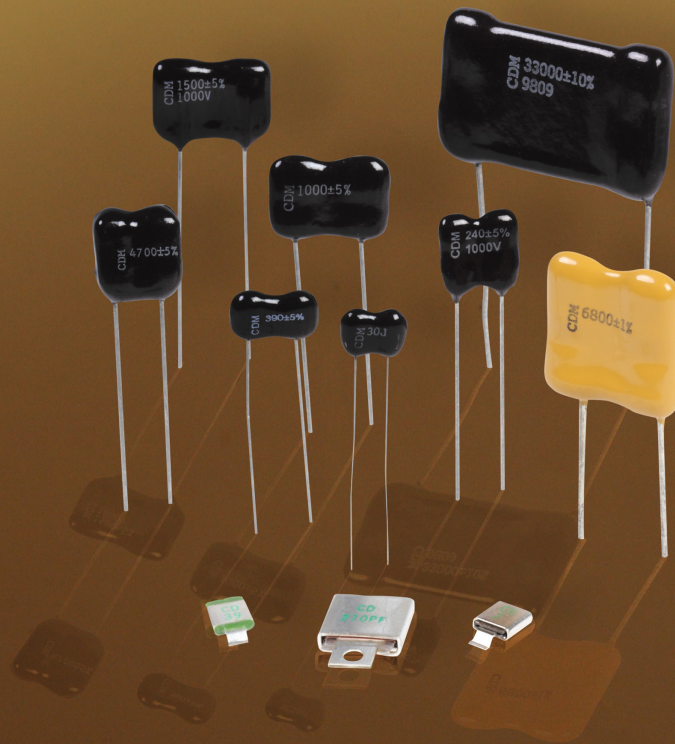
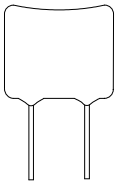
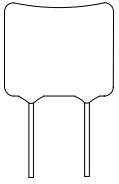
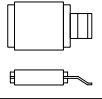
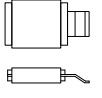


Mica Capacitors



Mica Selector Guide

Types	Form Factor	Capacitance Range	Voltage Range	Lead Spacing Inches (mm)	Highlights	Page
Standard Dipped						
CD10		1 - 400 pF	100 - 500 Vdc	.141 (3.6)	High Temperature – up to +150 °C 100,000 V/μs dV/dt pulse capability minimum	5
D10		251 - 1500 pF	100 - 500 Vdc	.141 (3.6)		
CD15		1 - 1500 pF	100 - 500 Vdc	.234 (5.9)		
CD19		15 - 10,000 pF	100 - 500 Vdc	.344 (8.7)		
CD30		2,000 - 40,000 pF	100 - 500 Vdc	.438 (11.1)		
CD42		20,000 - 91,000 pF	100 - 500 Vdc	1.063 (27.0)		
CDV19		5 - 4700 pF	1000 Vdc	.344 (8.7)		
CDV30		24 - 13,000 pF	1000 - 2500 Vdc	.438 (11.1)		
Snubber & RF Dipped						
CD16		100 - 7500 pF	500 Vdc	.234 (5.9)	Very low ESR	9
CDV16		100 - 3000 pF	1000 Vdc	.234 (5.9)		
RF Clad Silvered Mica						
MIN02		10 - 350 pF	300 Vdc	n/a	Low ESR	15
MCM01		33 - 1500 pF	300, 500, 1000 Vdc	n/a		
RF Clad Teflon®						
MIN02		1 - 9 pF	300 Vdc	n/a	Low ESR	15
MCM01		1 - 32 pF	300 to 1000 Vdc	n/a		

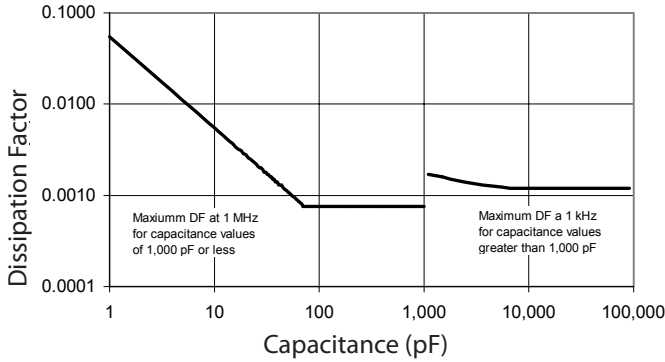
Application Guide Radial-Leaded Dipped Mica Capacitors

Capacitance is within tolerance when measured at these frequencies:

- 1–1000 pF @ 1MHz
- > 1000 pF @ 1 kHz

Dissipation Factor limits are below. Dissipation factor is equal to $DF = 2\pi fRC$, where f is the test frequency, R is the equivalent series resistance, and C is the capacitance. For other capacitance values, see below.

DF vs. Capacitance

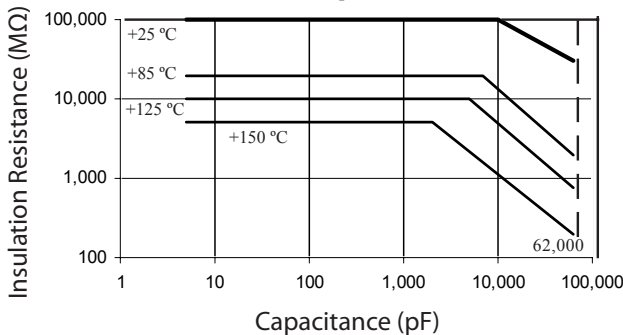


Capacitance	Dissipation Factor
75–1,000 pF	0.00075 max at 1 MHz
1,100–3,300 pF	0.0014 max at 1 kHz
3,600–9,100 pF	0.0013 max at 1 kHz
10,000 pF	0.0012 max at 1 kHz

Quality Factor (Q) is the reciprocal of dissipation factor.

Insulation Resistance for capacitances up to 10,000 pF is greater than 100 GΩ at 25 °C and greater than 10 GΩ at 125 °C. For other capacitance values and temperatures, see below.

IR vs. Capacitance



Withstanding Voltage is 2 times the rated voltage, and can be applied up to 5 seconds without damage.

Temperature Coefficient and Capacitance Drift: Measure the capacitors' capacitance at 25 °C, –55 °C, 25 °C, 125 °C (or 150 °C) and at 25 °C after stabilizing at each temperature. The capacitance will meet the limits of the Characteristic table shown in Ordering Information.

Solderability: After an eight hour steam aging, coat leads with rosin flux (R) and immerse in molten 245 °C ±5 °C 60/40 tin/lead solder. Solder coverage will be no less than 95% when examined at 10X magnification.

Surge Voltage: Standard dipped capacitors will withstand 500 Vdc max peak transients above rated voltage. For example, in flyback regulators with less than 500 Vdc bias, you may use 500 Vdc-rated capacitors provided that the switching transient peaks are less than 1,000 V.

Voltage Coefficient: The change in capacitance from 0 volts to rated voltage is less than 0.1%.

Pulse Handling: Standard dipped capacitors will withstand an unlimited number of pulses with a dV/dt of 100,000 V/μs tested per IEC 384-1. Smaller capacitance ratings can withstand even faster dV/dt —ratings have been tested one million discharges at rated voltage into a 4.7 Ω resistor with no change in capacitance. For a 100 pF, 500 Vdc unit, that's a peak dV/dt in excess of 1,000,000 V/μs. The dV/dt is expressed by this relationship:

$$dV/dt = V / (R_d C)$$

V = rated voltage, Vdc
 R_d = minimum discharge resistor, Ω
 C = rated capacitance, μF
 This is the initial rate of discharge into R_d .

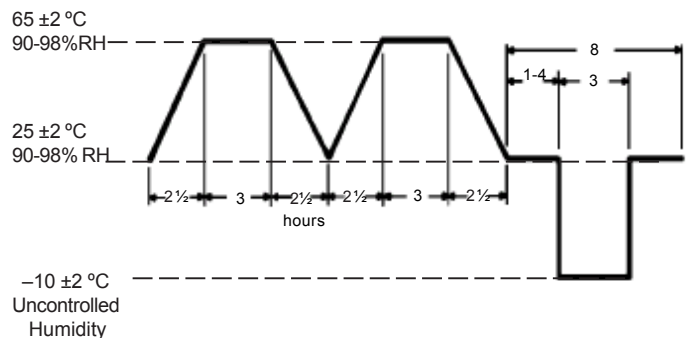
Marking is in accordance with EIA RS153B and includes “CDM” as our manufacturer’s symbol, nominal capacitance in pF, capacitance tolerance, and dc working voltage followed by V, if other than 500 Vdc.

Moisture Resistance

Capacitors will meet the requirements of MIL-STD-202, Method 106F as outlined here and diagrammed below. Refer to MIL-STD-202 for details.

1. Dry capacitors for 24 hours in a 50 ±2 °C oven and then allow to stabilize at room temperature.
2. Subject the capacitors to 10 24 - hour continuous cycles with relative humidity and temperature as shown.
3. 24 hours after completion of the last cycle, the capacitors will show no visual damage and will meet the after-test limits on the next page.

24-Hour Moisture Resistance Cycle



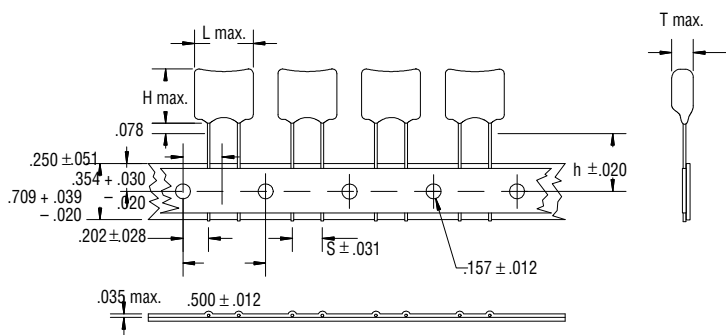
Life Test: Subject the capacitors to maximum operating temperature (+125 °C or +150 °C) with 1.5 times rated voltage applied for 2,000 hours. There will be no visual damage and the capacitors will meet the after-test limits below.

After-Test Limits

Test	Withstand Voltage	Insulation Resistance	Capacitance Change (whichever is greater)	DF	Q
Moisture Resistance	IL	30 GΩ	NV ±1% or ±1 pF	150%	IL 2/3xIL
Life Test	IL	IL	NV ±1% or ±1 pF	150%	IL 2/3xIL

IL = Initial Limit NV = Nominal Value

Dipped Mica Capacitors for Auto Insertion



For tape and reel or ammo-packed packaging, specify on the order.

