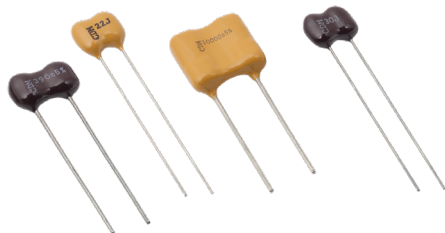


# Type CD16 & CDV16 Snubber and RF Application, Mica Capacitors

## Higher dV/dt Capability and Flatter Insertion Loss



Ideal for snubber and RF applications, CDV16 mica capacitors now handle dV/dts up to 275,000 V/ $\mu$ s and they assure controlled, resonance-free performance through 1 GHz. CDV16/CD16 mica capacitors excel in both snubber applications and high-frequency applications like RF and CATV. Type CDV16's high pulse current capability make them ideal for pulse and snubber applications. CDV16 capacitors withstand an unlimited number of pulses with a dV/dt of 275,000 V/ $\mu$ s. This is a 20% increase in dV/dt capability when compared to our CDV19 mica capacitors and CDV16's are smaller too. CDV16 capacitors handle higher peak currents — up to 825 amps. They also handle high continuous RMS current at 5 MHz and up to 30 MHz. For example, a 3000 pF CDV16 capacitor handles 6.2 A rms continuously at 13.56 MHz and it is 1/4 the cost of a comparable porcelain ceramic capacitor. In addition to being great for snubbers, CDV16 is a fit for your RF applications. Their compact size and closer lead spacing improves insertion loss performance — insertion loss data is flat within  $\pm 0.2$  dB, typically to beyond a gigahertz.

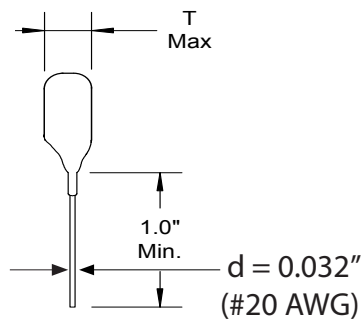
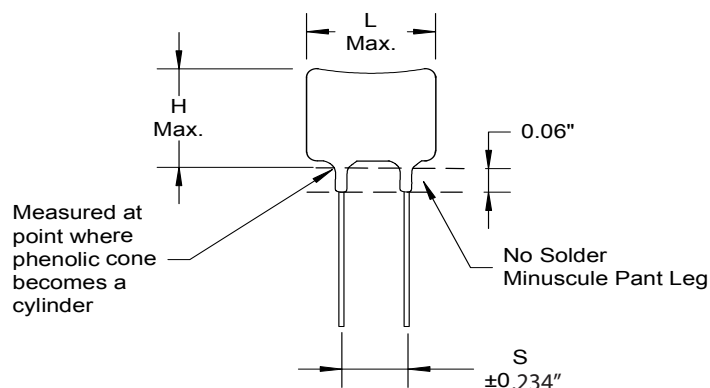
### Highlights

- Handles up to 9.0 amps rms continuous current
- Very low ESR from 10 to 100 MHz
- Low, notch-free impedance to 1GHz
- Stable: no capacitance change with (V), (t), and (f)
- Very high Q at UHF/VHF frequencies
- Tape and reeling available
- dV/dt capability up to 275,000 V/ $\mu$ s
- 1,500 amps peak current capability

