

Ceramic Capacitors

For Ultra High Voltage
Bulk

UHV, FHV Series

CLASS 2 HIGH DIELECTRIC

DC. 20 TO 50kV: UHV-1A TO 12A, 221A TO 253A TYPES

DC. 15 TO 50kV: FHV-1AN TO 12AN, 153AN TYPES

TDK UHV and FHV series high voltage ceramic capacitors feature low dissipation and excellent voltage-capacitance characteristics using patented strontium titanate for dielectric material. They are epoxy-encapsulated to meet requirement of high voltage applications.



FEATURES

- Small size.
- Low dissipation factor.
- Excellent voltage-capacitance characteristics.
- Screw terminals for easy mounting.
- FHV series: High capacitance and low temperature characteristics of capacitance.

APPLICATIONS

High voltage power supplies, laser equipment.

INITIAL CHARACTERISTICS

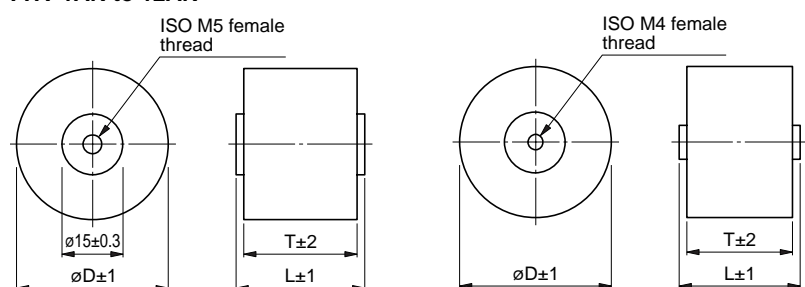
Series	UHV	FHV
Operating temperature range	−30 to +85°C	−30 to +85°C
Rated voltage	DC. 20 to 50kV	DC. 15 to 50kV
Insulation resistance	100000MΩ min.	100000MΩ min.
Nominal capacitance range	100 to 4000pF	700 to 7000pF
Capacitance tolerance	±10%	±10%
Dissipation factor(tanδ)	0.2% max.	0.2% max.
Capacitance temperature characteristics	Z5T: +22, −33%[+10 to +85°C, 25°C]	Y5S: ±22%[−30 to +85°C, 25°C]
AC Corona starting voltage	3pC max. at 50% of rated voltage min.(50Hz rms)	3pC max. at 50% of rated voltage min.(50Hz rms)
Withstanding voltage	No breakdown at 1.5 times of rated voltage, 60s(in oil)	No breakdown at 1.5 times of rated voltage, 60s(in oil)

SHAPES AND DIMENSIONS

UHV-1A to 12A

FHV-1AN to 12AN

UHV-221A to 253A



Dimensions in mm

MARKING

Item	Marking example
1. Part No.	1 → UHV-5A
2. Nominal capacitance and tolerance code	2 → 172K
3. Rated voltage	3 → 30kV
4. Manufacturer's name (TDK or TDK logo mark)	4 → TDK
5. Lot No.	5 → 1234

- For more information about products with other capacitance or other data, please contact us.

Ceramic Capacitors

For Ultra High Voltage

Bulk

UHV, FHV Series

ELECTRICAL CHARACTERISTICS/DIMENSIONS

TYPICAL CAPACITANCE CHARACTERISTICS

UHV SERIES(DC. 20 to 50kV, TC:Z5T)

Rated voltage Edc(kV)	Part No.	Rated capacitance (pF)±10%	Dimensions (mm)			Female thread
			øD	T	L	
20	UHV-221A	200	20	19	23	ISO M4
	UHV-222A	400	25			
	UHV-223A	700	30			
	UHV-224A	1000	34			
	UHV-1A	1400	38	22	26	ISO M5
	UHV-2A	2500	48			
	UHV-3A	4000	60			
30	UHV-231A	200	25	28	32	ISO M4
	UHV-232A	400	30			
	UHV-233A	700	34			
	UHV-4A	940	38			
	UHV-5A	1700	48	31	35	ISO M5
	UHV-6A	2700	60			
	UHV-241A	100	20			
40	UHV-242A	200	25	31	35	ISO M4
	UHV-243A	400	34			
	UHV-7A	700	38			
	UHV-8A	1300	48			
	UHV-9A	2000	60	34	38	ISO M5
	UHV-251A	100	20			
	UHV-252A	200	30			
50	UHV-253A	400	34	37	40	ISO M4
	UHV-10A	560	38			
	UHV-11A	1000	48			
	UHV-12A	1700	60			

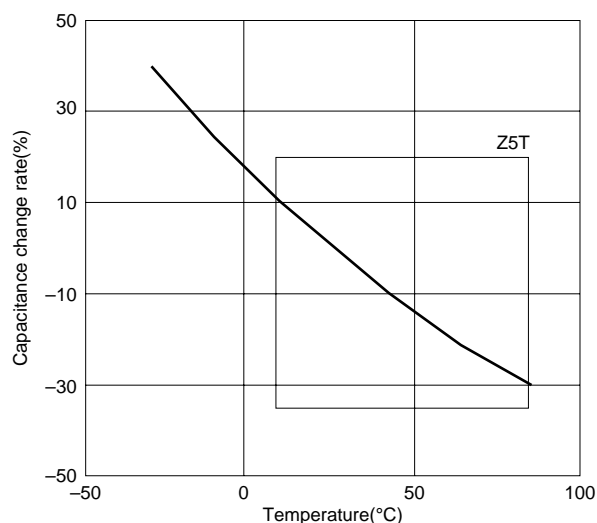
FHV SERIES(DC. 15 to 50kV, TC:Y5S)

