

## Ultra high voltage ceramic capacitors For distribution lines

# FD series, MD series



### FEATURES

- FD series (rated voltage Eac:10 to 25 kV) and MD series (rated voltage Eac:7.2kV) 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), traded volume detection

### PART NUMBER CONSTRUCTION

607	10	YP	101	K	4A	A	A								
Product category	Internal code	Temperature characteristics		Nominal capacitance		Capacitance tolerance		Rated voltage		Voltage classification		Insulation structure			
Ultra high voltage ceramic capacitors		YP	Y5P (-30 to +85°C, ±10%)		500	50pF	J	±5%	3K	7.2kV	A	AC voltage specifications		A	Mold type
			101	100pF	K	±10%	4A	10kV							
		CH	CH (-30 to +85°C, 0±60ppm/°C)		251	250pF			4C	13kV					
			102	1000pF			4D	20kV							
								4E	25kV						

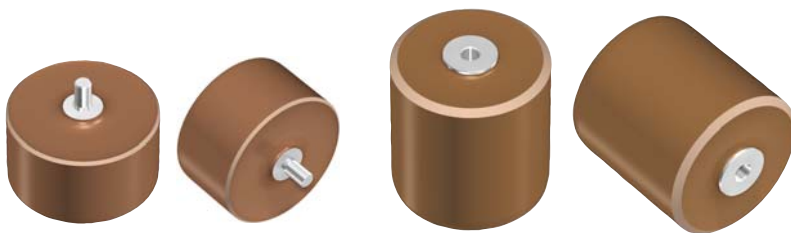
\* Please refer to P-3 to 4 about the product dimensions.

### OPERATING TEMPERATURE RANGE

Series	Operating temperature(°C)	Storage temperature(°C)
FD	-30 to +85	-30 to +85
MD	-30 to +85	-30 to +85

The maximum operating temperature of +85°C includes capacitor self-generated heat of up to 20°C.

### PRODUCT APPEARANCE



# FD series

## ELECTRICAL CHARACTERISTICS

### CHARACTERISTICS SPECIFICATION TABLE

Class 2 (Temperature stable)

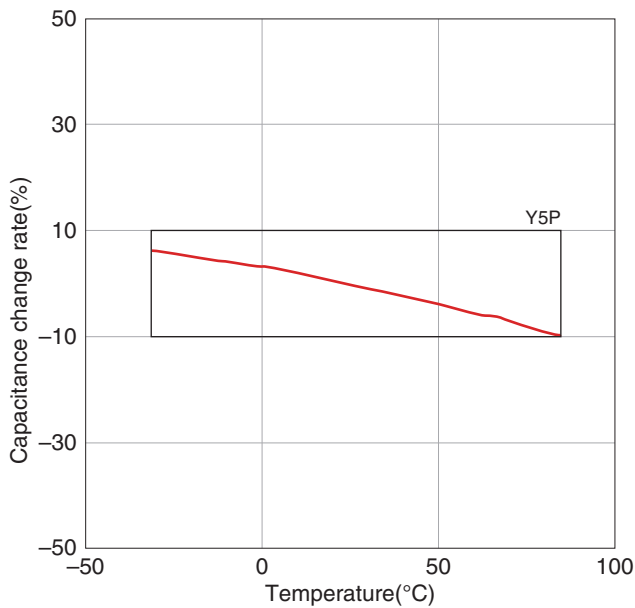
Temperature characteristic: Y5P(-30 to +85°C, ±10%)

Part numbers	Sub part numbers	Rated voltage	Capacitance	Withstanding voltage	Dissipation factor (tanδ) (%) max.	Insulation resistance (MΩ) min.	AC corona starting voltage [3pC*] (kVAC) min.
		(kVAC)	(pF)	[1min, in insulating liquid] (kVAC)			
<a href="#">60710YP101K4AAA</a>	FD-9A	10	100±10%	15	0.3	10,000	12
<a href="#">60715YP251K4AAA</a>	FD-10A	10	250±10%	15	0.3	10,000	12
<a href="#">60722YP501K4AAA</a>	FD-11A	10	500±10%	15	0.3	10,000	12
<a href="#">60731YP102K4AAA</a>	FD-12A	10	1,000±10%	15	0.3	10,000	12
<a href="#">60718YP251K4CAA</a>	FD-16A	13	250±10%	20	0.3	10,000	16
<a href="#">60726YP501K4CAA</a>	FD-18A	13	500±10%	20	0.3	10,000	16
<a href="#">60737YP102K4CAA</a>	FD-20A	13	1,000±10%	20	0.3	10,000	16
<a href="#">60723YP251K4DAA</a>	FD-22A	20	250±10%	30	0.3	10,000	24
<a href="#">60732YP501K4DAA</a>	FD-24A	20	500±10%	30	0.3	10,000	24
<a href="#">60726YP251K4EAA</a>	FD-33A	25	250±10%	40	0.3	10,000	32
<a href="#">60736YP501K4EAA</a>	FD-36A	25	500±10%	40	0.3	10,000	32