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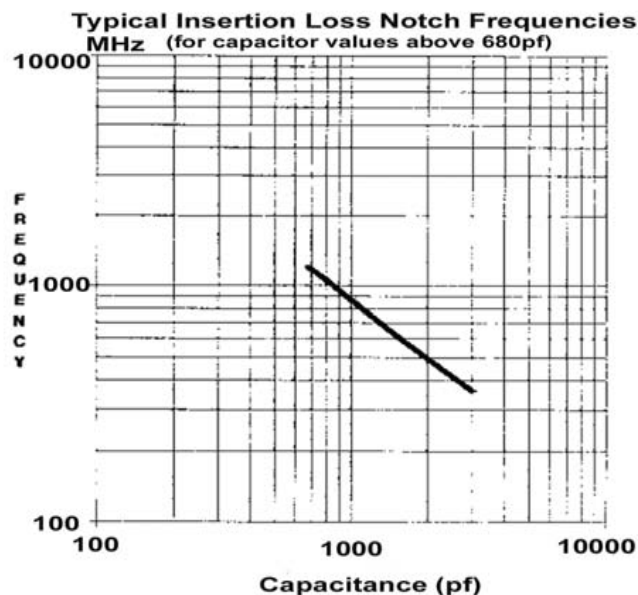
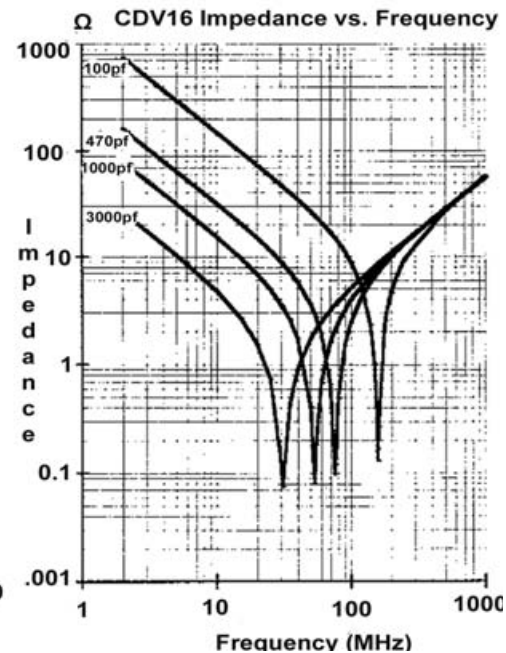
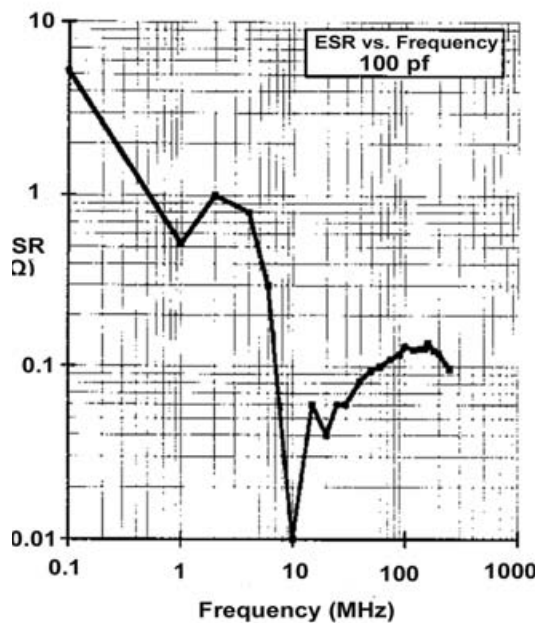
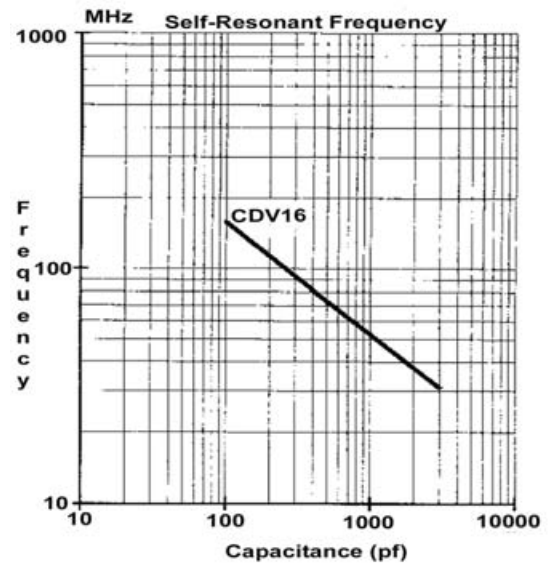
### Specifications

