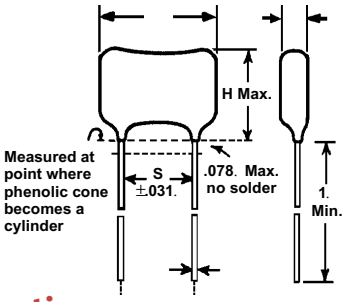
Types CD17, CD18 & CDV18, High-Frequency, Mica Capacitors

High-Frequency Capacitors for CATV and RF Applications



Types CD17 and CD18 assure controlled, resonance-free performance through 1 GHz. Insertion loss data is typically flat within ±0.1 dB over the entire frequency range, and is specified to be flat within ±0.2 dB. Interchangeable with the most popular, common mica capacitors, Type CD17 is available in the same case sizes and lead spacing as CD15; CD18, in the same case sizes and lead spacing as CD19, and CDV18, in the same as CDV19.

Highlights

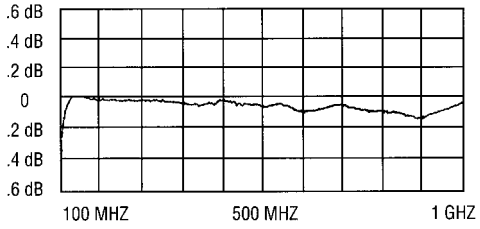
- Shockproof and delamination free
- Near zero capacitance change with (t), (V) and (f)
- Very high Q at UHF/VHF frequencies
- 0.0005 typical dissipation factor
- 100,000 V/µs dV/dt capability minimum
- Low, notch-free impedance to beyond 1 GHz
- Ultra low ESR for cool operation

Specifications

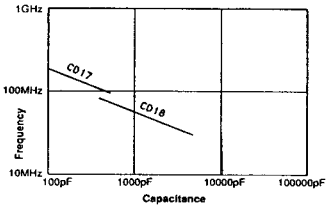
Voltage Range:	100 Vdc to 1,000 Vdc
Capacitance Range:	1 pF to 5,100 pF
Capacitance Tolerance:	±½ pF (D), ±1 pF (C), ±½% (E), ±1% (F), ±2% (G), ±5% (J)
Temperature Range:	–55 °C to +150 °C

Typical Perfomance Curves

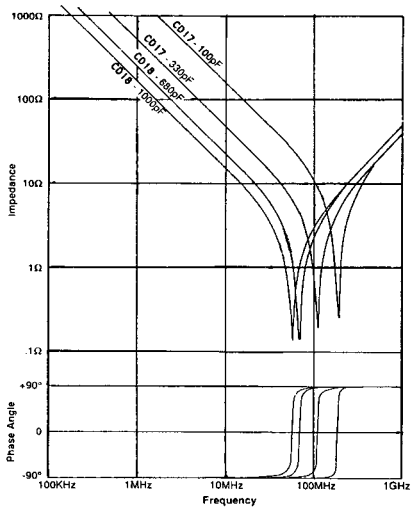
Insertion Loss vs. Frequency for CD17FC621J03, 75 Ω System



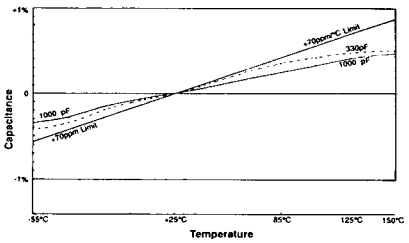
Self-Resonant Frequency vs. Capacitance



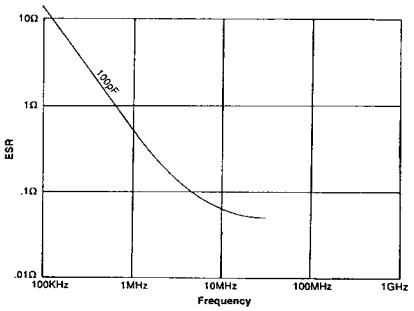
Impedance and Phase Angle vs. Frequency



Capacitance Change vs. Temperature



ESR vs. Frequency



RoHS-5 Compliant

Has more than 1000 ppm lead in some homogenous material but otherwise complies with the EU Directive 2002/95/EC requirement restricting the use of Lead (Pb), Mercury (Hg), Cadmium (Cd), Hexavalent chromium (Cr(VI)), PolyBrominated Biphenyls (PBB) and PolyBrominated Diphenyl Ethers (PBDE).