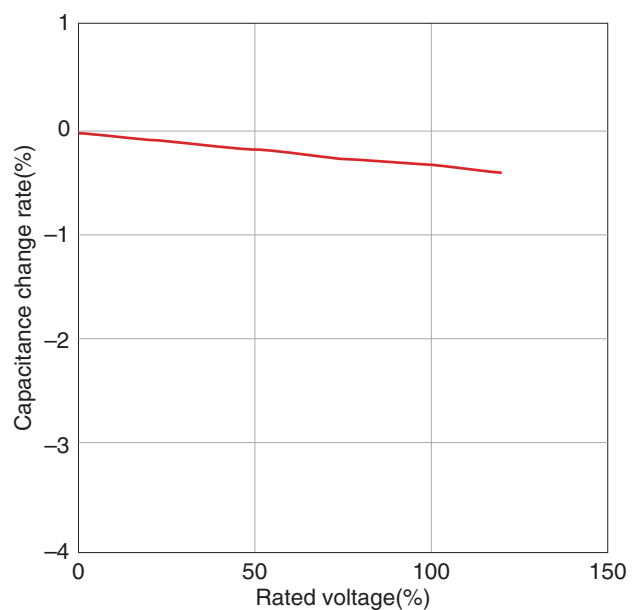
\* pC : Pico coulomb

● In addition to the above, products of secondary-molded type are also available.

### TEMPERATURE CHARACTERISTIC



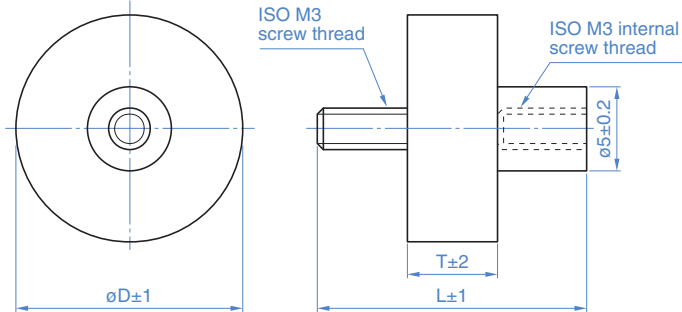
### AC VOLTAGE CHARACTERISTIC



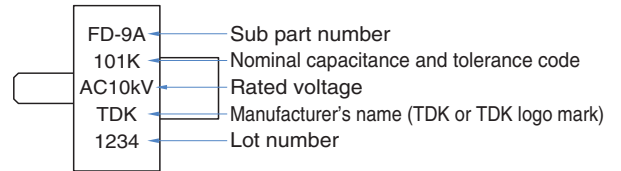
# FD series

## SHAPE & DIMENSIONS

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

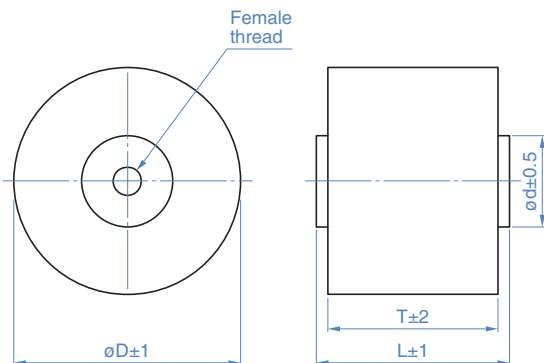


### MARKINGS

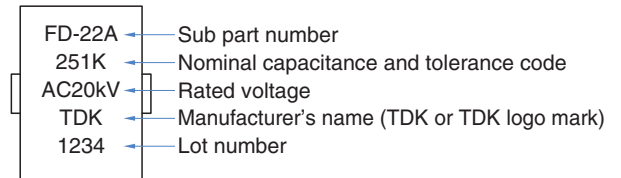


Part numbers	Sub part numbers	øD (mm)	T (mm)	L (mm)	Effective male thread size (mm)	Effective female thread depth (mm)
<a href="#">60710YP101K4AAA</a>	FD-9A	16	15	27	4 min.	6+1/0
<a href="#">60715YP251K4AAA</a>	FD-10A	21	15	27	4 min.	6+1/0
<a href="#">60722YP501K4AAA</a>	FD-11A	28	15	27	4 min.	6+1/0
<a href="#">60731YP102K4AAA</a>	FD-12A	38	15	27	4 min.	6+1/0
<a href="#">60718YP251K4CAA</a>	FD-16A	26	18.5	30.5	4 min.	6+1/0

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



### MARKINGS



Part numbers	Sub part numbers	øD (mm)	T (mm)	L (mm)	ød (mm)	Internal screw	Effective female thread depth (mm)
<a href="#">60726YP501K4CAA</a>	FD-18A	34	23.5	27.5	10	ISO M4	5+1/0
<a href="#">60737YP102K4CAA</a>	FD-20A	48	23.5	27.5	15	ISO M5	5+1/0
<a href="#">60723YP251K4DAA</a>	FD-22A	30	29.2	33.2	10	ISO M4	5+1/0
<a href="#">60732YP501K4DAA</a>	FD-24A	40	29	33	15	ISO M5	5+1/0
<a href="#">60726YP251K4EAA</a>	FD-33A	34	35	39	10	ISO M4	5+1/0
<a href="#">60736YP501K4EAA</a>	FD-36A	48	34.5	38.5	15	ISO M5	5+1/0

⚠ Please be sure to request delivery specifications that provide further details on the features and specifications of the products for proper and safe use. (3/5)  
Please note that the contents may change without any prior notice due to reasons such as upgrading.