|                             |                                                                     |
|-----------------------------|---------------------------------------------------------------------|
| Capacitance Range           | 100 pF to 7,500 pF                                                  |
| Capacitance Tolerance       | $\pm 5\%$ (J) standard; $\pm 1\%$ (F) and $\pm 2\%$ , (G) available |
| Rated Voltage               | 500 Vdc & 1,000 Vdc                                                 |
| Operating Temperature Range | -55 °C to +150 °C                                                   |
| Dielectric Strenght Test    | 200% of rated voltage                                               |
| RoHS Compliant              |                                                                     |



# Type CD16 & CDV16 Snubber and RF Application, Mica Capacitors

## Typical Performance Curves



# Type CD16 & CDV16 Snubber and RF Application, Mica Capacitors

## Ratings

| Cap.<br>(pF)        | Catalog<br>Part Number | L<br>in (mm) | H<br>in (mm) | T<br>in (mm) | Ipk<br>Amps | Max Continuous Current @ 85°C, Amps |         |         |      |        |      |
|---------------------|------------------------|--------------|--------------|--------------|-------------|-------------------------------------|---------|---------|------|--------|------|
|                     |                        |              |              |              |             | 100kHz                              | 250 kHz | 500 kHz | 1MHz | 2.5MHz | 5MHz |
| 500 Vdc (300 Vac)   |                        |              |              |              |             |                                     |         |         |      |        |      |
| 100                 | CD16FD101J03F          | .43 (10.9)   | .46 (11.7)   | 0.15 (3.8)   | 20          | 0.019                               | 0.047   | 0.09    | 0.19 | 0.47   | 0.78 |
| 120                 | CD16FD121J03F          | .43 (10.9)   | .46 (11.7)   | 0.15 (3.8)   | 24          | 0.023                               | 0.057   | 0.11    | 0.23 | 0.57   | 0.86 |
| 150                 | CD16FD151J03F          | .43 (10.9)   | .46 (11.7)   | 0.15 (3.8)   | 30          | 0.028                               | 0.071   | 0.14    | 0.28 | 0.71   | 0.96 |
| 180                 | CD16FD181J03F          | .43 (10.9)   | .46 (11.7)   | 0.15 (3.8)   | 36          | 0.034                               | 0.085   | 0.17    | 0.34 | 0.85   | 1.1  |
| 220                 | CD16FD221J03F          | .43 (10.9)   | .46 (11.7)   | 0.15 (3.8)   | 44          | 0.041                               | 0.10    | 0.21    | 0.41 | 1.0    | 1.2  |
| 270                 | CD16FD271J03F          | .45 (11.4)   | .47 (11.9)   | 0.16 (4.1)   | 54          | 0.051                               | 0.13    | 0.25    | 0.51 | 1.3    | 1.3  |
| 330                 | CD16FD331J03F          | .45 (11.4)   | .47 (11.9)   | 0.16 (4.1)   | 66          | 0.062                               | 0.16    | 0.31    | 0.62 | 1.5    | 1.5  |
| 390                 | CD16FD391J03F          | .45 (11.4)   | .47 (11.9)   | 0.16 (4.1)   | 78          | 0.074                               | 0.18    | 0.37    | 0.74 | 1.6    | 1.6  |
| 470                 | CD16FD471J03F          | .45 (11.4)   | .47 (11.9)   | 0.16 (4.1)   | 94          | 0.089                               | 0.22    | 0.44    | 0.89 | 1.8    | 1.8  |