Types CD17, CD18 & CDV18, High-Frequency, Mica Capacitors

Ratings

Cap. (pF)	Catalog Part Number	Volt Rate	L in (mm)	H in (mm)	T in (mm)	S in (mm)	D in (mm)
1	CD17CD010DO3F	500	.450 (11.4)	.360 (9.1)	.170 (4.3)	.234 (5.9)	.025 (.6)
2	CD17CD020DO3F	500	.450 (11.4)	.360 (9.1)	.170 (4.3)	.234 (5.9)	.025 (.6)
3	CD17CD030DO3F	500	.450 (11.4)	.360 (9.1)	.170 (4.3)	.234 (5.9)	.025 (.6)
4	CD17CD040DO3F	500	.450 (11.4)	.360 (9.1)	.170 (4.3)	.234 (5.9)	.025 (.6)
5	CD17CD050DO3F	500	.450 (11.4)	.360 (9.1)	.170 (4.3)	.234 (5.9)	.025 (.6)
6	CD17CD060DO3F	500	.450 (11.4)	.360 (9.1)	.170 (4.3)	.234 (5.9)	.025 (.6)
7	CD17CD070DO3F	500	.450 (11.4)	.360 (9.1)	.170 (4.3)	.234 (5.9)	.025 (.6)
8	CD17CD080DO3F	500	.450 (11.4)	.360 (9.1)	.170 (4.3)	.234 (5.9)	.025 (.6)
9	CD17CD090DO3F	500	.450 (11.4)	.360 (9.1)	.170 (4.3)	.234 (5.9)	.025 (.6)
10	CD17CD100JO3F	500	.450 (11.4)	.360 (9.1)	.170 (4.3)	.234 (5.9)	.025 (.6)
12	CD17CD120JO3F	500	.450 (11.4)	.360 (9.1)	.170 (4.3)	.234 (5.9)	.025 (.6)
15	CD17CD150JO3F	500	.450 (11.4)	.360 (9.1)	.170 (4.3)	.234 (5.9)	.025 (.6)
18	CD17CD180JO3F	500	.450 (11.4)	.360 (9.1)	.170 (4.3)	.234 (5.9)	.025 (.6)
20	CD17ED200JO3F	500	.450 (11.4)	.360 (9.1)	.170 (4.3)	.234 (5.9)	.025 (.6)
22	CD17ED220JO3F	500	.450 (11.4)	.360 (9.1)	.170 (4.3)	.234 (5.9)	.025 (.6)
24	CD17ED240JO3F	500	.450 (11.4)	.360 (9.1)	.170 (4.3)	.234 (5.9)	.025 (.6)
27	CD17ED270JO3F	500	.450 (11.4)	.360 (9.1)	.170 (4.3)	.234 (5.9)	.025 (.6)
27	CDV18EF270JO3F	1000	.640 (16.3)	.500 (12.7)	.190 (4.8)	.344 (8.7)	.032 (.8)
30	CD17ED300JO3F	500	.450 (11.4)	.360 (9.1)	.170 (4.3)	.234 (5.9)	.025 (.6)
30	CDV18EF300JO3F	1000	.640 (16.3)	.500 (12.7)	.190 (4.8)	.344 (8.7)	.032 (.8)
33	CD17ED330JO3F	500	.450 (11.4)	.360 (9.1)	.170 (4.3)	.234 (5.9)	.025 (.6)
33	CDV18EF330JO3F	1000	.640 (16.3)	.500 (12.7)	.190 (4.8)	.344 (8.7)	.032 (.8)
36	CD17ED360JO3F	500	.450 (11.4)	.360 (9.1)	.170 (4.3)	.234 (5.9)	.025 (.6)
36	CDV18EF360JO3F	1000	.640 (16.3)	.500 (12.7)	.190 (4.8)	.344 (8.7)	.032 (.8)
39	CD17ED390JO3F	500	.450 (11.4)	.360 (9.1)	.170 (4.3)	.234 (5.9)	.025 (.6)
39	CDV18EF390JO3F	1000	.640 (16.3)	.500 (12.7)	.190 (4.8)	.344 (8.7)	.032 (.8)
