

# Tubular Feed-Thru Ceramic Capacitors



Spectrum Control Technology Inc. manufactures a wide variety of solid and multi-layered, non-polar, feed-thru, tubular ceramic capacitors. These tubular capacitors are small in size, lightweight, reliable and offer high physical and dielectric strength. Operating temperatures of  $-55^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$  are achieved with no voltage derating. Standard termination electrodes for all tubular capacitors feature a nickel barrier and a final silver termination.

## Solid Wall Ceramic Capacitors

These feed-thru capacitors have no internal or buried electrodes and find their primary usage in low cost applications. Solid feed-thrus are ideally suited for by-pass, filtering and decoupling applications.

All of our solid capacitors are fired to produce true monolithic structures which are impervious to moisture and contamination.

## Multilayered Ceramic Capacitors

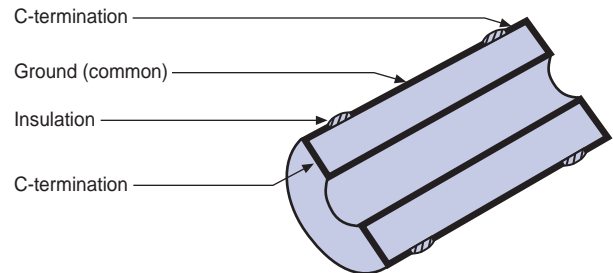
Spectrum Control Technology Inc. multi-layered feed-thru capacitors are designed for applications where source impedances are high, and sharp or steep attenuation rise is critical. These capacitors will have uniform insertion loss over a broad frequency range and are ideally suited for greater filtering at lower frequencies.

Our multi-layered, coaxial tubular capacitors consist of concentric layers of ceramic formulation and of noble metal electrodes. This concentric structure yields a low inductance when compared to conventional wound capacitors. Our high ratio of capacity-to-volume results in a significantly smaller size than achieved in solid wall tubular capacitors.

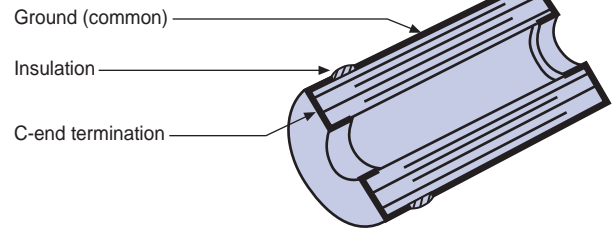
## Features

- Versatility in capacitance and voltage
- Low inductance, non-polar
- Impervious to moisture and contamination
- Extremely small - high ratio of capacitance to volume
- High dielectric strength
- $-55^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$  operation

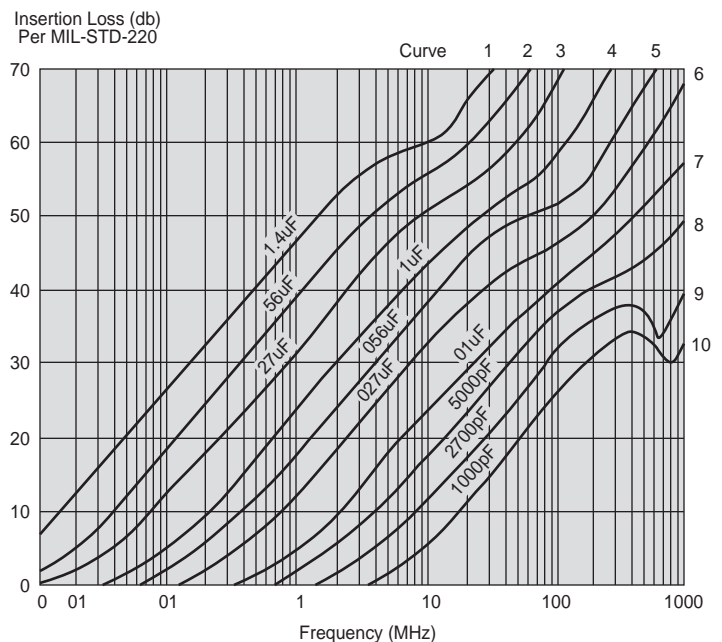
## Solid



## Multi-layered

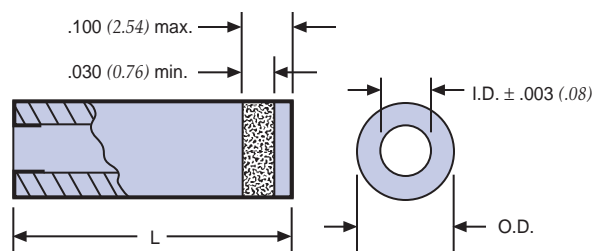
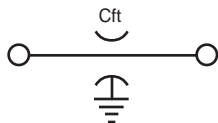