See the table below for available reel-packed types, lead configurations, lead spacing, lead material, pieces per reel and pieces per ammo packs.

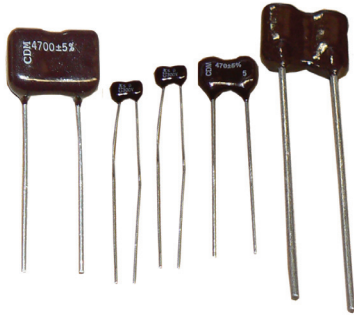
Packaging will be in accordance with EIA-468. Dimension "h" will be 16 mm for formed leads or 18 mm for straight leads. 20 mm is available on special request. Specify reel or ammo on your purchase order.

Type Number	Lead Spacing	Lead Material	Capacitance Range	Range of Pieces per Reel	Range of Pieces per Ammo Pack
D10 CD10	0.141	CCS	1 - 249 pF 251 - 470 pF 471 - 1200 pF	1000 - 2500 1000-2000 1000-1500	1000 2000 1000-1500 1000
CD15	0.234	CCS	1 - 330 pF 331 - 470 pF 471 - 1500 pF	1000-2500 1000-2000 1000-1500	1000-2000 1000-1500 1000
CD16 CDV16	0.234	CCS	1 - 330 pF 331 - 470 pF 471 - 1500 pF 1501 - 2000 pF > 2000 pF	1000-2500 1000-2000 1000-1500 800 500	1000-2000 1000-1500 1000 600 600
CD19	0.344	CCS	10-1000 pF 1001-1500 pF 1501-3000 pF 3001-5000 pF	1000 800 600 400	800 800 600 400

CCS = copper clad steel

Mica Capacitors, Standard Dipped

Types CD10, D10, CD15, CD19, CD30, CD42, CDV19, CDV30



Stability and mica go hand-in-hand when you need to count on stable capacitance over a wide temperature range. CDE's standard dipped silvered mica capacitors are the first choice for timing and close tolerance applications. These standard types are widely available through distribution.

Highlights

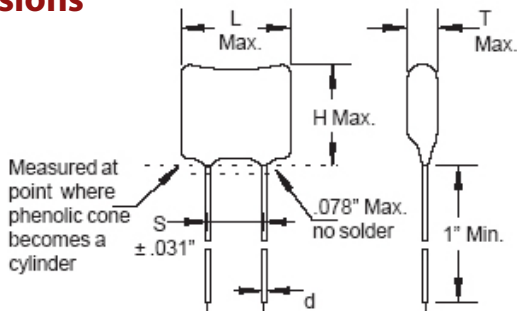
- Reel packaging available
- High temperature – up to +150 °C
- Dimensions meet EIA RS153B specification
- 100,000 V/μs dV/dt pulse capability minimum
- Non-flammable units that meet IEC 695-2-2 are available

Specifications

Capacitance Range	1 pF to 91,000 pF
Capacitance Tolerance	±1/2 pF (D), ±1 pF (C), ±1/2% (E), ±1% (F), ±2% (G), ±5% (J)
Rated Voltage	100 Vdc to 2500 Vdc
Operating Temperature Range	-55 °C to +125 °C (O) -55 °C to +150 °C (P)*
Dielectric Strength Test	200% of rated voltage
RoHS Compliant	

* P temperature range available for types CD10, CD15, CD19, CD30 and CD42

Dimensions



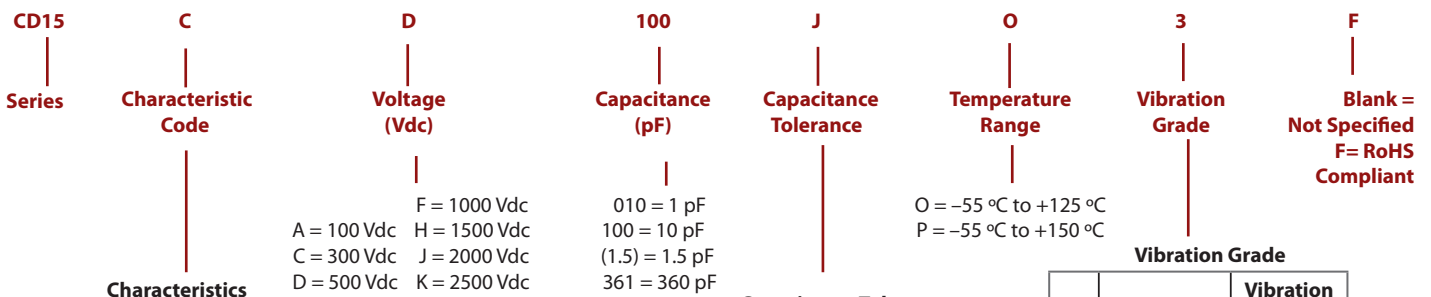
Construction Details

Case Material	Epoxy
Terminal Material	Copper clad steel, nickel undercoat, 100% tin finish

Ordering Information

Order by complete part number as below. For other options, write your requirements on your purchase order or request for quotation.

Part Numbering System (Radial-Leaded Silvered Mica Capacitors, except D10*)



Code	Temp. Coeff. ppm/°C	Capacitance Drift	Standard Cap. Range
C	-200 to +200	±(0.5% +0.1 pF)	1-18 pF
E	-20 to +100	±(0.1% +0.1 pF)	20-82 pF
F	0 to +70	±(0.05% +0.1 pF)	91 pF and up

Tol. Code	Tolerance	Capacitance Range
C	±1 pF	1-9 pF
D	±1/2 pF	1-99 pF
E	±1/2 %	100 pF and up
F	±1 %	50 pF and up
G	±2 %	25 pF and up
H	±3 %	18 pF and up
J	±5 %	10 pF and up

No.	MIL-STD-202 Condition	Vibration Condition (Hz)
3	Method 204 Condition D	10 to 2,000

Options Available

- Non-flammable units per IEC 695-2-2 are available for standard dipped capacitors. Specify IEC 695-2-2 on your order.
- Tape and reeling, specify per application guide.

Standard tolerance is ±1/2 pF for less than 10 pF and ±5% for 10 pF and up * Order type D10 using the catalog numbers shown in ratings tables.

Mica Capacitors, Standard Dipped

Types CD10, D10, CD15, CD19, CD30, CD42, CDV19, CDV30

Ratings

Cap (pF)	Volts (Vdc)	Catalog Part Number	L in (mm)	H in (mm)	T in (mm)	S in (mm)	d in (mm)
1	500	CD10CD010DO3F	0.36 (9.1)	0.33 (8.4)	0.19 (4.8)	0.141 (3.6)	0.016 (.4)
1	500	CD15CD010DO3F	0.45 (11.4)	0.36 (9.1)	0.17 (4.3)	0.234 (5.9)	0.025 (.6)
2	500	CD10CD020DO3F	0.36 (9.1)	0.33 (8.4)	0.19 (4.8)	0.141 (3.6)	0.016 (.4)
2	500	CD15CD020DO3F	0.45 (11.4)	0.36 (9.1)	0.17 (4.3)	0.234 (5.9)	0.025 (.6)
3	500	CD10CD03F0DO3F	0.36 (9.1)	0.33 (8.4)	0.19 (4.8)	0.141 (3.6)	0.016 (.4)
3	500	CD15CD03F0DO3F	0.45 (11.4)	0.36 (9.1)	0.17 (4.3)	0.234 (5.9)	0.025 (.6)
5	500	CD10CD050DO3F	0.36 (9.1)	0.33 (8.4)	0.19 (4.8)	0.141 (3.6)	0.016 (.4)
5	500	CD15CD050DO3F	0.45 (11.4)	0.36 (9.1)	0.17 (4.3)	0.234 (5.9)	0.025 (.6)
5	1000	CDV19CF050DO3F	0.64 (16.3)	0.50 (12.7)	0.19 (4.8)	0.344 (8.7)	0.032 (.8)
7	500	CD10CD070DO3F	0.36 (9.1)	0.33 (8.4)	0.19 (4.8)	0.141 (3.6)	0.016 (.4)
7	500	CD15CD070DO3F	0.45 (11.4)	0.36 (9.1)	0.17 (4.3)	0.234 (5.9)	0.025 (.6)
7	1000	CDV19CF070DO3F	0.64 (16.3)	0.50 (12.7)	0.19 (4.8)	0.344 (8.7)	0.032 (.8)
10	500	CD10CD100JO3F	0.36 (9.1)	0.33 (8.4)	0.19 (4.8)	0.141 (3.6)	0.016 (.4)
10	500	CD15CD100JO3F	0.45 (11.4)	0.36 (9.1)	0.17 (4.3)	0.234 (5.9)	0.025 (.6)
10	1000	CDV19CF100JO3F	0.64 (16.3)	0.50 (12.7)	0.19 (4.8)	0.344 (8.7)	0.032 (.8)
12	500	CD10CD120JO3F	0.36 (9.1)	0.33 (8.4)	0.19 (4.8)	0.141 (3.6)	0.016 (.4)
12	500	CD15CD120JO3F	0.45 (11.4)	0.36 (9.1)	0.17 (4.3)	0.234 (5.9)	0.025 (.6)
12	1000	CDV19CF120JO3F	0.64 (16.3)	0.50 (12.7)	0.19 (4.8)	0.344 (8.7)	0.032 (.8)
15	500	CD10CD150JO3F	0.36 (9.1)	0.33 (8.4)	0.19 (4.8)	0.141 (3.6)	0.016 (.4)
15	500	CD15CD150JO3F	0.45 (11.4)	0.36 (9.1)	0.17 (4.3)	0.234 (5.9)	0.025 (.6)
15	1000	CDV19CF150JO3F	0.64 (16.3)	0.50 (12.7)	0.19 (4.8)	0.344 (8.7)	0.032 (.8)
18	500	CD10CD180JO3F	0.36 (9.1)	0.33 (8.4)	0.19 (4.8)	0.141 (3.6)	0.016 (.4)
18	500	CD15CD180JO3F	0.45 (11.4)	0.36 (9.1)	0.17 (4.3)	0.234 (5.9)	0.025 (.6)
18	1000	CDV19CF180JO3F	0.64 (16.3)	0.50 (12.7)	0.19 (4.8)	0.344 (8.7)	0.032 (.8)
22	500	CD10ED220JO3F	0.36 (9.1)	0.33 (8.4)	0.19 (4.8)	0.141 (3.6)	0.016 (.4)
22	500	CD15ED220JO3F	0.45 (11.4)	0.36 (9.1)	0.17 (4.3)	0.234 (5.9)	0.025 (.6)
22	1000	CDV19EF220JO3F	0.64 (16.3)	0.50 (12.7)	0.19 (4.8)	0.344 (8.7)	0.032 (.8)
27	500	CD10ED270JO3F	0.37 (9.4)	0.33 (8.4)	0.19 (4.8)	0.141 (3.6)	0.016 (.4)
27	500	CD15ED270JO3F	0.45 (11.4)	0.36 (9.1)	0.17 (4.3)	0.234 (5.9)	0.025 (.6)
27	1000	CDV19EF270JO3F	0.64 (16.3)	0.50 (12.7)	0.19 (4.8)	0.344 (8.7)	0.032 (.8)
27	1500	CDV30EH270JO3F	0.77 (19.6)	0.85 (21.6)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)
27	2000	CDV30EJ270JO3F	0.77 (19.6)	0.86 (21.8)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)
27	2500	CDV30EK270JO3F	0.78 (19.8)	0.86 (21.8)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)
33	500	CD10ED330JO3F	0.37 (9.4)	0.34 (8.6)	0.19 (4.8)	0.141 (3.6)	0.016 (.4)
33	500	CD15ED330JO3F	0.45 (11.4)	0.36 (9.1)	0.17 (4.3)	0.234 (5.9)	0.025 (.6)
33	1000	CDV19EF330JO3F	0.64 (16.3)	0.50 (12.7)	0.19 (4.8)	0.344 (8.7)	0.032 (.8)
33	1500	CDV30EH330JO3F	0.77 (19.6)	0.85 (21.6)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)
33	2000	CDV30EJ330JO3F	0.77 (19.6)	0.86 (21.8)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)
33	2500	CDV30EK330JO3F	0.78 (19.8)	0.86 (21.8)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)
39	500	CD10ED390JO3F	0.37 (9.4)	0.34 (8.6)	0.19 (4.8)	0.141 (3.6)	0.016 (.4)
39	500	CD15ED390JO3F	0.45 (11.4)	0.36 (9.1)	0.17 (4.3)	0.234 (5.9)	0.025 (.6)
39	1000	CDV19EF390JO3F	0.64 (16.3)	0.50 (12.7)	0.19 (4.8)	0.344 (8.7)	0.032 (.8)
39	1500	CDV30EH390JO3F	0.77 (19.6)	0.85 (21.6)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)
39	2000	CDV30EJ390JO3F	0.77 (19.6)	0.86 (21.8)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)