43	CD17ED430JO3F	500	.450 (11.4)	.360 (9.1)	.170 (4.3)	.234 (5.9)	.025 (.6)
43	CDV18EF430JO3F	1000	.640 (16.3)	.500 (12.7)	.190 (4.8)	.344 (8.7)	.032 (.8)
47	CD17ED470JO3F	500	.450 (11.4)	.360 (9.1)	.170 (4.3)	.234 (5.9)	.025 (.6)
47	CDV18EF470JO3F	1000	.640 (16.3)	.500 (12.7)	.190 (4.8)	.344 (8.7)	.032 (.8)
50	CD17ED500JO3F	500	.450 (11.4)	.360 (9.1)	.170 (4.3)	.234 (5.9)	.025 (.6)
50	CDV18EF500JO3F	1000	.640 (16.3)	.500 (12.7)	.190 (4.8)	.344 (8.7)	.032 (.8)
51	CD17ED510JO3F	500	.450 (11.4)	.360 (9.1)	.170 (4.3)	.234 (5.9)	.025 (.6)
51	CDV18EF510JO3F	1000	.640 (16.3)	.500 (12.7)	.190 (4.8)	.344 (8.7)	.032 (.8)
56	CD17ED560JO3F	500	.450 (11.4)	.360 (9.1)	.170 (4.3)	.234 (5.9)	.025 (.6)
56	CDV18EF560JO3F	1000	.640 (16.3)	.500 (12.7)	.190 (4.8)	.344 (8.7)	.032 (.8)
62	CD17ED620JO3F	500	.450 (11.4)	.360 (9.1)	.170 (4.3)	.234 (5.9)	.025 (.6)
62	CDV18EF620JO3F	1000	.640 (16.3)	.500 (12.7)	.190 (4.8)	.344 (8.7)	.032 (.8)
68	CD17ED680JO3F	500	.450 (11.4)	.360 (9.1)	.180 (4.6)	.234 (5.9)	.025 (.6)
68	CDV18EF680JO3F	1000	.640 (16.3)	.500 (12.7)	.190 (4.8)	.344 (8.7)	.032 (.8)
75	CD17ED750JO3F	500	.450 (11.4)	.360 (9.1)	.180 (4.6)	.234 (5.9)	.025 (.6)
75	CDV18EF750JO3F	1000	.640 (16.3)	.500 (12.7)	.190 (4.8)	.344 (8.7)	.032 (.8)
82	CD17ED820JO3F	500	.450 (11.4)	.360 (9.1)	.180 (4.6)	.234 (5.9)	.025 (.6)
82	CDV18EF820JO3F	1000	.640 (16.3)	.500 (12.7)	.190 (4.8)	.344 (8.7)	.032 (.8)
91	CD17FD910JO3F	500	.460 (11.4)	.360 (9.1)	.180 (4.6)	.234 (5.9)	.025 (.6)
91	CDV18FF910JO3F	1000	.640 (16.3)	.500 (12.7)	.190 (4.8)	.344 (8.7)	.032 (.8)
100	CD17FD101JO3F	500	.460 (11.4)	.360 (9.1)	.180 (4.6)	.234 (5.9)	.025 (.6)
100	CDV18FF101JO3F	1000	.640 (16.3)	.500 (12.7)	.190 (4.8)	.344 (8.7)	.032 (.8)
110	CD17FD111JO3F	500	.460 (11.4)	.370 (9.4)	.180 (4.6)	.234 (5.9)	.025 (.6)
110	CDV18FF111JO3F	1000	.640 (16.3)	.500 (12.7)	.190 (4.8)	.344 (8.7)	.032 (.8)
120	CD17FD121JO3F	500	.460 (11.7)	.370 (9.4)	.180 (4.6)	.234 (5.9)	.025 (.6)
120	CDV18FF121JO3F	1000	.640 (16.3)	.500 (12.7)	.190 (4.8)	.344 (8.7)	.032 (.8)
130	CD17FD131JO3F	500	.460 (11.7)	.370 (9.4)	.180 (4.6)	.234 (5.9)	.025 (.6)
