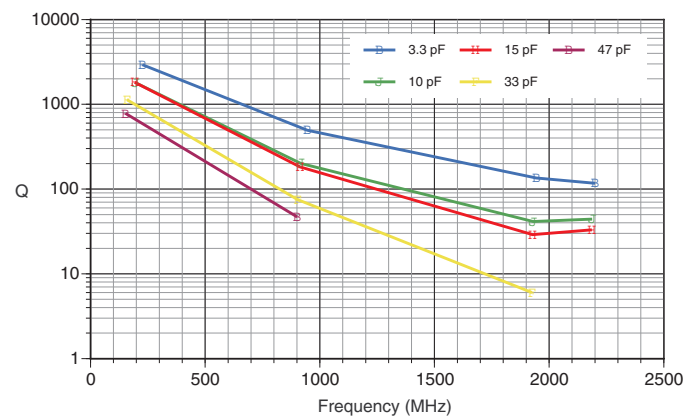
Q Factor: 0402/R07S



Equivalent Series Resistance: 0603/R14S

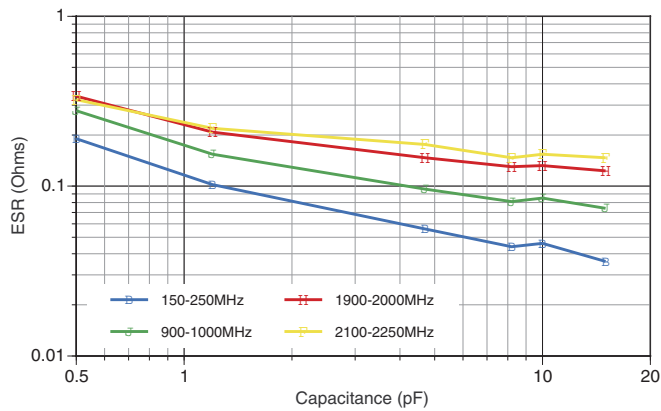


Q Factor: 0603/R14S

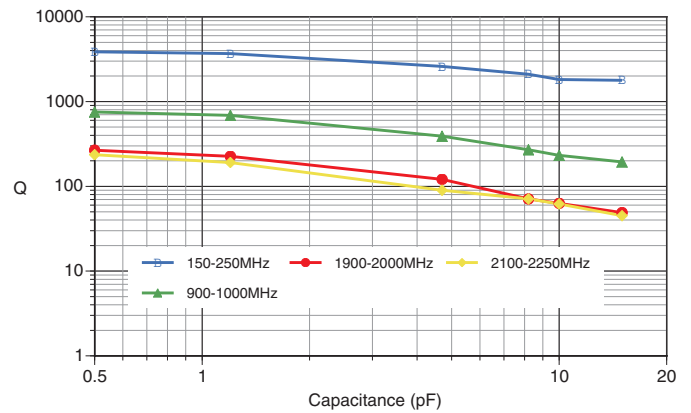


Measurements performed on a Boonton 34A Resonant Coaxial Line and represent typical capacitor performance.

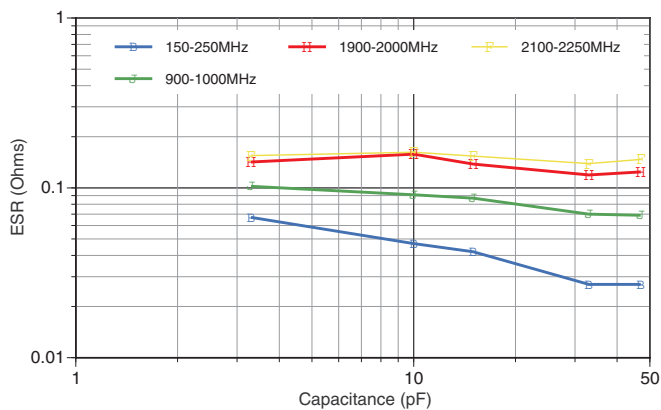
Equivalent Series Resistance: 0402/R07S



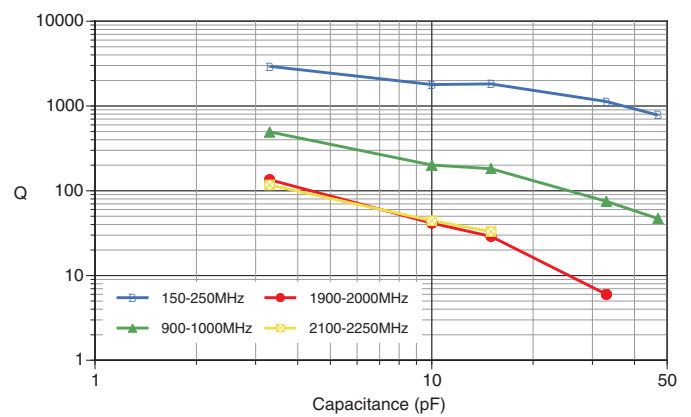
Q Factor: 0402/R07S



Equivalent Series Resistance: 0603/R14S



Q Factor: 0603/R14S



Measurements performed on a Boonton 34A Resonant Coaxial Line and represent typical capacitor performance.