Mica Capacitors, Standard Dipped

Types CD10, D10, CD15, CD19, CD30, CD42, CDV19, CDV30

Cap (pF)	Volts (Vdc)	Catalog Part Number	L in (mm)	H in (mm)	T in (mm)	S in (mm)	d in (mm)
39	2500	CDV30EK390JO3F	0.78 (19.8)	0.86 (21.8)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)
47	500	CD10ED470JO3F	0.37 (9.4)	0.34 (8.6)	0.19 (4.8)	0.141 (3.6)	0.016 (.4)
47	500	CD15ED470JO3F	0.45 (11.4)	0.36 (9.1)	0.17 (4.3)	0.234 (5.9)	0.025 (.6)
47	1000	CDV19EF470JO3F	0.64 (16.3)	0.50 (12.7)	0.19 (4.8)	0.344 (8.7)	0.032 (.8)
47	1500	CDV30EH470JO3F	0.77 (19.6)	0.85 (21.6)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)
47	2000	CDV30EJ470JO3F	0.77 (19.6)	0.86 (21.8)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)
47	2500	CDV30EK470JO3F	0.78 (19.8)	0.86 (21.8)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)
56	500	CD10ED560JO3F	0.37 (9.4)	0.34 (8.6)	0.19 (4.8)	0.141 (3.6)	0.016 (.4)
56	500	CD15ED560JO3F	0.45 (11.4)	0.36 (9.1)	0.17 (4.3)	0.234 (5.9)	0.025 (.6)
56	1000	CDV19EF560JO3F	0.64 (16.3)	0.50 (12.7)	0.19 (4.8)	0.344 (8.7)	0.032 (.8)
56	1500	CDV30EH560JO3F	0.77 (19.6)	0.85 (21.6)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)
56	2500	CDV30EK560JO3F	0.78 (19.8)	0.86 (21.8)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)
68	500	CD10ED680JO3F	0.37 (9.4)	0.34 (8.6)	0.19 (4.8)	0.141 (3.6)	0.016 (.4)
68	500	CD15ED680JO3F	0.45 (11.4)	0.36 (9.1)	0.18 (4.6)	0.234 (5.9)	0.025 (.6)
68	1000	CDV19EF680JO3F	0.64 (16.3)	0.50 (12.7)	0.19 (4.8)	0.344 (8.7)	0.032 (.8)
68	1500	CDV30EH680JO3F	0.77 (19.6)	0.85 (21.6)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)
68	2000	CDV30EJ680JO3F	0.77 (19.6)	0.86 (21.8)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)
68	2500	CDV30EK680JO3F	0.78 (19.8)	0.86 (21.8)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)
82	500	CD10ED820JO3F	0.37 (9.4)	0.35 (8.9)	0.20 (5.1)	0.141 (3.6)	0.016 (.4)
82	500	CD15ED820JO3F	0.45 (11.4)	0.36 (9.1)	0.18 (4.6)	0.234 (5.9)	0.025 (.6)
82	1000	CDV19EF820JO3F	0.64 (16.3)	0.50 (12.7)	0.19 (4.8)	0.344 (8.7)	0.032 (.8)
82	1500	CDV30EH820JO3F	0.77 (19.6)	0.85 (21.6)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)
82	2000	CDV30EJ820JO3F	0.77 (19.6)	0.86 (21.8)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)
82	2500	CDV30EK820JO3F	0.78 (19.8)	0.86 (21.8)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)
100	500	CD10FD101JO3F	0.37 (9.4)	0.35 (8.9)	0.20 (5.1)	0.141 (3.6)	0.016 (.4)
100	500	CD15FD101JO3F	0.46 (11.7)	0.36 (9.1)	0.18 (4.6)	0.234 (5.9)	0.025 (.6)
100	500	CD19FD101JO3F	0.64 (16.3)	0.50 (12.7)	0.19 (4.8)	0.344 (8.7)	0.032 (.8)
100	1000	CDV19FF101JO3F	0.64 (16.3)	0.50 (12.7)	0.19 (4.8)	0.344 (8.7)	0.032 (.8)
100	1500	CDV30FH101JO3F	0.77 (19.6)	0.85 (21.6)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)
100	2000	CDV30FJ101JO3F	0.77 (19.6)	0.86 (21.8)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)
100	2500	CDV30FK101JO3F	0.78 (19.8)	0.86 (21.8)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)
120	500	CD10FD121JO3F	0.38 (9.7)	0.35 (8.9)	0.20 (5.1)	0.141 (3.6)	0.016 (.4)
120	500	CD15FD121JO3F	0.46 (11.7)	0.37 (9.4)	0.18 (4.6)	0.234 (5.9)	0.025 (.6)
120	500	CD19FD121JO3F	0.64 (16.3)	0.50 (12.7)	0.19 (4.8)	0.344 (8.7)	0.032 (.8)
120	1000	CDV19FF121JO3F	0.64 (16.3)	0.50 (12.7)	0.19 (4.8)	0.344 (8.7)	0.032 (.8)
120	1500	CDV30FH121JO3F	0.77 (19.6)	0.85 (21.6)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)
120	2000	CDV30FJ121JO3F	0.77 (19.6)	0.86 (21.8)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)
120	2500	CDV30FK121JO3F	0.78 (19.8)	0.86 (21.8)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)
150	500	CD10FD151JO3F	0.38 (9.7)	0.36 (9.1)	0.21 (5.3)	0.141 (3.6)	0.016 (.4)
150	500	CD15FD151JO3F	0.46 (11.7)	0.37 (9.4)	0.19 (4.8)	0.234 (5.9)	0.025 (.6)
150	500	CD19FD151JO3F	0.64 (16.3)	0.50 (12.7)	0.19 (4.8)	0.344 (8.7)	0.032 (.8)
150	1000	CDV19FF151JO3F	0.64 (16.3)	0.50 (12.7)	0.19 (4.8)	0.344 (8.7)	0.032 (.8)
150	1500	CDV30FH151JO3F	0.77 (19.6)	0.85 (21.6)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)
150	2000	CDV30FJ151JO3F	0.77 (19.6)	0.86 (21.8)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)

