



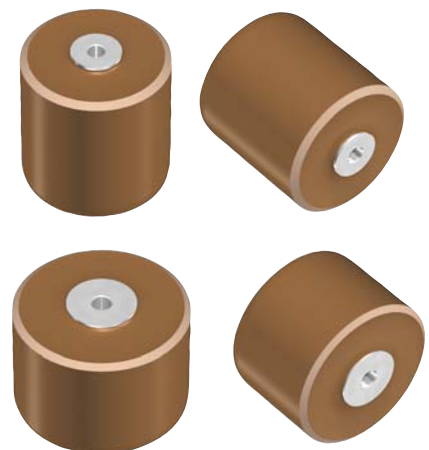
# Ultra high voltage ceramic capacitors

With metal terminals

For distribution lines

## FD/MD series

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## REMINDERS FOR USING THESE PRODUCTS

### (1) During transportation and storage

Do not transport or store where the products will be exposed to high temperature or high humidity.

Do not expose to poisonous gases such as H<sub>2</sub>SO<sub>4</sub>, HCl, or HNO<sub>3</sub>.

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

Make sure that the products are not exposed to radiant heat from chambers or transformers.

### (4) Others

The products listed on this catalog are not designed or warranted to meet the requirements of the applications listed below, whose performance and/or quality require a more stringent level of safety or reliability, or whose failure, malfunction or trouble could cause serious damage to society, person or property.

If you intend to use the products in the applications listed below or if you have special requirements exceeding the range or conditions set forth in the each catalog, please contact us.

(1) Aerospace/aviation equipment

(2) Transportation equipment (cars, electric trains, ships, etc.)

(3) Medical equipment

(4) Power-generation control equipment

(5) Atomic energy-related equipment

(6) Seabed equipment

(7) Transportation control equipment

(8) Public information-processing equipment

(9) Military equipment

(10) Electric heating apparatus, burning equipment

(11) Disaster prevention/crime prevention equipment

(12) Safety equipment

(13) Other applications that are not considered general-purpose applications

When designing your equipment even for general-purpose applications, you are kindly requested to take into consideration securing protection circuit/device or providing backup circuits in your equipment.

# Ultra high voltage ceramic capacitors

Product compatible with RoHS directive

With metal terminals

For distribution lines

## Overview of FD/MD series

### FEATURES

- FD series (rated voltage Eac:10 to 25 kV) and MD series (rated voltage Eac:20kV) are available
- Molded type metal screw terminals for easy mounting
- Uses high-reliability mold resin
- Extremely stable temperature characteristics

### APPLICATION

Distribution line switches (zero-phase detection, demarcation point), electric power selling detection

### OPERATING TEMPERATURE RANGE, PRODUCT WEIGHT

Part No.	Sub part No.	Temperature range		Individual weight (g)
		Operating temperature (°C)	Storage temperature (°C)	
FD-9A	60710YP101K4AAA	-30 to +85	-30 to +85	10
FD-10A	60715YP251K4AAA	-30 to +85	-30 to +85	16
FD-11A	60723YP501K4AAA	-30 to +85	-30 to +85	30
FD-12A	60731YP102K4AAA	-30 to +85	-30 to +85	54
FD-16A	60718YP251K4CAA	-30 to +85	-30 to +85	31
FD-18A	60726YP501K4CAA	-30 to +85	-30 to +85	71
FD-20A	60737YP102K4CAA	-30 to +85	-30 to +85	141
FD-22A	60722YP251K4DAA	-30 to +85	-30 to +85	67
FD-24A	60732YP501K4DAA	-30 to +85	-30 to +85	127
FD-33A	60726YP251K4EAA	-30 to +85	-30 to +85	107
FD-36A	60736YP501K4EAA	-30 to +85	-30 to +85	117
MD-1A	60729CH500J3KAA	-30 to +85	-30 to +85	101

• Secondary-molded AU type is also available.

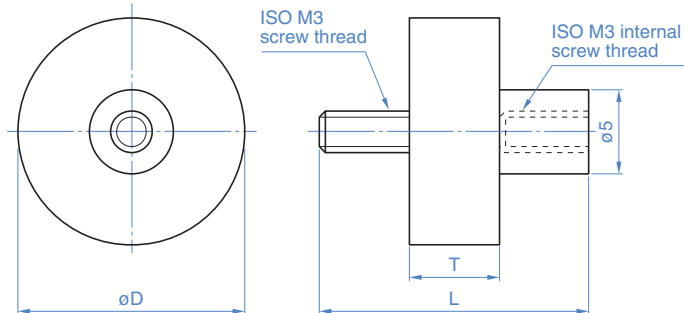
○ RoHS Directive Compliant Product: See the following for more details.<https://product.tdk.com/info/en/environment/rohs/index.html>

 Please be sure to request delivery specifications that provide further details on the features and specifications of the products for proper and safe use.  
Please note that the contents may change without any prior notice due to reasons such as upgrading.