| 560                 | CD16FD561J03F          | .46 (11.7)   | .50 (12.7)   | 0.18 (4.6)   | 110         | 0.11                                | 0.26    | 0.53    | 1.1  | 2.0    | 2.0  |
| 680                 | CD16FD681J03F          | .46 (11.7)   | .50 (12.7)   | 0.18 (4.6)   | 160         | 0.15                                | 0.39    | 0.77    | 1.5  | 2.5    | 2.5  |
| 820                 | CD16FD821J03F          | .46 (11.7)   | .50 (12.7)   | 0.18 (4.6)   | 160         | 0.15                                | 0.39    | 0.77    | 1.5  | 2.5    | 2.5  |
| 1000                | CD16FD102J03F          | .46 (11.7)   | .50 (12.7)   | 0.18 (4.6)   | 200         | 0.19                                | 0.47    | 0.94    | 1.9  | 2.7    | 2.7  |
| 1200                | CD16FD122J03F          | .46 (11.7)   | .50 (12.7)   | 0.18 (4.6)   | 240         | 0.23                                | 0.57    | 1.1     | 2.3  | 3.0    | 3.0  |
| 1500                | CD16FD152J03F          | .46 (11.7)   | .50 (12.7)   | 0.18 (4.6)   | 300         | 0.28                                | 0.71    | 1.4     | 2.7  | 3.3    | 3.3  |
| 1800*               | CD16FD182J03F          | .47 (11.9)   | .52 (13.2)   | 0.25 (6.4)   | 360         | 0.34                                | 0.85    | 1.7     | 3.4  | 4.1    | 4.1  |
| 2200                | CD16FD222J03F          | .47 (11.9)   | .52 (13.2)   | 0.25 (6.4)   | 440         | 0.41                                | 1.0     | 2.1     | 4.1  | 4.5    | 4.5  |
| 2700                | CD16FD272J03F          | .47 (11.9)   | .52 (13.2)   | 0.25 (6.4)   | 540         | 0.51                                | 1.3     | 2.5     | 5.0  | 5.0    | 5.0  |
| 3000                | CD16FD302J03F          | .47 (11.9)   | .52 (13.2)   | 0.25 (6.4)   | 600         | 0.57                                | 1.4     | 2.8     | 5.2  | 5.2    | 5.2  |
| 3300                | CD16FD332J03F          | .48 (12.2)   | .53 (13.7)   | 0.28 (7.1)   | 600         | 0.57                                | 1.4     | 2.8     | 5.7  | 6.8    | 6.8  |
| 3600                | CD16FD362J03F          | .48 (12.2)   | .53 (13.7)   | 0.28 (7.1)   | 720         | 0.68                                | 1.7     | 3.4     | 6.8  | 7.1    | 7.1  |
| 3900                | CD16FD392J03F          | .48 (12.2)   | .54 (13.7)   | 0.28 (7.1)   | 780         | 0.74                                | 1.8     | 3.7     | 7.4  | 7.4    | 7.4  |
| 4300                | CD16FD432J03F          | .48 (12.2)   | .54 (13.7)   | 0.28 (7.1)   | 860         | 0.81                                | 2.0     | 4.0     | 7.0  | 7.8    | 7.8  |
| 4700                | CD16FD472J03F          | .49 (12.5)   | .56 (14.2)   | 0.31 (7.9)   | 940         | 0.89                                | 2.2     | 4.4     | 8.5  | 8.5    | 8.5  |
| 5600                | CD16FD562J03F          | .49 (12.5)   | .56 (14.2)   | 0.33 (8.4)   | 1100        | 1.1                                 | 2.6     | 5.3     | 9.0  | 9.0    | 9.0  |
| 6800                | CD16FD682J03F          | .50 (12.7)   | .57 (14.7)   | 0.38 (9.7)   | 1300        | 1.3                                 | 3.2     | 6.4     | 9.0  | 9.0    | 9.0  |
| 7500                | CD16FD752J03F          | .50 (12.7)   | .58 (14.7)   | .40 (10.2)   | 1500        | 1.4                                 | 3.5     | 7.1     | 9.0  | 9.0    | 9.0  |