Mica Capacitors, Standard Dipped

Types CD10, D10, CD15, CD19, CD30, CD42, CDV19, CDV30

Cap (pF)	Volts (Vdc)	Catalog Part Number	L in (mm)	H in (mm)	T in (mm)	S in (mm)	d in (mm)
180	500	CD10FD181JO3F	0.39 (9.9)	0.37 (9.4)	0.21 (5.3)	0.141 (3.6)	0.016 (.4)
180	500	CD15FD181JO3F	0.46 (11.7)	0.37 (9.4)	0.19 (4.8)	0.234 (5.9)	0.025 (.6)
180	500	CD19FD181JO3F	0.64 (16.3)	0.50 (12.7)	0.19 (4.8)	0.344 (8.7)	0.032 (.8)
180	1000	CDV19FF181JO3F	0.64 (16.3)	0.50 (12.7)	0.19 (4.8)	0.344 (8.7)	0.032 (.8)
180	1500	CDV30FH181JO3F	0.77 (19.6)	0.85 (21.6)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)
180	2000	CDV30FJ181JO3F	0.77 (19.6)	0.86 (21.8)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)
220	500	CD10FD221JO3F	0.39 (9.9)	0.38 (9.7)	0.22 (5.6)	0.141 (3.6)	0.016 (.4)
220	500	CD15FD221JO3F	0.46 (11.7)	0.38 (9.7)	0.20 (5.1)	0.234 (5.9)	0.025 (.6)
220	500	CD19FD221JO3F	0.64 (16.3)	0.50 (12.7)	0.19 (4.8)	0.344 (8.7)	0.032 (.8)
220	1000	CDV19FF221JO3F	0.64 (16.3)	0.50 (12.7)	0.19 (4.8)	0.344 (8.7)	0.032 (.8)
220	1500	CDV30FH221JO3F	0.77 (19.6)	0.85 (21.6)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)
220	2000	CDV30FJ221JO3F	0.77 (19.6)	0.86 (21.8)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)
270	300	CD10FC271JO3F	0.39 (9.9)	0.38 (9.7)	0.22 (5.6)	0.141 (3.6)	0.016 (.4)
270	500	CD19FD271JO3F	0.64 (16.3)	0.50 (12.7)	0.19 (4.8)	0.344 (8.7)	0.032 (.8)
270	500	D105F271JO3F	0.39 (9.9)	0.38 (9.7)	0.22 (5.6)	0.141 (3.6)	0.016 (.4)
270	500	CD15FD271JO3F	0.47 (11.9)	0.39 (9.9)	0.21 (5.3)	0.234 (5.9)	0.025 (.6)
270	1000	CDV19FF271JO3F	0.64 (16.3)	0.50 (12.7)	0.19 (4.8)	0.344 (8.7)	0.032 (.8)
270	1500	CDV30FH271JO3F	0.77 (19.6)	0.85 (21.6)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)
270	2000	CDV30FJ271JO3F	0.77 (19.6)	0.86 (21.8)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)
330	100	CD10FA331JO3F	0.39 (9.9)	0.37 (9.4)	0.22 (5.6)	0.141 (3.6)	0.016 (.4)
330	500	D105F331JO3F	0.39 (9.9)	0.38 (9.7)	0.22 (5.6)	0.141 (3.6)	0.016 (.4)
330	500	CD15FD331JO3F	0.47 (11.9)	0.39 (9.9)	0.21 (5.3)	0.234 (5.9)	0.025 (.6)
330	500	CD19FD331JO3F	0.64 (16.3)	0.50 (12.7)	0.19 (4.8)	0.344 (8.7)	0.032 (.8)
330	2000	CDV30FJ331JO3F	0.77 (19.6)	0.86 (21.8)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)
330	2500	CDV30FK331JO3F	0.78 (19.8)	0.87 (22.1)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)
390	100	CD10FA391JO3F	0.39 (9.9)	0.38 (9.7)	0.22 (5.6)	0.141 (3.6)	0.016 (.4)
390	500	D105F391JO3F	0.39 (9.9)	0.38 (9.7)	0.22 (5.6)	0.141 (3.6)	0.016 (.4)
390	500	CD15FD391JO3F	0.47 (11.9)	0.39 (9.9)	0.21 (5.3)	0.234 (5.9)	0.025 (.6)
390	500	CD19FD391JO3F	0.64 (16.3)	0.51 (13.0)	0.20 (5.1)	0.344 (8.7)	0.032 (.8)
390	1000	CDV19FF391JO3F	0.65 (16.5)	0.51 (13.0)	0.20 (5.1)	0.344 (8.7)	0.032 (.8)
390	1500	CDV30FH391JO3F	0.77 (19.6)	0.85 (21.6)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)
470	500	D105F471JO3F	0.39 (9.9)	0.38 (9.7)	0.22 (5.6)	0.141 (3.6)	0.016 (.4)
470	500	CD15FD471JO3F	0.47 (11.9)	0.40 (10.2)	0.22 (5.6)	0.234 (5.9)	0.025 (.6)
470	500	CD19FD471JO3F	0.64 (16.3)	0.51 (13.0)	0.20 (5.1)	0.344 (8.7)	0.032 (.8)
470	1500	CDV30FH471JO3F	0.77 (19.6)	0.85 (21.6)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)
470	2000	CDV30FJ471JO3F	0.77 (19.6)	0.87 (22.1)	0.26 (6.6)	0.438 (11.1)	0.040 (1.0)
470	2500	CDV30FK471JO3F	0.78 (19.8)	0.87 (22.1)	0.27 (6.9)	0.438 (11.1)	0.040 (1.0)
560	300	D103F561JO3F	0.39 (9.9)	0.38 (9.7)	0.22 (5.6)	0.141 (3.6)	0.016 (.4)
560	300	CD15FC561JO3F	0.46 (11.7)	0.38 (9.7)	0.21 (5.3)	0.234 (5.9)	0.025 (.6)
560	500	CD19FD561JO3F	0.65 (16.5)	0.51 (13.0)	0.20 (5.1)	0.344 (8.7)	0.032 (.8)
560	1000	CDV19FF561JO3F	0.65 (16.5)	0.51 (13.0)	0.21 (5.3)	0.344 (8.7)	0.032 (.8)
560	1500	CDV30FH561JO3F	0.77 (19.6)	0.85 (21.6)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)
560	2000	CDV30FJ561JO3F	0.77 (19.6)	0.87 (22.1)	0.26 (6.6)	0.438 (11.1)	0.040 (1.0)
560	2500	CDV30FK561JO3F	0.78 (19.8)	0.87 (22.1)	0.27 (6.9)	0.438 (11.1)	0.040 (1.0)
680	300	D103F681JO3F	0.39 (9.9)	0.38 (9.7)	0.22 (5.6)	0.141 (3.6)	0.016 (.4)

Mica Capacitors, Standard Dipped

Types CD10, D10, CD15, CD19, CD30, CD42, CDV19, CDV30

Cap (pF)	Volts (Vdc)	Catalog Part Number	L in (mm)	H in (mm)	T in (mm)	S in (mm)	d in (mm)
680	300	CD15FC681JO3F	0.47 (11.9)	0.39 (9.9)	0.21 (5.3)	0.234 (5.9)	0.025 (.6)
680	500	CD19FD681JO3F	0.65 (16.5)	0.51 (13.0)	0.21 (5.3)	0.344 (8.7)	0.032 (.8)
680	1000	CDV19FF681JO3F	0.66 (16.8)	0.52 (13.2)	0.22 (5.6)	0.344 (8.7)	0.032 (.8)
680	1500	CDV30FH681JO3F	0.77 (19.6)	0.85 (21.6)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)
680	2000	CDV30FJ681JO3F	0.77 (19.6)	0.87 (22.1)	0.26 (6.6)	0.438 (11.1)	0.040 (1.0)
680	2500	CDV30FK681JO3F	0.78 (19.8)	0.87 (22.1)	0.27 (6.9)	0.438 (11.1)	0.040 (1.0)
820	300	D103F821JO3F	0.39 (9.9)	0.38 (9.7)	0.22 (5.6)	0.141 (3.6)	0.016 (.4)
820	300	CD15FC821JO3F	0.47 (11.9)	0.39 (9.9)	0.21 (5.3)	0.234 (5.9)	0.025 (.6)
820	500	CD19FD821JO3F	0.65 (16.5)	0.51 (13.0)	0.21 (5.3)	0.344 (8.7)	0.032 (.8)
820	1000	CDV19FF821JO3F	0.66 (16.8)	0.53 (13.5)	0.23 (5.8)	0.344 (8.7)	0.032 (.8)
820	1500	CDV30FH821JO3F	0.77 (19.6)	0.85 (21.6)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)
820	2000	CDV30FJ821JO3F	0.77 (19.6)	0.87 (22.1)	0.26 (6.6)	0.438 (11.1)	0.040 (1.0)
820	2500	CDV30FK821JO3F	0.78 (19.8)	0.87 (22.1)	0.27 (6.9)	0.438 (11.1)	0.040 (1.0)
1000	100	D101F102JO3F	0.39 (9.9)	0.38 (9.7)	0.22 (5.6)	0.141 (3.6)	0.016 (.4)
1000	100	CD15FA102JO3F	0.48 (12.2)	0.40 (10.2)	0.23 (5.8)	0.234 (5.9)	0.025 (.6)
1000	500	CD19FD102JO3F	0.65 (16.5)	0.52 (13.2)	0.22 (5.6)	0.344 (8.7)	0.032 (.8)
1000	1000	CDV19FF102JO3F	0.67 (17.0)	0.53 (13.5)	0.25 (6.4)	0.344 (9.7)	0.032 (.8)
1000	1500	CDV30FH102JO3F	0.77 (19.6)	0.86 (21.8)	0.26 (6.6)	0.438 (11.1)	0.040 (1.0)
1000	2000	CDV30FJ102JO3F	0.78 (19.8)	0.88 (22.4)	0.28 (7.1)	0.438 (11.1)	0.040 (1.0)
1000	2500	CDV30FK102JO3F	0.79 (20.1)	0.88 (22.4)	0.31 (7.9)	0.438 (11.1)	0.040 (1.0)
1200	100	D101F122JO3F	0.39 (9.9)	0.38 (9.7)	0.22 (5.6)	0.141 (3.6)	0.016 (.4)
1200	100	CD15FA122JO3F	0.49 (12.4)	0.42 (10.7)	0.24 (6.1)	0.234 (5.9)	0.025 (.6)
1200	500	CD19FD122JO3F	0.66 (16.8)	0.52 (13.2)	0.22 (5.6)	0.344 (8.7)	0.032 (.8)
1200	1500	CDV30FH122JO3F	0.77 (19.6)	0.86 (21.8)	0.26 (6.6)	0.438 (11.1)	0.040 (1.0)
1200	2000	CDV30FJ122JO3F	0.78 (19.8)	0.88 (22.4)	0.28 (7.1)	0.438 (11.1)	0.040 (1.0)
1200	2500	CDV30FK122JO3F	0.79 (20.1)	0.88 (22.4)	0.31 (7.9)	0.438 (11.1)	0.040 (1.0)
1500	100	D101F152JO3F	0.39 (9.9)	0.38 (9.7)	0.22 (5.6)	0.141 (3.6)	0.016 (.4)
1500	100	CD15FA152JO3F	0.50 (12.7)	0.43 (10.9)	0.25 (6.4)	0.234 (5.9)	0.025 (.6)
1500	500	CD19FD152JO3F	0.66 (16.8)	0.52 (13.2)	0.23 (5.8)	0.344 (8.7)	0.032 (.8)
1500	1000	CDV19FF152JO3F	0.68 (17.3)	0.54 (13.7)	0.27 (6.9)	0.344 (8.7)	0.032 (.8)
1500	1500	CDV30FH152JO3F	0.78 (19.8)	0.87 (22.1)	0.28 (7.1)	0.438 (11.1)	0.040 (1.0)
1500	2000	CDV30FJ152JO3F	0.79 (20.1)	0.89 (22.6)	0.32 (8.1)	0.438 (11.1)	0.040 (1.0)
1500	2500	CDV30FK152JO3F	0.80 (20.3)	0.89 (22.6)	0.35 (8.9)	0.438 (11.1)	0.040 (1.0)
1800	500	CD19FD182JO3F	0.67 (17.0)	0.53 (13.5)	0.24 (6.1)	0.344 (8.7)	0.032 (.8)
1800	1000	CDV19FF182JO3F	0.68 (17.3)	0.55 (14.0)	0.29 (7.4)	0.344 (8.7)	0.032 (.8)
1800	1500	CDV30FH182JO3F	0.78 (19.8)	0.87 (22.1)	0.29 (7.4)	0.438 (11.1)	0.040 (1.0)
1800	2000	CDV30FJ182JO3F	0.79 (20.1)	0.89 (22.6)	0.34 (8.6)	0.438 (11.1)	0.040 (1.0)
1800	2500	CDV30FK182JO3F	0.81 (20.6)	0.90 (22.9)	0.37 (9.4)	0.438 (11.1)	0.040 (1.0)
2200	500	CD19FD222JO3F	0.67 (17.0)	0.53 (13.5)	0.25 (6.4)	0.344 (8.7)	0.032 (.8)
2200	500	CD30FD222JO3F	0.77 (19.6)	0.85 (21.6)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)
2200	1000	CDV19FF222JO3F	0.69 (17.5)	0.56 (14.2)	0.31 (7.9)	0.344 (8.7)	0.032 (.8)
2200	1500	CDV30FH222JO3F	0.79 (20.1)	0.88 (22.4)	0.31 (7.9)	0.438 (11.1)	0.040 (1.0)
2700	500	CD19FD272JO3F	0.68 (17.3)	0.54 (13.7)	0.27 (6.9)	0.344 (8.7)	0.032 (.8)
2700	500	CD30FD272JO3F	0.77 (19.6)	0.85 (21.6)	0.25 (6.4)	0.438 (11.1)	0.040 (1.0)
2700	1000	CDV19FF272JO3F	0.70 (17.8)	0.57 (14.5)	0.34 (8.6)	0.344 (8.7)	0.032 (.8)