# FD series

## SHAPE & DIMENSIONS

### FD-9A to FD-16A

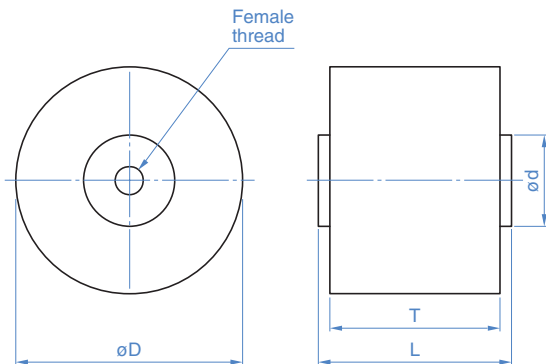


### MARKINGS

FD-9A	Part No.
101K	Nominal capacitance and tolerance code
AC10kV	Rated voltage
TDK	Manufacturer's name (TDK or TDK logo mark)
1234	Lot No.

Part No.	Sub part No.	$\phi D$ (mm)	T (mm)	L (mm)
FD-9A	60710YP101K4AAA	16	15	27
FD-10A	60715YP251K4AAAU	21	15	27
FD-11A	60723YP501K4AAAU	28	15	27
FD-12A	60731YP102K4AAAU	38	15	27
FD-16A	60718YP251K4CAAU	26	18.5	30.5

### FD-18A to FD-36A



### MARKINGS

FD-22A	Part No.
251K	Nominal capacitance and tolerance code
AC20kV	Rated voltage
TDK	Manufacturer's name (TDK or TDK logo mark)
1234	Lot No.

Part No.	Sub part No.	$\phi D$ (mm)	T (mm)	L (mm)	$\phi d$ (mm)	Internal screw
FD-18A	60726YP501K4CAAU	34	23.5	27.5	10	ISO M4
FD-20A	60737YP102K4CAAU	48	23.5	27.5	15	ISO M5
FD-22A	60722YP251K4DAA	30	29	33	10	ISO M4
FD-24A	60732YP501K4DAAU	40	29	33	15	ISO M5
FD-33A	60726YP251K4EAAU	34	35	39	10	ISO M4
FD-36A	60736YP501K4EAAU	48	35	39	15	ISO M5

# FD series

## ELECTRICAL CHARACTERISTICS

### CHARACTERISTICS SPECIFICATION TABLES

Class 2 (Temperature stable)

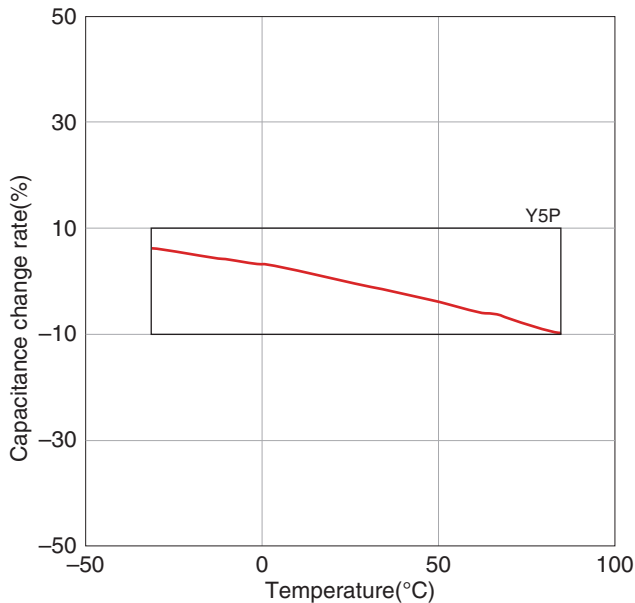
Temperature characteristics: Y5P(-30 to +85°C, ±10%)