| 1,000 Vdc (350 Vac) |                        |              |              |              |             |                                     |         |         |      |        |      |
| 100                 | CDV16FF101J03F         | .43 (10.9)   | .46 (11.7)   | .15 (3.8)    | 23          | 0.022                               | 0.055   | 0.11    | 0.22 | 0.55   | 0.92 |
| 120                 | CDV16FF121J03F         | .43 (10.9)   | .46 (11.7)   | .15 (3.8)    | 27          | 0.026                               | 0.066   | 0.13    | 0.26 | 0.66   | 1    |
| 130                 | CDV16FF131J03F         | .43 (10.9)   | .46 (11.7)   | .15 (3.8)    | 29          | 0.029                               | 0.071   | 0.14    | 0.29 | 0.71   | 1.1  |
| 150                 | CDV16FF151J03F         | .43 (10.9)   | .46 (11.7)   | .15 (3.8)    | 34          | 0.033                               | 0.082   | 0.16    | 0.33 | 0.82   | 1.1  |
| 180                 | CDV16FF181J03F         | .43 (10.9)   | .46 (11.7)   | .15 (3.8)    | 41          | 0.04                                | 0.10    | 0.2     | 0.4  | 1.0    | 1.2  |
| 200                 | CDV16FF201J03F         | .43 (10.9)   | .46 (11.7)   | .15 (3.8)    | 45          | 0.044                               | 0.11    | 0.22    | 0.44 | 1.1    | 1.3  |
| 220                 | CDV16FF221J03F         | .43 (10.9)   | .46 (11.7)   | .15 (3.8)    | 50          | 0.048                               | 0.12    | 0.24    | 0.48 | 1.2    | 1.4  |
| 240                 | CDV16FF241J03F         | .43 (10.9)   | .46 (11.7)   | .15 (3.8)    | 54          | 0.053                               | 0.13    | 0.26    | 0.53 | 1.3    | 1.4  |
| 270                 | CDV16FF271J03F         | .45 (11.4)   | .47 (11.9)   | .16 (4.1)    | 61          | 0.059                               | 0.15    | 0.3     | 0.59 | 1.5    | 1.6  |
| 300                 | CDV16FF301J03F         | .45 (11.4)   | .47 (11.9)   | .16 (4.1)    | 68          | 0.066                               | 0.16    | 0.33    | 0.7  | 1.6    | 1.7  |
| 330                 | CDV16FF331J03F         | .45 (11.4)   | .47 (11.9)   | .16 (4.1)    | 74          | 0.073                               | 0.18    | 0.36    | 0.73 | 1.8    | 1.8  |
| 360                 | CDV16FF361J03F         | .45 (11.4)   | .47 (11.9)   | .16 (4.1)    | 81          | 0.079                               | 0.2     | 0.4     | 0.79 | 1.8    | 1.8  |
| 390                 | CDV16FF391J03F         | .45 (11.4)   | .47 (11.9)   | .16 (4.1)    | 88          | 0.086                               | 0.21    | 0.43    | 0.86 | 1.9    | 1.9  |
| 420                 | CDV16FF421J03F         | .45 (11.4)   | .47 (11.9)   | .16 (4.1)    | 95          | 0.092                               | 0.23    | 0.46    | 0.92 | 2      | 2.0  |
| 430                 | CDV16FF431J03F         | .45 (11.4)   | .47 (11.9)   | .16 (4.1)    | 97          | 0.095                               | 0.24    | 0.47    | 0.95 | 2.0    | 2.0  |
| 470                 | CDV16FF471J03F         | .45 (11.4)   | .47 (11.9)   | .16 (4.1)    | 106         | 0.1                                 | 0.26    | 0.52    | 1    | 2.1    | 2.1  |
| 500                 | CDV16FF501J03F         | .45 (11.4)   | .47 (11.9)   | .16 (4.1)    | 113         | 0.11                                | 0.27    | 0.55    | 1.1  | 2.2    | 2.2  |