130	CDV18FF131JO3F	1000	.640 (16.3)	.500 (12.7)	.190 (4.8)	.344 (8.7)	.032 (.8)
150	CD17FD151JO3F	500	.460 (11.7)	.370 (9.4)	.190 (4.8)	.234 (5.9)	.025 (.6)
150	CDV18FF151JO3F	1000	.640 (16.3)	.500 (12.7)	.190 (4.8)	.344 (8.7)	.032 (.8)
160	CD17FD161JO3F	500	.460 (11.7)	.370 (9.4)	.190 (4.8)	.234 (5.9)	.025 (.6)
160	CDV18FF161JO3F	1000	.640 (16.3)	.500 (12.7)	.190 (4.8)	.344 (8.7)	.032 (.8)
180	CD17FD181JO3F	500	.460 (11.7)	.370 (9.4)	.190 (4.8)	.234 (5.9)	.025 (.6)
180	CDV18FF181JO3F	1000	.640 (16.3)	.500 (12.7)	.190 (4.8)	.344 (8.7)	.032 (.8)
200	CD17FD201JO3F	500	.460 (11.7)	.380 (9.7)	.190 (4.8)	.234 (5.9)	.025 (.6)
200	CDV18FF201JO3F	1000	.640 (16.3)	.500 (12.7)	.190 (4.8)	.344 (8.7)	.032 (.8)
220	CD17FD221JO3F	500	.460 (11.7)	.380 (9.7)	.200 (5.1)	.234 (5.9)	.025 (.6)
220	CDV18FF221JO3F	1000	.640 (16.3)	.500 (12.7)	.190 (4.8)	.344 (8.7)	.032 (.8)
240	CD17FD241JO3F	500	.460 (11.7)	.380 (9.7)	.200 (5.1)	.234 (5.9)	.025 (.6)
240	CDV18FF241JO3F	1000	.640 (16.3)	.500 (12.7)	.190 (4.8)	.344 (8.7)	.032 (.8)
250	CD17FD251JO3F	500	.470 (11.9)	.390 (9.9)	.210 (5.3)	.234 (5.9)	.025 (.6)
270	CD17FD271JO3F	500	.470 (11.9)	.390 (9.9)	.210 (5.3)	.234 (5.9)	.025 (.6)
270	CD18FD271JO3F	500	.640 (16.3)	.500 (12.7)	.190 (4.8)	.344 (8.7)	.032 (.8)
270	CDV18FF271JO3F	1000	.640 (16.3)	.500 (12.7)	.190 (4.8)	.344 (8.7)	.032 (.8)
300	CD17FD301JO3F	500	.470 (11.9)	.390 (9.9)	.210 (5.3)	.234 (5.9)	.025 (.6)
300	CD18FD301JO3F	500	.640 (16.3)	.500 (12.7)	.190 (4.8)	.344 (8.7)	.032 (.8)
300	CDV18FF301JO3F	1000	.650 (16.5)	.510 (13.0)	.200 (5.1)	.344 (8.7)	.032 (.8)
330	CD17FD331JO3F	500	.470 (11.9)	.390 (9.9)	.210 (5.3)	.234 (5.9)	.025 (.6)
330	CD18FD331JO3F	500	.640 (16.3)	.500 (12.7)	.190 (4.8)	.344 (8.7)	.032 (.8)
330	CDV18FF331JO3F	1000	.650 (16.5)	.510 (13.0)	.200 (5.1)	.344 (8.7)	.032 (.8)
360	CD17FD361JO3F	500	.470 (11.9)	.390 (9.9)	.210 (5.3)	.234 (5.9)	.025 (.6)
360	CD18FD361JO3F	500	.640 (16.3)	.510 (13.0)	.200 (5.1)	.344 (8.7)	.032 (.8)
360	CDV18FF361JO3F	1000	.650 (16.5)	.510 (13.0)	.200 (5.1)	.344 (8.7)	.032 (.8)
390	CD17FD391JO3F	500	.470 (11.9)	.390 (9.9)	.210 (5.3)	.234 (5.9)	.025 (.6)
390	CD18FD391JO3F	500	.640 (16.3)	.510 (13.0)	.200 (5.1)	.344 (8.7)	.032 (.8)