Mica Capacitors, Standard Dipped

Types CD10, D10, CD15, CD19, CD30, CD42, CDV19, CDV30

Cap (pF)	Volts (Vdc)	Catalog Part Number	L in (mm)	H in (mm)	T in (mm)	S in (mm)	d in (mm)
2700	1500	CDV30FH272JO3F	0.79 (20.1)	0.88 (22.4)	0.33(8.4)	0.438 (11.1)	0.040 (1.0)
2700	2000	CDV30FJ272JO3F	0.81 (20.6)	0.91 (23.1)	0.40(10.2)	0.438 (11.1)	0.040 (1.0)
2700	2500	CDV30FK272JO3F	0.83 (21.1)	0.92 (23.4)	0.45(11.4)	0.438 (11.1)	0.040 (1.0)
3300	500	CD19FD332JO3F	0.68 (17.3)	0.55 (14.0)	0.29(7.4)	0.344 (8.7)	0.032 (.8)
3300	500	CD30FD332JO3F	0.77 (19.6)	0.86 (21.8)	0.25(6.4)	0.438 (11.1)	0.040 (1.0)
3300	1000	CDV19FF332JO3F	0.72 (18.3)	0.59 (15.0)	0.38(9.7)	0.344 (8.7)	0.032 (.8)
3300	1500	CDV30FH332JO3F	0.80 (20.3)	0.89 (22.6)	0.35(8.9)	0.438 (11.1)	0.040 (1.0)
3300	2000	CDV30FJ332JO3F	0.82 (20.8)	0.92 (23.4)	0.44(11.2)	0.438 (11.1)	0.040 (1.0)
3900	500	CD19FD392JO3F	0.69 (17.5)	0.56 (14.2)	0.31(7.9)	0.344 (8.7)	0.032 (.8)
3900	500	CD30FD392JO3F	0.77 (19.6)	0.86 (21.8)	0.26(6.6)	0.438 (11.1)	0.040 (1.0)
3900	1000	CDV19FF392JO3F	0.74 (18.8)	0.61 (15.5)	0.42(10.7)	0.344 (8.7)	0.032 (.8)
3900	1500	CDV30FH392JO3F	0.80 (20.3)	0.89 (22.6)	0.36(9.1)	0.438 (11.1)	0.040 (1.0)
3900	2000	CDV30FJ392JO3F	0.83 (21.1)	0.93 (23.6)	0.46(11.7)	0.438 (11.1)	0.040 (1.0)
4700	500	CD19FD472JO3F	0.70 (17.8)	0.58 (14.7)	0.35(8.9)	0.344 (8.7)	0.032 (.8)
4700	500	CD30FD472JO3F	0.78 (19.8)	0.86 (21.8)	0.27(6.9)	0.438 (11.1)	0.040 (1.0)
4700	1000	CDV19FF472JO3F	0.76 (19.3)	0.63 (16.0)	0.46(11.7)	0.344 (8.7)	0.032 (.8)
4700	1500	CDV30FH472JO3F	0.81 (20.6)	0.90 (22.9)	0.38(9.7)	0.438 (11.1)	0.040 (1.0)
5600	300	CD19FC562JO3F	0.68 (17.3)	0.56 (14.2)	0.31(7.9)	0.344 (8.7)	0.032 (.8)
5600	500	CD30FD562JO3F	0.78 (19.8)	0.87 (22.1)	0.29(7.4)	0.438 (11.1)	0.040 (1.0)
5600	1000	CDV30FF562JO3F	0.80 (20.3)	0.89 (22.6)	0.34(8.6)	0.438 (11.1)	0.040 (1.0)
5600	1500	CDV30FH562JO3F	0.82 (20.8)	0.91 (23.1)	0.40(10.2)	0.438 (11.1)	0.040 (1.0)
6800	300	CD19FC682JO3F	0.69 (17.5)	0.57 (14.5)	0.33(8.4)	0.344 (8.7)	0.032 (.8)
6800	500	CD30FD682JO3F	0.78 (19.8)	0.88 (22.4)	0.30(7.6)	0.438 (11.1)	0.040 (1.0)
6800	1000	CDV30FF682JO3F	0.80 (20.3)	0.89 (22.6)	0.36(9.1)	0.438 (11.1)	0.040 (1.0)
6800	1500	CDV30FH682JO3F	0.83 (21.1)	0.92 (23.4)	0.42(10.7)	0.438 (11.1)	0.040 (1.0)
8200	100	CD19FA822JO3F	0.70 (17.8)	0.58 (14.7)	0.35(8.9)	0.344 (8.7)	0.032 (.8)
8200	500	CD30FD822JO3F	0.79 (20.1)	0.88 (22.4)	0.32(8.1)	0.438 (11.1)	0.040 (1.0)
8200	1000	CDV30FF822JO3F	0.81 (20.6)	0.90 (22.9)	0.39(9.9)	0.438 (11.1)	0.040 (1.0)
8200	1500	CDV30FH822JO3F	0.84 (21.3)	0.93 (23.6)	0.46(11.7)	0.438 (11.1)	0.040 (1.0)
10000	100	CD19FA103JO3F	0.72 (18.3)	0.60 (15.2)	0.37(9.4)	0.344 (8.7)	0.032 (.8)
10000	500	CD30FD103JO3F	0.80 (20.3)	0.89 (22.6)	0.34(8.6)	0.438 (11.1)	0.040 (1.0)
10000	1000	CDV30FF103JO3F	0.82 (20.8)	0.91 (23.1)	0.42(10.7)	0.438 (11.1)	0.040 (1.0)
12000	500	CD30FD123JO3F	0.80 (20.3)	0.89 (22.6)	0.36(9.1)	0.438 (11.1)	0.040 (1.0)
12000	1000	CDV30FF123JO3F	0.83 (21.1)	0.92 (23.4)	0.46(11.7)	0.438 (11.1)	0.040 (1.0)
15000	500	CD30FD153JO3F	0.81 (20.6)	0.90 (22.9)	0.39(9.9)	0.438 (11.1)	0.040 (1.0)
18000	500	CD30FD183JO3F	0.82 (20.8)	0.91 (23.1)	0.43(10.9)	0.438 (11.1)	0.040 (1.0)
22000	500	CD30FD223JO3F	0.83 (21.1)	0.93 (23.6)	0.46(11.7)	0.438 (11.1)	0.040 (1.0)
22000	500	CD42FD223JO3F	1.42 (36.1)	0.88 (22.4)	0.31(7.9)	1.063 (27.0)	0.040 (1.0)
33000	100	CD30FA333JO3F	0.83 (21.1)	0.91 (23.1)	0.44(11.2)	0.438 (11.1)	0.040 (1.0)
33000	500	CD42FD333JO3F	1.44 (36.6)	0.89 (22.6)	0.36(9.1)	1.063 (27.0)	0.040 (1.0)
39000	500	CD42FD393JO3F	1.45 (36.8)	0.90 (22.9)	0.40(10.2)	1.063 (27.0)	0.040 (1.0)
47000	500	CD42FD473JO3F	1.47 (37.3)	0.91 (23.1)	0.45(11.4)	1.063 (27.0)	0.040 (1.0)
68000	300	CD42FC683JO3F	1.48 (37.6)	0.92 (23.4)	0.47(11.9)	1.063 (27.0)	0.040 (1.0)
82000	100	CD42FA823JO3F	1.48 (37.6)	0.92 (23.4)	0.46(11.7)	1.063 (27.0)	0.040 (1.0)
91000	100	CD42FA913JO3F	1.50 (38.1)	0.94 (23.9)	0.50(12.7)	1.063 (27.0)	0.040 (1.0)

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/μs 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/μs. 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 470 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 ±0.2 dB, typically to beyond a gigahertz.

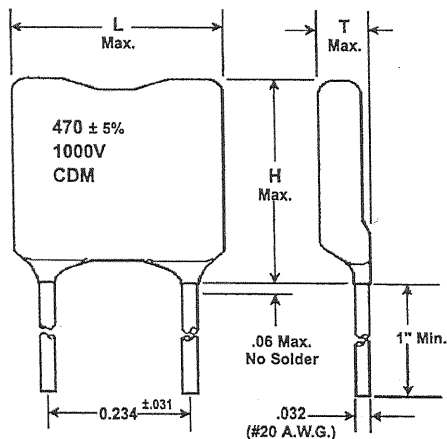
Highlights

- 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/μs
- 1,500 amps peak current capability

Specifications

Capacitance Range	100 pF to 7,500 pF
Capacitance Tolerance	±5% (J) standard, ±1% (F) and ±2% (G) available
Rated Voltage	500 Vdc & 1,000 Vdc
Operating Temperature Range	-55 °C to +150 °C
RoHS Compliant	

Dimensions



Construction Details

Case Material	Epoxy
Terminal Material	Copper clad steel, nickle undercoat, 100% tin finish

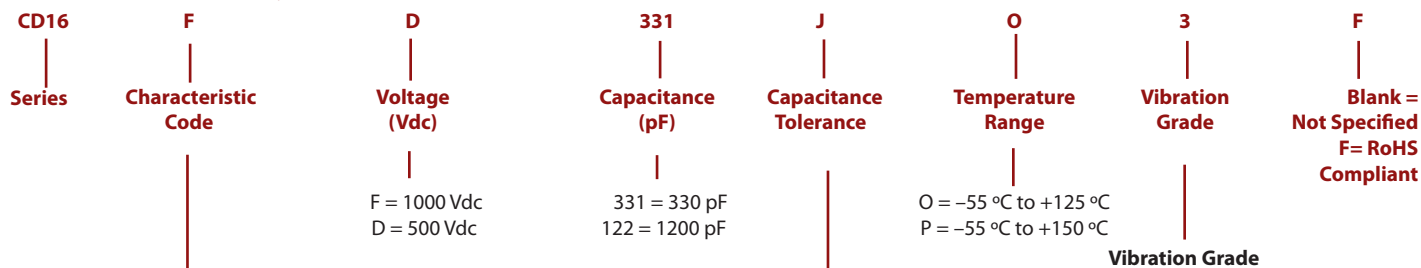
Type CD16 & CDV16 Snubber and RF Application, Mica Capacitors

Higher dV/dt Capability and Flatter Insertion Loss

Ordering Information

Order by complete part number as below. For other options, write your requirements on your purchase order or request for quotation.