Rated voltage Edc(kV)	Part No.	Rated capacitance (pF)±10%	Dimensions (mm)			Female thread
			øD	T	L	
15	FHV-153AN	7000	60	17	21	ISO M5
20	FHV-1AN	1700	38	18.5	22.5	ISO M5
	FHV-2AN	3000	48			
	FHV-3AN	5200	60			
	FHV-4AN	1200	38			
30	FHV-5AN	2100	48	22	26	ISO M5
	FHV-6AN	3500	60			
	FHV-7AN	850	38			
40	FHV-8AN	1500	48	26	30	ISO M5
	FHV-9AN	2600	60			
	FHV-10AN	700	38			
50	FHV-11AN	1300	48	29	33	ISO M5
	FHV-12AN	2100	60			

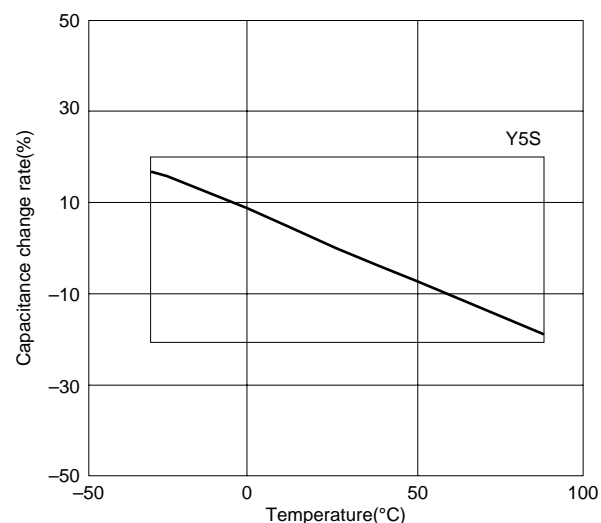
TYPICAL CAPACITANCE CHARACTERISTICS

CAPACITANCE vs. TEMPERATURE CHARACTERISTICS

UHV SERIES(DC. 20 to 50kV, TC:Z5T)



FHV SERIES(DC. 15 to 50kV, TC:Y5S)



- For more information about products with other capacitance or other data, please contact us.

Ceramic Capacitors

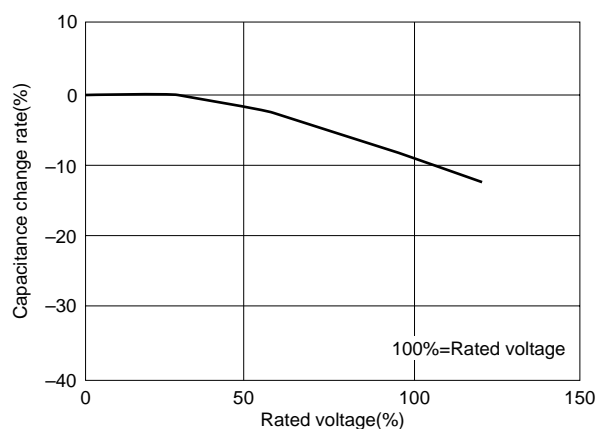
For Ultra High Voltage

Bulk

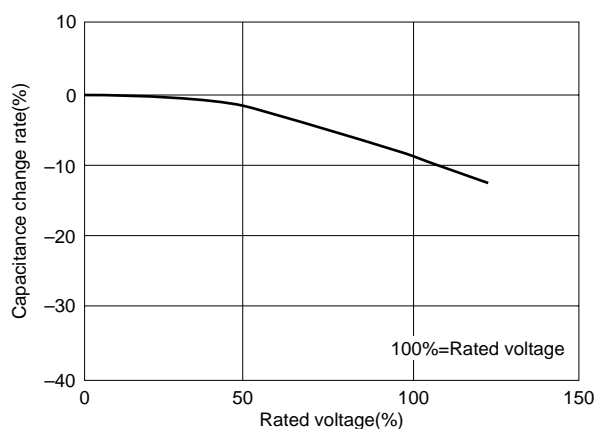
UHV, FHV Series

CAPACITANCE vs. DC BIAS CHARACTERISTICS

UHV SERIES(DC. 20 to 50kV, TC:Z5T)



FHV SERIES(DC. 15 to 50kV, TC:Y5S)



PRECAUTIONS

(1) During transportation and storage

- Do not transport or store where the capacitor will be exposed to high temperature or high humidity.
- Do not expose to poisonous gases such as H_2SO_4 , HCl , or HNO_3 .
- Avoid excessive impact such as that caused by falling.

(2) During operation

- Avoid contact with electrolytes such as perspiration. Do not touch with bare hands.
- Avoid excessive impact such as that caused by falling.
- Do not apply solder to stud terminals.
- Do not re-machine the terminals.

(3) Usage

- When the capacitor is used for high-speed pulses such as with a laser, make sure that the impressed voltage (peak-to-peak voltage) is within the capacitor's rated specifications.
- Make sure that the capacitor is not exposed to radiant heat from chambers or transformers.

- For more information about products with other capacitance or other data, please contact us.