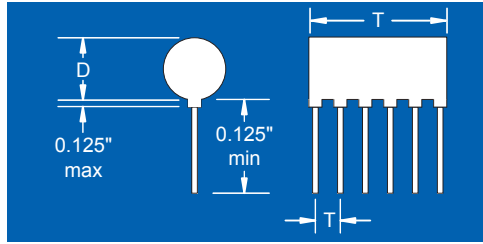


High Voltage Disc Multiplier

3 KV to 15 KV Leaded and Coated (125°C)



General Information

Disc capacitors are designed and manufactured under strict quality control guidelines in order to insure performance and reliability for high voltage applications.

Double action pressing is utilized to minimize density gradients and produce uniform fired ceramic density.

Capacitors are available screened to Mil-Prf-49467 established reliability specification.

Custom designs are available. Contact the factory for additional information.

Testing & Screening Information

- Dielectric Withstanding Voltage to Mil-Prf-49467, Mil-Std-202, MTD 302.
- Insulation Resistance 25°C to Mil-Prf-49467, Mil-Std-202, MTD 302.
- Capacitance/Dissipation Factor to Mil-Prf-49467, Mil-Std-202, MTD 305.
- Group A & B inspection to Mil-Prf-49467, DSCC 87125, DSCC 89087, and NASA GSFC S-311-P-15C, where applicable.

Installation

Higher-voltage parts may require further encapsulation to prevent surface breakdown. Parts should be cleaned and oven dried at 85°C before further encapsulation. Silicone rubbers or an epoxy may be used. De-airing of encapsulates is recommended.

Components should be preheated to approximately 120°C prior to heat sink attachment.

Testing higher-voltage parts before encapsulation may be done in a suitable dielectric fluid such as FC-40.

Part Number & Ordering Information

M4	V150	D80	X	102	K	M	R
Number of Sections (See Table)	Voltage 30=3,000 150=15,000 etc.	Style (See Size Table)	Dielectric N=NPO W=X5R X=X7R Y=X5U	Capacitance Value in pF First two digits are significant, last two are numbers of zeros, i.e. 102=1,000pF	Tolerance J=±5% (NPO Only) K=±10% M=±20% P=-0%/+100% Z=-20%/+80%	Screening* Add if Group Compliant A screening is required	ROHS Compliant
Lead Type Solder plated, copper-clad steel ROHS Compliant - 100% Tin (CCFE) - D30, D40: 0.025" dia. (22GA) [0.64mm dia.] D50 & larger: 0.032" dia. (20GA) [0.81mm dia.]							

NUMBER OF SECTIONS	WIDTH OF MULTIPLIER BY VOLTAGE (MAX)				
	3 KVDC Inches [mm]	5 KVDC Inches [mm]	7.5 KVDC Inches [mm]	10 KVDC Inches [mm]	15 KVDC Inches [mm]
2	0.320 [8.13]	0.400 [10.16]	0.500 [12.70]	0.600 [15.24]	0.800 [20.32]
3	0.410 [10.41]	0.540 [13.72]	0.690 [17.53]	0.830 [21.08]	1.130 [28.70]
4	0.500 [12.70]	0.660 [16.76]	0.860 [21.84]	1.060 [26.92]	1.460 [37.08]
5	0.600 [15.24]	0.800 [20.32]	1.050 [33.02]	1.300 [33.02]	1.800 [45.72]
6	0.700 [17.78]	0.930 [23.62]	1.525 [38.74]	1.525 [38.74]	2.150 [54.61]

SPECIFICATIONS	DIELECTRIC TYPE (EIA DESIGNATION)			
	NPO	X5R	X7R	X5U
TEMPERATURE RANGE	-55°C to 125°C	-55°C to 85°C	-55°C to 125°C	-55°C to 85°C
TEMPERATURE COEFFICIENT	± 30 ppm/°C	±15%	±15%	+22%/-56%
VOLTAGE RANGE	3kV to 15kV	3kV to 15kV	3kV to 15kV	3kV to 15kV
DIELECTRIC WITHSTANDING VOLTAGE TEST	3kV to 15kV 1.5x rated	3kV to 15kV 1.5x rated	3kV to 15kV 1.5x rated	3kV to 15kV 1.5x rated
IR @ 25°C	100,000MΩ or 1,000MΩ - μF whichever is less	100,000MΩ or 1,000MΩ - μF whichever is less	100,000MΩ or 1,000MΩ - μF whichever is less	100,000MΩ or 1,000MΩ - μF whichever is less
IR @ EVALUATED TEMPERATURE	10,000MΩ or 100MΩ - μF whichever is less @ 125°C	10,000MΩ or 100MΩ - μF whichever is less @ 85°C	10,000MΩ or 100MΩ - μF whichever is less @ 125°C	10,000MΩ or 100MΩ - μF whichever is less @ 85°C
DISSIPATION FACTOR @ 1kHz, 25°C	0.1% max	2.5% max	2.5% max	2.5% max
AGING RATE	0	-2% max/decade hour	-2% max/decade hour	-3% max/decade hour