390	CDV18FF391JO3F	1000	.650 (16.5)	.510 (13.0)	.210 (5.3)	.344 (8.7)	.032 (.8)
430	CD17FD431JO3F	500	.470 (11.9)	.400 (10.2)	.220 (5.6)	.234 (5.9)	.025 (.6)
430	CD18FD431JO3F	500	.640 (16.3)	.510 (13.0)	.200 (5.1)	.344 (8.7)	.032 (.8)
430	CDV18FF431JO3F	1000	.650 (16.5)	.510 (13.0)	.210 (5.3)	.344 (8.7)	.032 (.8)
470	CD17FD471JO3F	500	.470 (11.9)	.400 (10.2)	.220 (5.6)	.234 (5.9)	.025 (.6)
470	CD18FD471JO3F	500	.640 (16.3)	.510 (13.0)	.200 (5.1)	.344 (8.7)	.032 (.8)
470	CDV18FF471JO3F	1000	.650 (16.5)	.510 (13.0)	.210 (5.3)	.344 (8.7)	.032 (.8)
500	CD17FD501JO3F	500	.470 (11.9)	.400 (10.2)	.220 (5.6)	.234 (5.9)	.025 (.6)
500	CD18FD501JO3F	500	.640 (16.3)	.510 (13.0)	.200 (5.1)	.344 (8.7)	.032 (.8)
510	CD17FD511JO3F	500	.470 (11.9)	.400 (10.2)	.220 (5.6)	.234 (5.9)	.025 (.6)
510	CD18FD511JO3F	500	.640 (16.3)	.510 (13.0)	.200 (5.1)	.344 (8.7)	.032 (.8)
510	CDV18FF511J03F	1000	.650 (16.5)	.510 (13.0)	.210 (5.3)	.344 (8.7)	.032 (.8)
560	CD17FC561JO3F	300	.460 (11.7)	.380 (9.7)	.210 (5.3)	.234 (5.9)	.025 (.6)
560	CD18FD561JO3F	500	.650 (16.5)	.510 (13.0)	.200 (5.1)	.344 (8.7)	.032 (.8)
560	CDV18FF561JO3F	1000	.650 (16.5)	.510 (13.0)	.210 (5.3)	.344 (8.7)	.032 (.8)
620	CD17FC621JO3F	300	.460 (11.7)	.380 (9.7)	.210 (5.3)	.234 (5.9)	.025 (.6)
620	CD18FD621JO3F	500	.650 (16.5)	.510 (13.0)	.200 (5.1)	.344 (8.7)	.032 (.8)
620	CDV18FF621JO3F	1000	.660 (16.8)	.520 (13.2)	.220 (5.6)	.344 (8.7)	.032 (.8)
680	CD17FC681JO3F	300	.470 (11.9)	.390 (9.9)	.210 (5.3)	.234 (5.9)	.025 (.6)
680	CD18FD681JO3F	500	.650 (16.5)	.510 (13.0)	.210 (5.3)	.344 (8.7)	.032 (.8)
680	CDV18FF681JO3F	1000	.660 (16.8)	.520 (13.2)	.220 (5.6)	.344 (8.7)	.032 (.8)
750	CD17FC751JO3F	300	.470 (11.9)	.390 (9.9)	.210 (5.3)	.234 (5.9)	.025 (.6)
750	CD18FD751JO3F	500	.650 (16.5)	.510 (13.0)	.210 (5.3)	.344 (8.7)	.032 (.8)
750	CDV18FF751JO3F	1000	.660 (16.8)	.530 (13.5)	.230 (5.8)	.344 (8.7)	.032 (.8)
820	CD17FC821JO3F	300	.470 (11.9)	.390 (9.9)	.210 (5.3)	.234 (5.9)	.025 (.6)
820	CD18FD821JO3F	500	.650 (16.5)	.510 (13.0)	.210 (5.3)	.344 (8.7)	.032 (.8)
820	CDV18FF821JO3F	1000	.660 (16.8)	.530 (13.5)	.230 (5.8)	.344 (8.7)	.032 (.8)