Part Numbering System



Characteristics			
Code	Temp. Coeff. ppm/ °C	Capacitance Drift	Standard Cap. Range
F	0 to +70	±(0.05% +0.1 pF)	91 pF and up

Capacitance Tolerance		
Tol. Code	Tolerance	Capacitance Range
F	±1 %	100 pF and up
G	±2 %	100 pF and up
J	±5 %	100 pF and up

Vibration Grade		
No.	MIL-STD-202	Vibration Condition (Hz)
3	Method 204 Condition D	10 to 2,000

Standard tolerance is ±5% for 100 pF and up

Options Available

- Non-flammable units per IEC 695-2-2 are available for standard dipped capacitors. Specify IEC 695-2-2 on your order.
- Tape and reeling, specify per application guide.

Ratings

Cap. (pF)	Catalog Part Number	L in (mm)	H in (mm)	T in (mm)	Ipk Amps	Max Continuous Current @ 85°C, Amps					
						100kHz	250 kHz	500 kHz	1MHz	2.5MHz	5MHz
500 Vdc (300 Vac)											
100	CD16FD101J03	.43 (10.9)	.46 (11.7)	0.15 (3.8)	20	0.019	0.047	0.09	0.19	0.47	0.78
120	CD16FD121J03	.43 (10.9)	.46 (11.7)	0.15 (3.8)	24	0.023	0.057	0.11	0.23	0.57	0.86
150	CD16FD151J03	.43 (10.9)	.46 (11.7)	0.15 (3.8)	30	0.028	0.071	0.14	0.28	0.71	0.96
180	CD16FD181J03	.43 (10.9)	.46 (11.7)	0.15 (3.8)	36	0.034	0.085	0.17	0.34	0.85	1.10
220	CD16FD221J03	.43 (10.9)	.46 (11.7)	0.15 (3.8)	44	0.041	0.100	0.21	0.41	1.00	1.20
270	CD16FD271J03	.45 (11.4)	.47 (11.9)	0.16 (4.1)	54	0.051	0.130	0.25	0.51	1.30	1.30
330	CD16FD331J03	.45 (11.4)	.47 (11.9)	0.16 (4.1)	66	0.062	0.160	0.31	0.62	1.50	1.50
390	CD16FD391J03	.45 (11.4)	.47 (11.9)	0.16 (4.1)	78	0.074	0.180	0.37	0.74	1.60	1.60
470	CD16FD471J03	.45 (11.4)	.47 (11.9)	0.16 (4.1)	94	0.089	0.220	0.44	0.89	1.80	1.80
560	CD16FD561J03	.46 (11.7)	.50 (12.7)	0.18 (4.6)	110	0.110	0.260	0.53	1.10	2.00	2.00
680	CD16FD681J03	.46 (11.7)	.50 (12.7)	0.18 (4.6)	160	0.150	0.390	0.77	1.50	2.50	2.50
820	CD16FD821J03	.46 (11.7)	.50 (12.7)	0.18 (4.6)	160	0.150	0.390	0.77	1.50	2.50	2.50
1000	CD16FD102J03	.46 (11.7)	.50 (12.7)	0.18 (4.6)	200	0.190	0.470	0.94	1.90	2.70	2.70
1200	CD16FD122J03	.46 (11.7)	.50 (12.7)	0.18 (4.6)	240	0.230	0.570	1.10	2.30	3.00	3.00
1500	CD16FD152J03	.46 (11.7)	.50 (12.7)	0.18 (4.6)	300	0.280	0.710	1.40	2.70	3.30	3.30
1800*	CD16FD182J03	.47 (11.9)	.52 (13.2)	0.25 (6.4)	360	0.340	0.850	1.70	3.40	4.10	4.10
2200	CD16FD222J03	.47 (11.9)	.52 (13.2)	0.25 (6.4)	440	0.410	1.000	2.10	4.10	4.50	4.50
2700	CD16FD272J03	.47 (11.9)	.52 (13.2)	0.25 (6.4)	540	0.510	1.300	2.50	5.00	5.00	5.00
3000	CD16FD302J03	.47 (11.9)	.52 (13.2)	0.25 (6.4)	600	0.570	1.400	2.80	5.20	5.20	5.20
3300	CD16FD332J03	.48 (12.2)	.53 (13.7)	0.28 (7.1)	600	0.570	1.400	2.80	5.70	6.80	6.80
3600	CD16FD362J03	.48 (12.2)	.53 (13.7)	0.28 (7.1)	720	0.680	1.700	3.40	6.80	7.10	7.10

* Best RF performance is = to or < this cap rating

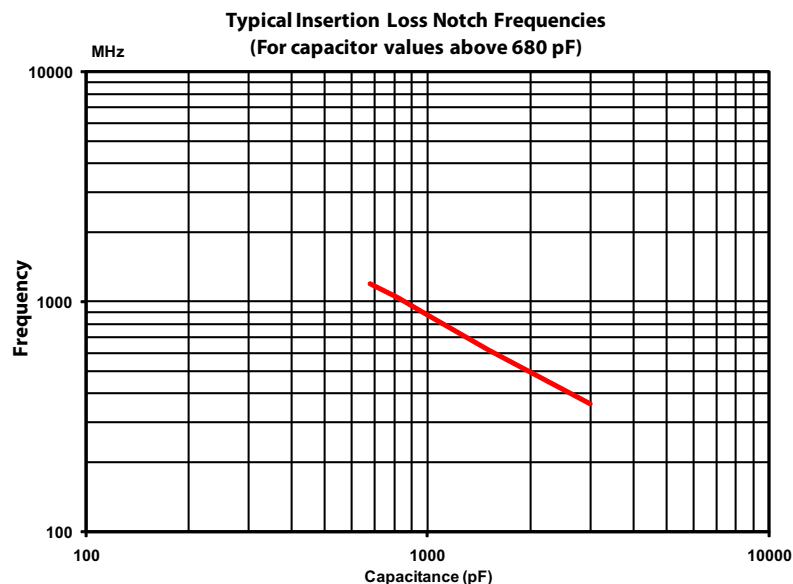
Type CD16 & CDV16 Snubber and RF Application, Mica Capacitors

Higher dV/dt Capability and Flatter Insertion Loss

Cap. (pF)	Catalog Part Number	L in (mm)	H in (mm)	T in (mm)	Ipk Amps	Max Continuous Current @ 85°C, Amps					
						100kHz	250 kHz	500 kHz	1MHz	2.5MHz	5MHz
3900	CDV16FD392J03	.48 (12.2)	.54 (13.7)	0.28 (7.1)	780	0.740	1.800	3.70	7.40	7.40	7.40
4700	CDV16FD472J03	.49 (12.5)	.56 (14.2)	0.31 (7.9)	940	0.890	2.200	4.40	8.50	8.50	8.50
6800	CDV16FD682J03	.50 (12.7)	.57 (14.7)	0.38 (9.7)	1300	1.300	3.200	6.40	9.00	9.00	9.00
7500	CDV16FD752J03	.50 (12.7)	.58 (14.7)	.40 (10.2)	1500	1.400	3.500	7.10	9.00	9.00	9.00
1000 Vdc (350 Vac)											
100	CDV16FF101J03	.43 (10.9)	.46 (11.7)	.15 (3.8)	23	0.022	0.055	0.11	0.22	0.55	0.92
120	CDV16FF121J03	.43 (10.9)	.46 (11.7)	.15 (3.8)	27	0.026	0.066	0.13	0.26	0.66	1.00
130	CDV16FF131J03	.43 (10.9)	.46 (11.7)	.15 (3.8)	29	0.029	0.071	0.14	0.29	0.71	1.10
150	CDV16FF151J03	.43 (10.9)	.46 (11.7)	.15 (3.8)	34	0.033	0.082	0.16	0.33	0.82	1.10
180	CDV16FF181J03	.43 (10.9)	.46 (11.7)	.15 (3.8)	41	0.040	0.100	0.20	0.40	1.00	1.20
220	CDV16FF221J03	.43 (10.9)	.46 (11.7)	.15 (3.8)	50	0.048	0.120	0.24	0.48	1.20	1.40
270	CDV16FF271J03	.45 (11.4)	.47 (11.9)	.16 (4.1)	61	0.059	0.150	0.30	0.59	1.50	1.60
330	CDV16FF331J03	.45 (11.4)	.47 (11.9)	.16 (4.1)	74	0.073	0.180	0.36	0.73	1.80	1.80
360	CDV16FF361J03	.45 (11.4)	.47 (11.9)	.16 (4.1)	81	0.079	0.200	0.40	0.79	1.80	1.80
390	CDV16FF391J03	.45 (11.4)	.47 (11.9)	.16 (4.1)	88	0.086	0.210	0.43	0.86	1.90	1.90
470	CDV16FF471J03	.45 (11.4)	.47 (11.9)	.16 (4.1)	106	0.100	0.260	0.52	1.00	2.10	2.10
500	CDV16FF501J03	.45 (11.4)	.47 (11.9)	.16 (4.1)	113	0.110	0.270	0.55	1.10	2.20	2.20
560	CDV16FF561J03	.46 (11.7)	.50 (12.7)	.17 (4.4)	126	0.120	0.310	0.62	1.20	2.40	2.40
680	CDV16FF681J03	.46 (11.7)	.50 (12.7)	.17 (4.4)	153	0.150	0.370	0.75	1.50	2.70	2.70
820	CDV16FF821J03	.46 (11.7)	.50 (12.7)	.17 (4.4)	185	0.180	0.450	0.90	1.80	2.90	2.90
1200	CDV16FF122J03	.46 (11.7)	.50 (12.7)	.17 (4.4)	270	0.260	0.660	1.30	2.60	3.50	3.50
1300	CDV16FF132J03	.46 (11.7)	.50 (12.7)	.17 (4.4)	293	0.290	0.710	1.40	2.90	3.70	3.70
1500	CDV16FF152J03	.46 (11.7)	.50 (12.7)	.18 (4.6)	338	0.330	0.820	1.60	3.30	3.90	3.90
1800*	CDV16FF182J03	.47 (11.9)	.52 (13.2)	.25 (6.4)	495	0.400	0.990	2.00	4.00	4.80	4.80
2200	CDV16FF222J03	.47 (11.9)	.52 (13.2)	.25 (6.4)	605	0.480	1.200	2.40	4.80	5.30	5.30
2700	CDV16FF272J03	.47 (11.9)	.52 (13.2)	.25 (6.4)	743	0.590	1.500	3.00	5.80	5.80	5.80
3000	CDV16FF302J03	.47 (11.9)	.52 (13.2)	.25 (6.4)	825	0.660	1.600	3.30	6.20	6.20	6.20