| 510                 | CDV16FF511J03F         | .45 (11.4)   | .47 (11.9)   | .16 (4.1)    | 115         | 0.11                                | 0.28    | 0.56    | 1.1  | 2.2    | 2.2  |
| 560                 | CDV16FF561J03F         | .46 (11.7)   | .50 (12.7)   | .17 (4.4)    | 126         | 0.12                                | 0.31    | 0.62    | 1.2  | 2.4    | 2.4  |
| 620                 | CDV16FF621J03F         | .46 (11.7)   | .50 (12.7)   | .17 (4.4)    | 140         | 0.14                                | 0.34    | 0.68    | 1.4  | 2.5    | 2.5  |
| 680                 | CDV16FF681J03F         | .46 (11.7)   | .50 (12.7)   | .17 (4.4)    | 153         | 0.15                                | 0.37    | 0.75    | 1.5  | 2.7    | 2.7  |
| 750                 | CDV16FF751J03F         | .46 (11.7)   | .50 (12.7)   | .17 (4.4)    | 169         | 0.16                                | 0.41    | 0.82    | 1.6  | 2.8    | 2.8  |
| 820                 | CDV16FF821J03F         | .46 (11.7)   | .50 (12.7)   | .17 (4.4)    | 185         | 0.18                                | 0.45    | 0.9     | 1.8  | 2.9    | 2.9  |
| 910                 | CDV16FF911J03F         | .46 (11.7)   | .50 (12.7)   | .17 (4.4)    | 205         | 0.2                                 | 0.5     | 1       | 2    | 3.1    | 3.1  |
| 1000                | CDV16FF102J03F         | .46 (11.7)   | .50 (12.7)   | .17 (4.4)    | 225         | 0.22                                | 0.55    | 1.1     | 2.2  | 3.2    | 3.2  |
| 1200                | CDV16FF122J03F         | .46 (11.7)   | .50 (12.7)   | .17 (4.4)    | 270         | 0.26                                | 0.66    | 1.3     | 2.6  | 3.5    | 3.5  |
| 1300                | CDV16FF132J03F         | .46 (11.7)   | .50 (12.7)   | .17 (4.4)    | 293         | 0.29                                | 0.71    | 1.4     | 2.9  | 3.7    | 3.7  |
| 1500                | CDV16FF152J03F         | .46 (11.7)   | .50 (12.7)   | .18 (4.6)    | 338         | 0.33                                | 0.82    | 1.6     | 3.3  | 3.9    | 3.9  |
| 1800*               | CDV16FF182J03F         | .47 (11.9)   | .52 (13.2)   | .25 (6.4)    | 495         | 0.4                                 | 0.99    | 2       | 4    | 4.8    | 4.8  |
| 2000                | CDV16FF202J03F         | .47 (11.9)   | .52 (13.2)   | .25 (6.4)    | 605         | 0.48                                | 1.2     | 2.4     | 4.8  | 5.3    | 5.3  |
| 2200                | CDV16FF222J03F         | .47 (11.9)   | .52 (13.2)   | .25 (6.4)    | 605         | 0.48                                | 1.2     | 2.4     | 4.8  | 5.3    | 5.3  |
| 2400                | CDV16FF242J03F         | .47 (11.9)   | .52 (13.2)   | .25 (6.4)    | 660         | 0.53                                | 1.3     | 2.6     | 5.3  | 5.5    | 5.5  |
| 2700                | CDV16FF272J03F         | .47 (11.9)   | .52 (13.2)   | .25 (6.4)    | 743         | 0.59                                | 1.5     | 3       | 5.8  | 5.8    | 5.8  |
| 3000                | CDV16FF302J03F         | .47 (11.9)   | .52 (13.2)   | .25 (6.4)    | 825         | 0.66                                | 1.6     | 3.3     | 6.2  | 6.2    | 6.2  |

\* Best RF performances is = to or < this cap rating.

# Type CD16 & CDV16 Snubber and RF Application, Mica Capacitors

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