

Ultra-high Voltage Ceramic Capacitors

Molded type with metal terminals

For high voltage power supply/laser

UHV(Edc: 20 to 50kV) series

FHV(Edc: 15 to 50kV) series

Issue date: September 2006

- All specifications are subject to change without notice.
 - Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.
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Ultra-high Voltage Ceramic Capacitors

Molded Type with Metal Terminals UHV, FHV Series

Conformity to RoHS Directive

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.

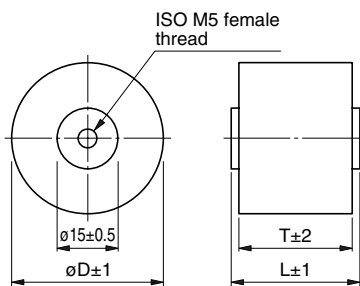
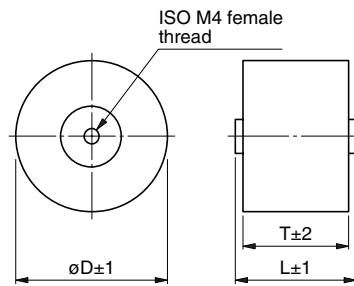
APPLICATIONS

High voltage power supplies, laser equipment.

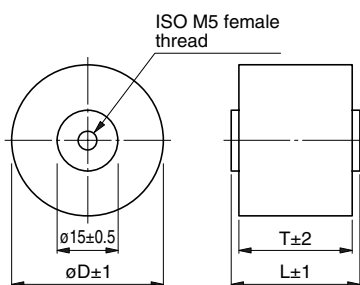
INITIAL CHARACTERISTICS

| 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 | 100,000MΩ min. | 100,000MΩ min. |
| Nominal capacitance range | 100 to 4,000pF | 700 to 7,000pF |
| 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) |

* PC: Pico coulomb

SHAPES AND DIMENSIONS**UHV-1A to 12A****UHV-221A to 253A**

Dimensions in mm

FHV-1AN to 12AN**MARKING**

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

MARKING

| Item | Marking example |
|-----------------------------------------------|-----------------|
| 1. Part No. | |
| 2. Nominal capacitance and tolerance code | 1 → FHV-5A |
| 3. Rated voltage | 2 → 172K |
| 4. Manufacturer's name (TDK or TDK logo mark) | 3 → 30kV |
| 5. Lot No. | 4 → TDK |
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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 | | | |
| | UHV-222A | 400 | 25 | | | |
| | UHV-223A | 700 | 30 | | | ISO M4 |
| | UHV-224A | 1,000 | 34 | 19 | 23 | |
| | UHV-1A | 1,400 | 38 | | | |
| | UHV-2A | 2,500 | 48 | | | ISO M5 |
| | UHV-3A | 4,000 | 60 | | | |
| 30 | UHV-231A | 200 | 25 | | | |
| | UHV-232A | 400 | 30 | | | ISO M4 |
| | UHV-233A | 700 | 34 | | | |
| | UHV-4A | 940 | 38 | 22 | 26 | |
| | UHV-5A | 1,700 | 48 | | | ISO M5 |
| | UHV-6A | 2,700 | 60 | | | |
| 40 | UHV-241A | 100 | 20 | | | |
| | UHV-242A | 200 | 25 | | | ISO M4 |
| | UHV-243A | 400 | 34 | | | |
| | UHV-7A | 700 | 38 | 28 | 32 | |
| | UHV-8A | 1,300 | 48 | | | ISO M5 |
| UHV-9A | 2,000 | 60 | | | | |
| 50 | UHV-251A | 100 | 20 | | | |
| | UHV-252A | 200 | 30 | | | ISO M4 |
| | UHV-253A | 400 | 34 | | | |
| | UHV-10A | 560 | 38 | 31 | 35 | |
| | UHV-11A | 1,000 | 48 | | | ISO M5 |
| UHV-12A | 1,700 | 60 | | | | |

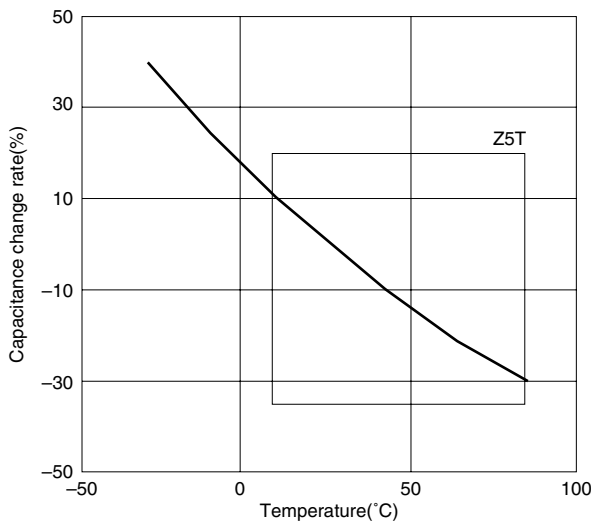
FHV SERIES(DC. 15 to 50kV, TC:Y5S)

| Rated voltage Edc(kV) | Part No. | Rated capacitance (pF)±10% | Dimensions (mm) | | | Female thread |
|--------------------------|-----------|-------------------------------|-----------------|------|------|---------------|
| | | | øD | T | L | |
| 15 | FHV-153AN | 7,000 | 60 | 16.5 | 20.5 | ISO M5 |
| | FHV-1AN | 1,700 | 38 | | | |
| 20 | FHV-2AN | 3,000 | 48 | 18.5 | 22.5 | ISO M5 |
| | FHV-3AN | 5,200 | 60 | | | |
| | FHV-4AN | 1,200 | 38 | | | |
| 30 | FHV-5AN | 2,100 | 48 | 22 | 26 | ISO M5 |
| | FHV-6AN | 3,500 | 60 | | | |
| | FHV-7AN | 850 | 38 | | | |
| 40 | FHV-8AN | 1,500 | 48 | 26 | 30 | ISO M5 |
| | FHV-9AN | 2,600 | 60 | | | |
| | FHV-10AN | 700 | 38 | | | |
| 50 | FHV-11AN | 1,300 | 48 | 29 | 33 | ISO M5 |
| | FHV-12AN | 2,100 | 60 | | | |

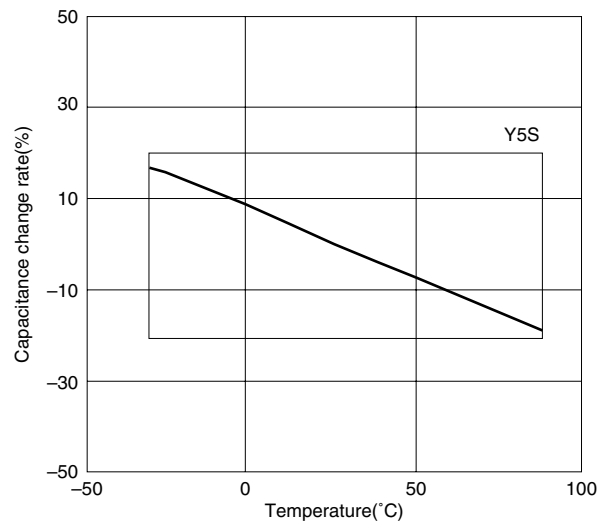
TYPICAL CAPACITANCE CHARACTERISTICS

CAPACITANCE vs. TEMPERATURE CHARACTERISTICS

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



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



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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 H₂SO₄, HCl, or HNO₃.
- 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.

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Данный компонент на территории Российской Федерации

Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

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