* Best RF performance is = to or < this cap rating

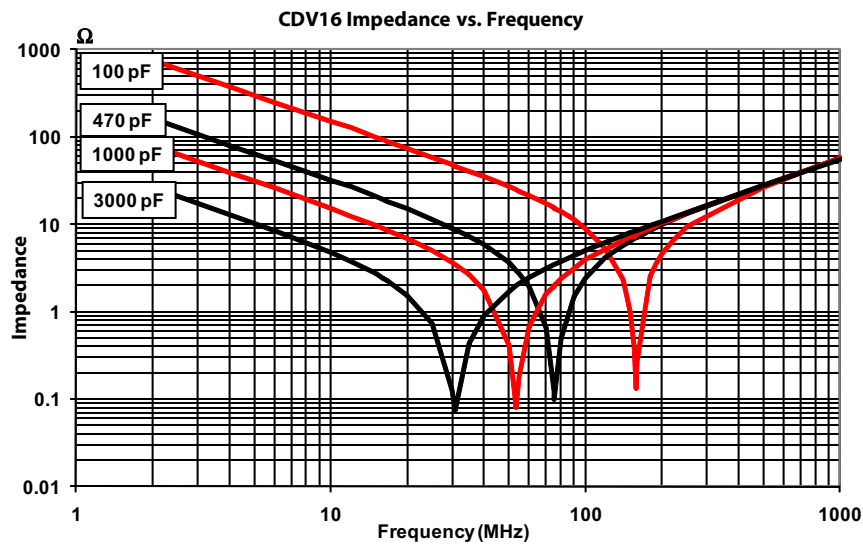
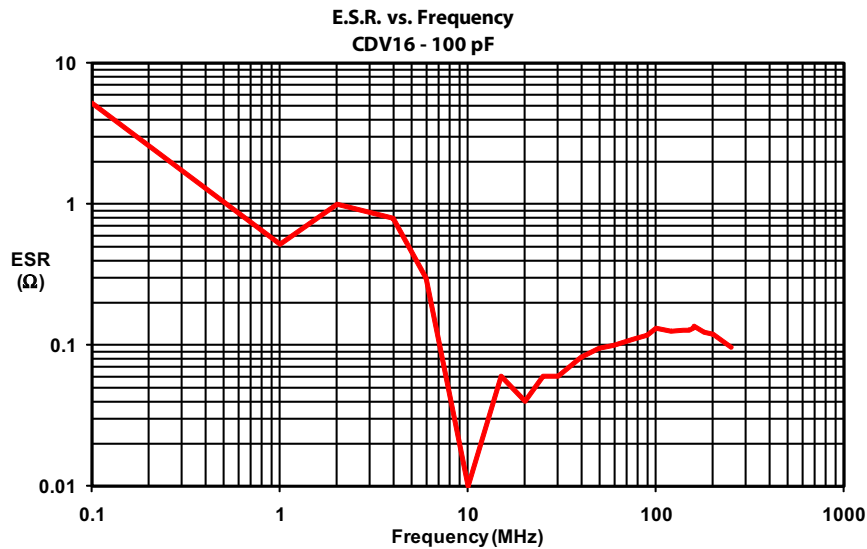
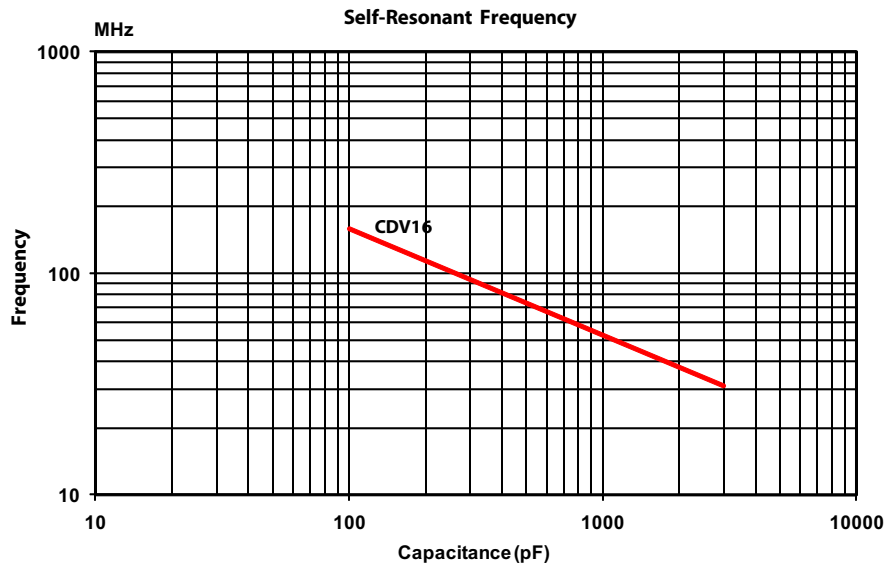
Typical Performance Curves



Type CD16 & CDV16 Snubber and RF Application, Mica Capacitors

Higher dV/dt Capability and Flatter Insertion Loss

Typical Performance Curves



Type MCM and MIN, SMT, RF Clad Mica Capacitors

Multilayer High Power, High Temperature Mica and PTFE Capacitors

Types MCM and MIN SMT clad PTFE and mica capacitors are top performers for high power applications requiring low inductance at high frequencies and can operate at temperatures up to 200 °C and voltages to 1000 Vdc. Choosing from 16 different configurations offers easy mounting with options for surface mount as well as through-hole and mechanical assembly. To assure high current capability in the smallest capacitors, low-capacitance ratings use polytetrafluorethylene (PTFE) that has ultra-low dielectric absorption - better than polypropylene, polystyrene and NPO ceramic.



Highlights

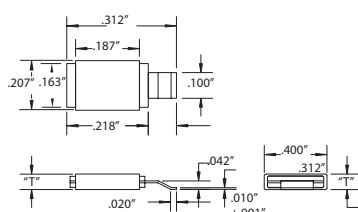
- 200 °C rated with no voltage derating
- Wave solderable
- No cracking or delaminating
- CTE \approx 18 ppm/°C compatible with FR4 PCBs
- Highly thermal conductive package
- Gull-wing terminal minimizes stress
- Typical 100 pF ESR, <11 m Ω @ 100 MHz
- Nonmagnetic for minimal RF loss
- Very low ESL for excellent by-pass action
- Ultra stable: no change with (t), (V) and (f)
- Exact capacitance with tolerances from ± 0.25 pF

Specifications

Capacitance Range	1 to 1500 pF - MCM 1 to 350 pF - MIN
Capacitance Tolerance	± 0.25 pF, ± 0.5 pF, ± 1 pF, $\pm 0.5\%$, $\pm 1\%$, $\pm 2\%$, $\pm 5\%$
Rated Voltage	300 to 1000 Vdc - MCM 300 Vdc - MIN
Operating Temperature Range	-55 °C to +200 °C with no voltage derating
Insulation Resistance	1000 M Ω · μ F Need not exceed 100,000 M Ω at 25 °C
Dielectric Strength	200% of rated voltage for 5 seconds
RoHS Compliant	

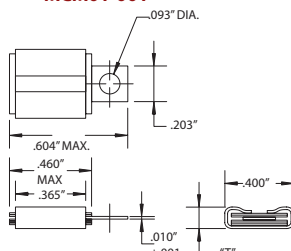
Outline Drawings

MIN02-002



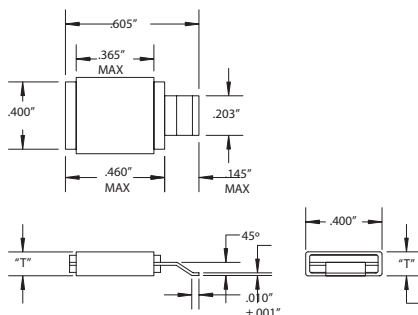
"T" (thickness) depending on capacitance value = .065 to .125 \pm .015