## Insertion Loss



# Specifications

50/100/200 VDCW + 125°C



Part Number Non-Insulated Ground End	VDCW at 125°C	Cap. Value GMV (µF)	Tube Dimensions					Minimum Insertion Loss (db)								
			O.D.	Tol.	I.D.	L	Tol.	0.1 MHz	0.3 MHz	1 MHz	3 MHz	10 MHz	30 MHz	100 MHz	300 MHz	1-10 GHz
*E8345173X7U271V	200	.00027	.083 (2.11)	± .004 (± .10)	.045 (1.14)	.173 (4.39)	± .010 (± .25)	—	—	—	—	—	4	12	22	32
*E8345173X7U561V	200	.00056						—	—	—	—	2	9	18	28	38
*E8345173X7U821V	200	.00082						—	—	—	—	4	12	22	31	42
*E8345173X7U102V	200	.001						—	—	—	—	5	13	23	33	43
54-102-005	200	.015	.063 (1.60)	± .003 (± .08)	.037 (0.94)	.330 (8.38)	± .010 (± .25)	—	—	—	14	25	33	41	47	50
54-102-001	100	.05						—	5	15	24	—	—	45	—	60
54-102-006	50	.10						—	11	22	30	38	44	47	55	65
54-101-005	200	.018	.072 (1.83)	± .003 (± .08)	.047 (1.19)	.330 (8.38)	± .010 (± .25)	—	—	6	16	26	35	43	50	55
54-101-001	100	.05						—	5	15	24	—	—	45	—	60
54-101-006	50	.12						—	12	24	32	40	45	50	55	65
54-103-010	200	.033	.081 (2.06)	± .003 (± .08)	.047 (1.19)	.330 (8.38)	± .010 (± .25)	—	—	11	21	31	39	45	50	65
54-103-008	100	.10						—	11	22	30	38	44	47	55	65
54-103-011	50	.22						8	18	28	37	45	60	60	60	70
54-110-003	200	.082	.081 (2.06)	± .003 (± .08)	.037 (0.94)	.425 (10.80)	± .015 (± .38)	—	9	20	29	38	44	47	55	65
54-110-004	100	.18						—	16	27	35	43	48	53	60	65
54-110-005	50	.39						13	23	33	42	49	52	58	65	70
54-108-006	200	.056	.081 (2.06)	± .003 (± .08)	.047 (1.19)	.425 (10.80)	± .015 (± .38)	—	7	17	26	35	41	45	50	60
54-108-007	100	.15						—	14	25	33	41	47	51	55	65
54-108-008	50	.33						11	21	31	40	47	50	55	60	70
54-104-001	200	.012	.095 (2.41)	± .003 (± .08)	.047 (1.19)	.450 (11.43)	± .015 (± .38)	—	12	24	32	40	45	50	55	65
54-104-006	100	.22						8	18	28	37	45	50	55	60	70
54-104-007	50	.56						17	27	37	44	50	52	60	65	70
54-106-003	200	.10	.105 (2.67)	± .005 (± .13)	.047 (1.19)	.330 (8.38)	± .010 (± .25)	—	11	22	30	38	44	47	55	65
54-106-004	100	.22						8	18	28	37	45	50	55	60	70
54-106-005	50	.47						15	25	35	44	50	52	60	65	70
54-107-009	200	.15	.105 (2.67)	± .005 (± .13)	.047 (1.19)	.450 (11.43)	± .015 (± .38)	—	14	25	33	41	47	51	55	65
54-107-010	100	.33						11	21	31	40	47	50	55	60	70
54-107-011	50	.82						20	29	39	47	53	59	65	70	70
54-105-001	200	.082	.110 (2.79)	± .005 (± .13)	.069 (1.75)	.330 (8.38)	± .010 (± .25)	—	9	20	29	38	44	47	55	65
54-105-006	100	.18						—	16	27	35	43	48	63	55	65
54-105-007	50	.39						13	23	33	42	49	52	58	62	70

**Notes:**

1. Special capacitors insulated on one end are available. Consult factory.
2. Dimensions are in inches, dimensions shown in ( ) are in millimeters.
3. Capacitance is maximum available value in GMV tolerance.
4. Other dimensional variations and capacitance values are available. Consult factory.

\* Solid wall ceramic capacitors  
Both ends insulated