Part No.	Sub part No.	Rated voltage (kVAC)	Capacitance (pF)	Supported insulation classes	Withstanding voltage		Dissipation factor (tanδ) (%) max.	Insulation resistance (MΩ) min.	AC corona starting voltage [3PC* ] (kVAC) min.
					[1min, in insulating liquid] (kVAC)				
FD-9A	60710YP101K4AAA	10	100±10%	—	15		0.2	10000	12
FD-10A	60715YP251K4AAAU	10	250±10%	—	15		0.2	10000	12
FD-11A	60723YP501K4AAAU	10	500±10%	—	15		0.2	10000	12
FD-12A	60731YP102K4AAAU	10	1,000±10%	—	15		0.2	10000	12
FD-16A	60718YP251K4CAAU	13	250±10%	—	20		0.2	10000	16
FD-18A	60726YP501K4CAAU	13	500±10%	—	20		0.2	10000	16
FD-20A	60737YP102K4CAAU	13	1,000±10%	—	20		0.2	10000	16
FD-22A	60722YP251K4DAA	20	250±10%	6号A	30		0.2	10000	24
FD-24A	60732YP501K4DAAU	20	500±10%	6号A	30		0.2	10000	24
FD-33A	60726YP251K4EAAU	25	250±10%	10号A	40		0.2	10000	32
FD-36A	60736YP501K4EAAU	25	500±10%	10号A	40		0.2	10000	32

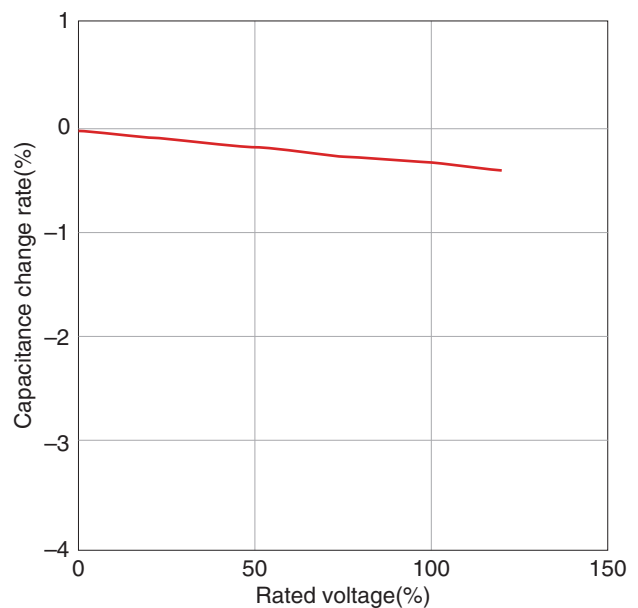
\* PC : Pico coulomb.

• Secondary-molded AU type is also available.

### CAPACITANCE VS. TEMPERATURE CHARACTERISTICS

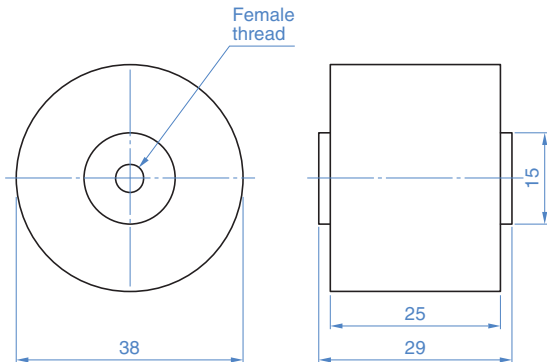


### CAPACITANCE VS. AC VOLTAGE CHARACTERISTICS



# MD series

## SHAPE & DIMENSIONS



## MARKINGS

MD-1A	Part No.
5 0 0 J	Nominal capacitance and tolerance code
AC20kV	Rated voltage
T D K	Manufacturer's name (TDK or TDK logo mark)
1 2 3 4	Lot No.

## ELECTRICAL CHARACTERISTICS

### CHARACTERISTICS SPECIFICATION TABLES

Class 1 (Temperature compensating)

Temperature characteristics: C0H(-55 to +125°C, 0±60ppm/°C)

Part No.	Sub part No.	Rated voltage (kVAC)	Capacitance (pF)	Supported insulation classes 6号A	Withstanding voltage	Dissipation factor (tanδ) (%) max.	Insulation resistance (MΩ) min.	AC corona starting voltage
					[1min, in insulating liquid] (kVAC)			[3PC* ] (kVAC) min.
MD-1A	60729CH500J3KAA	20	50±10%	6号A	30	0.2	10000	24

\* PC : Pico coulomb.