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High Voltage Disc Ceramic Capacitors

3kVDC

Disc Style	D Max.	S ± .030	NPO (PF)		X5R (PF)		X7R (PF)		X5U (PF)	
			Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
D30	.30	.085	8.4	12	270	370	260	350	500	670
D40	.40	.085	12	24	410	780	380	730	730	1400
D50	.50	.090	28	46	920	1500	870	1400	1700	2700
D60	.60	.090	38	61	1300	2000	1200	1900	2200	3600
D70	.70	.090	63	95	2100	3100	2000	2900	3700	5600
D80	.80	.090	94	110	3100	3800	2900	3500	5500	6800
D90	.90	.090	110	160	3700	5300	3500	5000	6600	9500
D100	1.00	.090	150	200	5000	6500	4700	6200	9000	12000
D120	1.20	.090	200	310	6600	10000	6200	9500	12000	18000
D140	1.40	.090	310	350	10000	12000	9600	12000	19000	22000

5kVDC

D30	.30	.125	5.1	6.9	160	220	150	210	300	400
D40	.40	.125	7.3	15	250	473	230	440	440	850
D50	.50	.130	17	28	560	920	520	860	1000	1600
D60	.60	.130	23	37	760	1200	700	1100	1400	2200
D70	.70	.130	38	57	1300	1800	1200	1800	2300	3400
D80	.80	.130	57	69	1900	2300	1800	2100	3400	4000
D90	.90	.130	69	97	2200	3100	2100	3000	4000	5700
D100	1.00	.130	92	120	3000	3900	2900	3700	5500	7100
D120	1.20	.130	120	180	3900	6100	3800	5700	7200	11000
D140	1.40	.130	190	230	6200	7500	5800	7000	11000	13000

7.5kVDC

D30	.30	.175	3.4	4.6	110	150	100	150	200	270
D40	.40	.175	5.0	9.6	170	310	150	300	300	570
D50	.50	.180	12	19	370	610	350	580	670	1100
D60	.60	.180	15	25	510	800	470	750	900	1450
D70	.70	.180	25	38	830	1200	780	1200	1500	2200
D80	.80	.180	37	46	1300	1500	1200	1400	2200	2700
D90	.90	.180	45	65	1500	2100	1400	2000	2700	3800
D100	1.00	.180	60	80	2000	2600	1900	2500	3700	4700
D120	1.20	.180	80	120	2600	4000	2500	3800	4800	7400
D140	1.40	.180	120	150	4100	5000	3800	4700	7400	9000

10kVDC

D30	.30	.225	2.5	3.5	84	110	78	110	150	200
D40	.40	.225	3.8	7.2	120	230	110	220	220	420
D50	.50	.230	8.5	14.0	280	480	260	430	500	820
D60	.60	.230	12	18	380	600	350	560	680	1000
D70	.70	.230	19	28	620	940	580	880	1100	1700
D80	.80	.230	28	34	930	1100	870	1100	1700	2000
D90	.90	.230	34	48	1100	1600	1000	1500	2000	2900
D100	1.00	.230	46	60	1500	2000	1400	1800	2700	3500
D120	1.20	.230	60	93	2000	3000	1900	2800	3600	5500
D140	1.40	.230	94	110	3100	3700	2900	3500	5600	6800

15kVDC

D30	.30	.325	1.6	2.3	55	76	52	71	100	130
D40	.40	.325	2.4	4.8	52	160	76	150	150	280
D50	.50	.330	5.7	9.4	180	300	180	290	330	550
D60	.60	.330	7.7	12	250	400	230	370	450	720
D70	.70	.330	12	20	410	620	390	590	750	1100
D80	.80	.330	19	23	620	760	580	710	1100	1360
D90	.90	.330	23	32	740	1000	690	1000	1300	1900
D100	1.00	.330	30	40	1000	1300	950	1200	1800	2400
D120	1.20	.330	40	60	1300	2000	1300	1900	2400	3600
D140	1.40	.330	60	77	2100	2500	1900	2300	3700	4500

Custom voltages, sizes, and capacitance values are available. Contact Factory.