MCM01-001



"T" (thickness) depending on capacitance value = .110 to .165 \pm .015

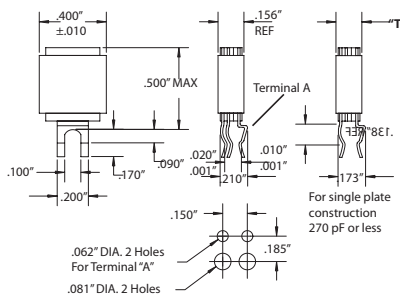
MCM01-009



"T" (thickness) depending on capacitance value = .110 to .165 \pm .015

"T" varies with capacitance

MCM01-010



"T" (thickness) depending on capacitance value = .110 to .165 \pm .015

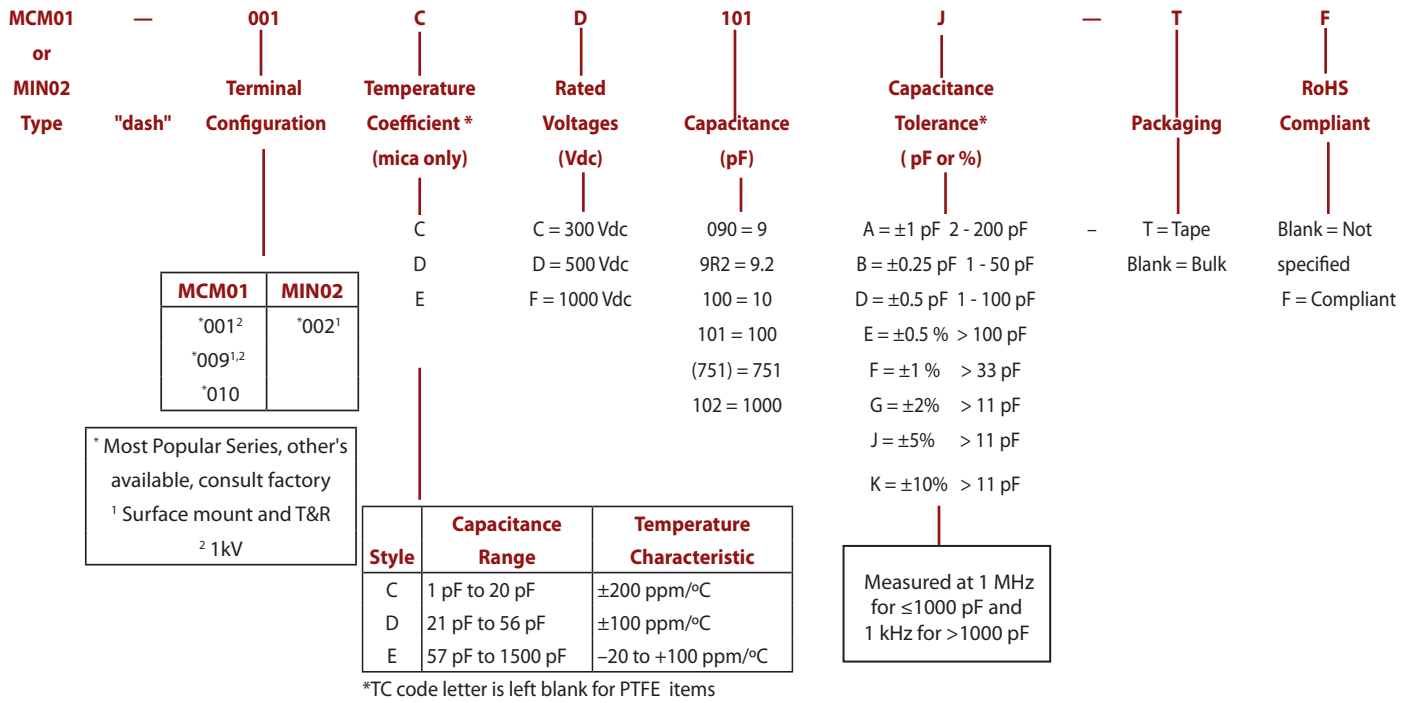
Construction Details

Case Material	Silver plated, copper flashed, brass. Lead free finish.
Terminal Material	Silver plated, copper flashed, brass.

Type MCM and MIN, SMT, RF Clad Mica Capacitors

Multilayer High Power, High Temperature Mica and PTFE Capacitors

Part Numbering System



Ratings

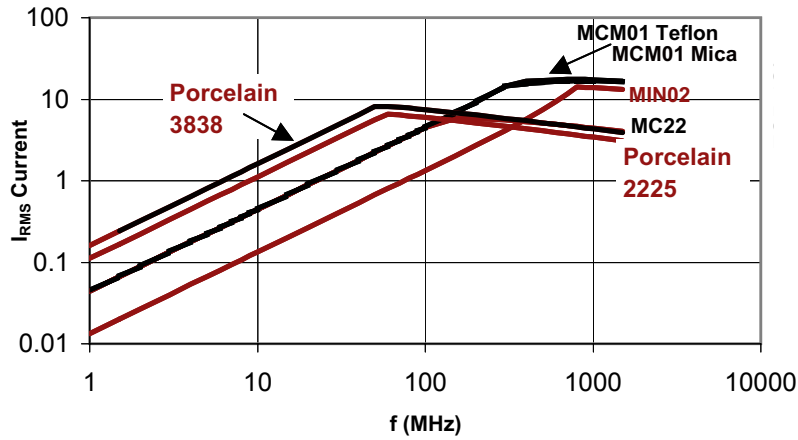
Capacitance (pF)	Voltage Ratings (Vdc)			Dielectric
	300	500	*1000	
MIN02				
1 - 9	X			PTFE
10 - 60	X			Mica
61 - 120	X			Mica
121 - 180	X			Mica
181 - 240	X			Mica
241 - 300	X			Mica
301 - 350	X			Mica
MCM01				
1 - 7		X	X	PTFE
8 - 32		X	X	PTFE or Mica
33 - 250		X	X	Mica
251 - 500		X	X	Mica
501 - 750		X	X	Mica
751 - 1000		X		Mica
1001 - 1280			X	Mica
1281 - 1500	X			Mica
*1000 V available in MCM01-001 and -009 style				

Type MCM and MIN, SMT, RF Clad Mica Capacitors

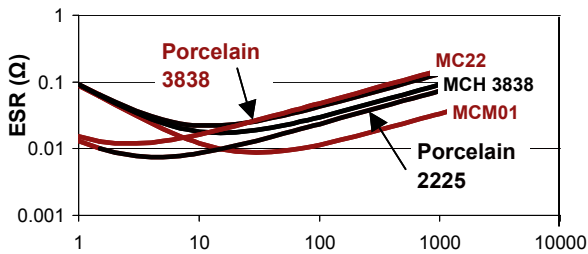
Multilayer High Power, High Temperature Mica and PTFE Capacitors

Typical Performance Curves

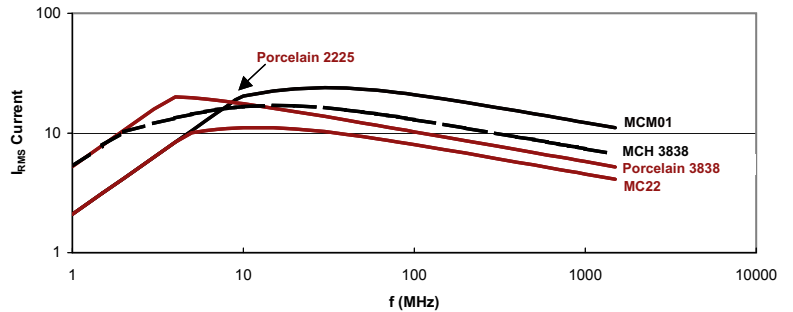
Current Rating (I_{RMS}) for 10 pF at 60 °C Rise



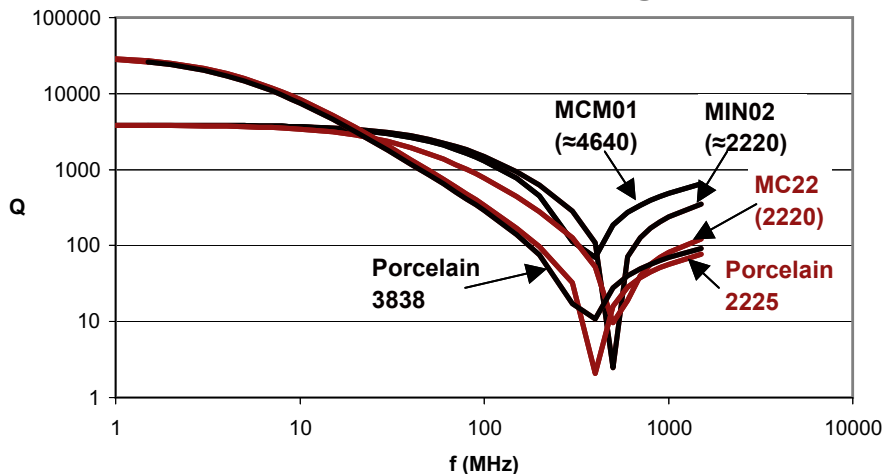
ESR vs Frequency for 470 pF



Current Rating (I_{RMS}) for 470 pF at 60 °C Rise



Q vs Frequency for 100 pF @ 25 °C



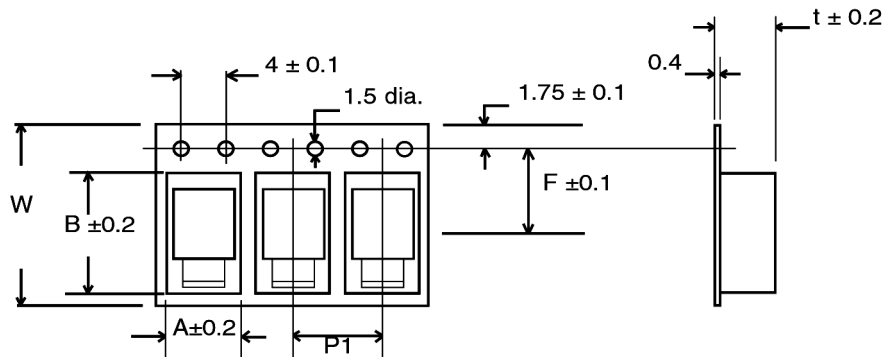
Type MCM and MIN, SMT, RF Clad Mica Capacitors

Multilayer High Power, High Temperature Mica and PTFE Capacitors

Standard Minimum Quantities

Bulk Pack: 100 pieces per bag Reel Pack: 500 pieces per reel

Tape Specifications

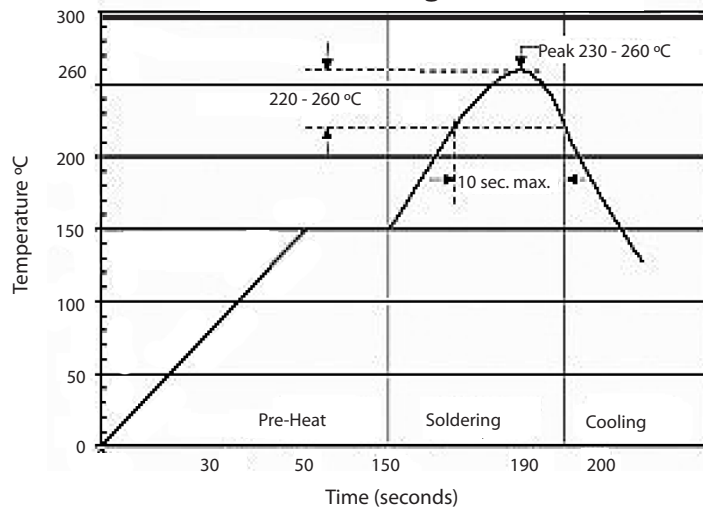


Tape Dimensions (mm)						
Case	W	A	B	P1	F	t
MIN02-002 < 150 pF	16	5.56	8.18	8	7.5	2.16
MIN02-002 ≥ 150 pF	16	5.66	8.10	8	7.5	3.20

Note: 24 mm tape for MCM01-009 and 32 mm tape for MCM01-004 are available upon request.

Solder Profile

Reflow Soldering Method



Wave Soldering Method