# MD series

## ELECTRICAL CHARACTERISTICS

### CHARACTERISTICS SPECIFICATION TABLE

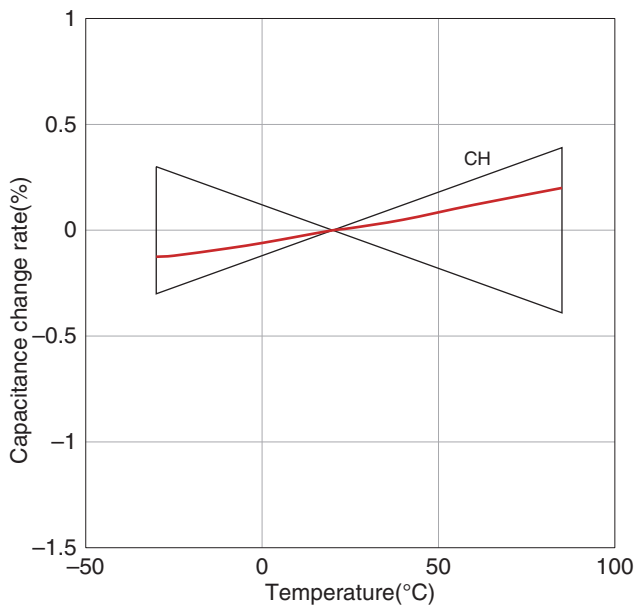
Class 1 (Temperature compensating)

Temperature characteristic: CH(-25 to +85°C, 0±60ppm/°C)

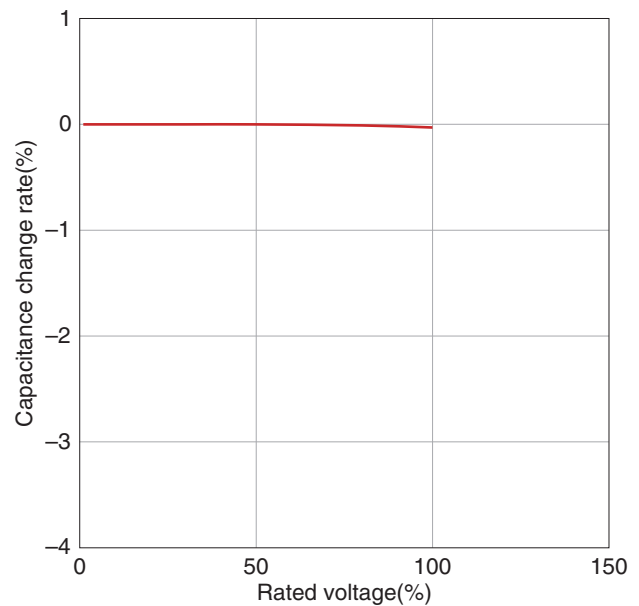
Part number	Sub part number	Rated voltage	Capacitance	Withstanding voltage	Dissipation factor(tanδ)	Insulation resistance	AC corona starting voltage
		(kVAC)	(pF)	[1min, in insulating liquid] (kVAC)	(%) max.	(MΩ) min.	[3pC* ] (kVAC) min.
60729CH500J3KAA	MD-1A	7.2	50±5%	30	0.2	10,000	15

\* pC : Pico coulomb

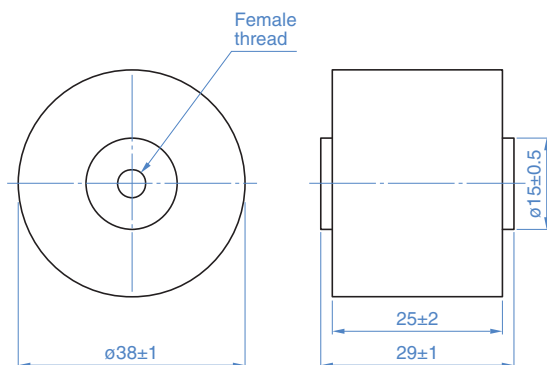
### TEMPERATURE CHARACTERISTIC



### AC VOLTAGE CHARACTERISTIC



## SHAPE & DIMENSIONS



Effective female thread depth: 5+1/0mm

## MARKINGS

MD-1A	←	Sub part number
5 0 0 J	←	Nominal capacitance and tolerance code
AC7.2kV	←	Rated voltage
T D K	←	Manufacturer's name (TDK or TDK logo mark)
1 2 3 4	←	Lot number

## REMINDERS FOR USING THESE PRODUCTS

Before using these products, be sure to request the delivery specifications.

### SAFETY REMINDERS

Please pay sufficient attention to the warnings for safe designing when using this products.

#### REMINDERS

##### (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.
- Please contact us when using in SF<sub>6</sub> gas.

##### (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 (excepting Pharmaceutical Affairs Law classification Class1,2)

(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.