910	CD17FA911JO3F	100	.470 (11.9)	.390 (9.9)	.220 (5.6)	.234 (5.9)	.025 (.6)
910	CD18FD911JO3F	500	.650 (16.5)	.510 (13.0)	.210 (5.3)	.344 (8.7)	.032 (.8)
1000	CD17FA102JO3F	100	.480 (12.2)	.400 (10.2)	.230 (5.8)	.234 (5.9)	.025 (.6)
1000	CD18FD102JO3F	500	.650 (16.5)	.520 (13.2)	.220 (5.6)	.344 (8.7)	.032 (.8)
1100	CD17FA112JO3F	100	.490 (12.4)	.420 (10.7)	.240 (6.1)	.234 (5.9)	.025 (.6)
1100	CD18FD112JO3F	500	.650 (16.5)	.520 (13.2)	.220 (5.6)	.344 (8.7)	.032 (.8)
1200	CD17FA122JO3F	100	.490 (12.4)	.420 (10.7)	.240 (6.1)	.234 (5.9)	.025 (.6)
1200	CD18FD122JO3F	500	.660 (16.8)	.520 (13.2)	.220 (5.6)	.344 (8.7)	.032 (.8)
1300	CD18FD132JO3F	500	.660 (16.8)	.520 (13.2)	.220 (5.6)	.344 (8.7)	.032 (.8)
1500	CD17FA152JO3F	100	.500 (12.7)	.430 (10.9)	.250 (6.4)	.234 (5.9)	.025 (.6)
1500	CD18FD152JO3F	500	.660 (16.8)	.520 (13.2)	.230 (5.8)	.344 (8.7)	.032 (.8)
1600	CD18FD162JO3F	500	.660 (16.8)	.530 (13.5)	.230 (5.8)	.344 (8.7)	.032 (.8)
1800	CD18FD182JO3F	500	.670 (17.0)	.530 (13.5)	.240 (6.1)	.344 (8.7)	.032 (.8)
2000	CD18FD202JO3F	500	.670 (17.0)	.530 (13.5)	.240 (6.1)	.344 (8.7)	.032 (.8)
2200	CD18FD222JO3F	500	.670 (17.0)	.530 (13.5)	.250 (6.4)	.344 (8.7)	.032 (.8)
2400	CD18FD242JO3F	500	.670 (17.0)	.540 (13.7)	.260 (6.6)	.344 (8.7)	.032 (.8)
2500	CD18FD252JO3F	500	.680 (17.3)	.540 (13.7)	.260 (6.6)	.344 (8.7)	.032 (.8)
2700	CD18FD272JO3F	500	.680 (17.3)	.540 (13.7)	.270 (6.9)	.344 (8.7)	.032 (.8)
3000	CD18FD302JO3F	500	.680 (17.3)	.550 (14.0)	.280 (7.1)	.344 (8.7)	.032 (.8)
3300	CD18FD332JO3F	500	.680 (17.3)	.550 (14.0)	.290 (7.4)	.344 (8.7)	.032 (.8)
3600	CD18FD362JO3F	500	.680 (17.3)	.560 (14.2)	.300 (7.6)	.344 (8.7)	.032 (.8)
3900	CD18FD392JO3F	500	.690 (17.5)	.560 (14.2)	.310 (7.9)	.344 (8.7)	.032 (.8)
4300	CD18FD432JO3F	500	.690 (17.5)	.570 (14.5)	.330 (8.4)	.344 (8.7)	.032 (.8)
4700	CD18FD472JO3F	500	.700 (17.8)	.580 (14.7)	.350 (8.9)	.344 (8.7)	.032 (.8)
5000	CD18FD502JO3F	500	.710 (18.0)	.590 (15.0)	.370 (9.4)	.344 (8.7)	.032 (.8)
5100	CD18FD512JO3F	500	.710 (18.0)	.590 (15.0)	.370 (9.4)	.344 (8.7)	.032 (.8)

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