

Ultra high voltage ceramic capacitors
For power circuit breakers

TSF series



FEATURES

- Lineup of rated voltage Eac: 20kV
- Strong impulse voltage
- High capacitance and excellent temperature characteristics
- Low loss and low distortion factor
- Uses high-reliability mold resin

APPLICATION

Circuit breakers for gas insulation switchgears (available for SF6 gas)

PART NUMBER CONSTRUCTION

607		34		ZT		112		J		4D		A		S	
Product category		Internal code		Temperature characteristic		Nominal capacitance		Capacitance tolerance		Rated voltage		Voltage classification		Insulation structure	
Ultra high voltage ceramic capacitors				ZT	Z5T(+10 to +85°C, +22,-33%)		401	400pF	J	±5%	4D	20kV	A	AC voltage specification	
						112	1080pF	K	±10%				S	Mold type	

* Please refer to P-2 about the product dimensions.

OPERATING TEMPERATURE RANGE

series	Operating temperature(°C)	Storage temperature(°C)
TSF	-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



TSF series

ELECTRICAL CHARACTERISTICS

CHARACTERISTICS SPECIFICATION TABLE

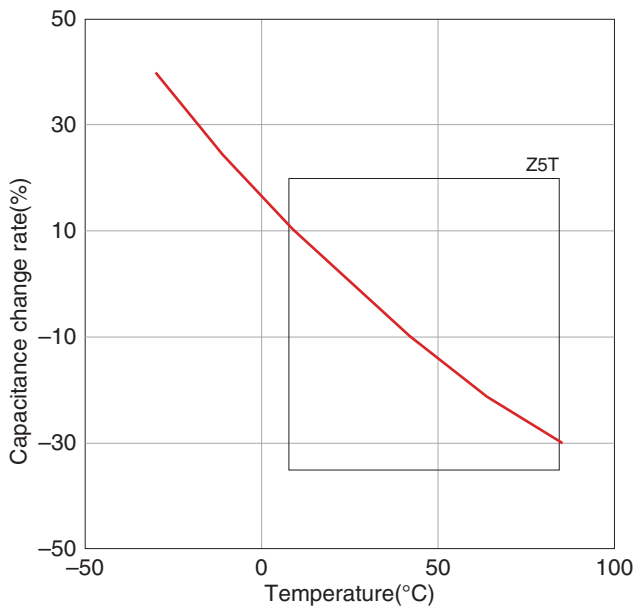
Class 2 (Temperature stable)

Temperature characteristic: Z5T (+10 to +85°C, +22,-33%)

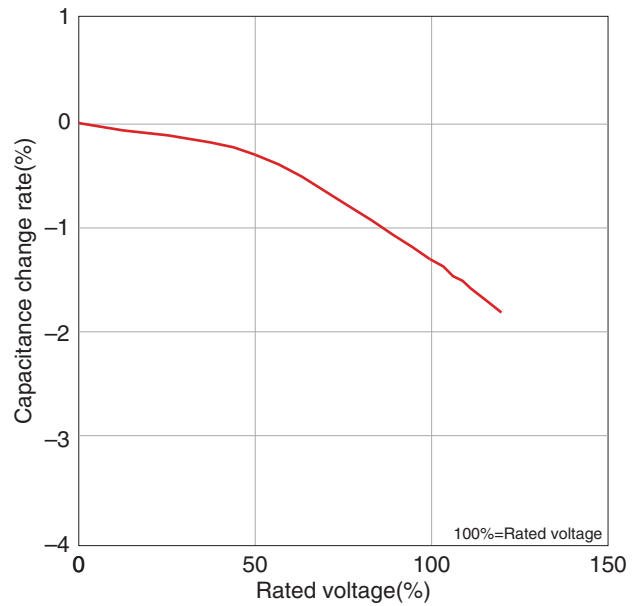
Part numbers	Sub part numbers	Rated voltage	Capacitance	Withstanding voltage	Dissipation factor(tanδ)	Insulation resistance	AC corona starting voltage [3pC*]	Lightning impulse withstanding voltage
		(kVAC)	(pF)	[1 min.in insulating liquid] (kVAC)				
60734ZT112J4DAS	TSF-40C	20	1080±5%	42	0.1	10,000	25	±110
60722ZT401K4DAS	TSF-30	20	400±10%	30	0.3	10,000	25	±110

* pC : Pico coulomb

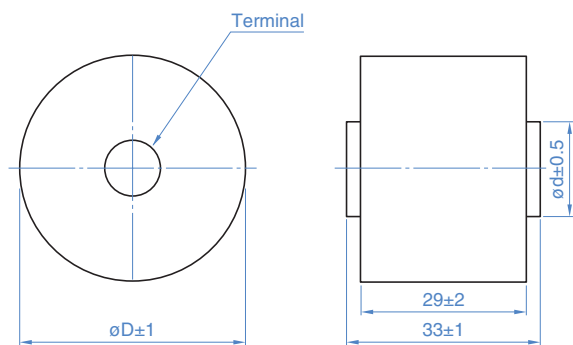
TEMPERATURE CHARACTERISTIC



AC VOLTAGE CHARACTERISTIC



SHAPE & DIMENSIONS



Molded with epoxide resin; alumina filler.

MARKINGS

TSF-40C	Sub part number
112J	Nominal capacitance and tolerance code
AC20kV	Rated voltage
TDK	Manufacturer's name (TDK or TDK logo mark)
1234	Lot number

Part numbers	Sub part numbers	øD (mm)	ød (mm)
60734ZT112J4DAS	TSF-40C	40	15
60722ZT401K4DAS	TSF-30	30	10

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 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

- Make sure that the products are not exposed to radiant heat from chambers or transformers.
- Please contact us when using in SF₆ 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 | (8) Public information-processing equipment |
| (2) Transportation equipment (cars, electric trains, ships, etc.) | (9) Military equipment |
| (3) Medical equipment (excepting Pharmaceutical Affairs Law classification Class1,2) | (10) Electric heating apparatus, burning equipment |
| (4) Power-generation control equipment | (11) Disaster prevention/crime prevention equipment |
| (5) Atomic energy-related equipment | (12) Safety equipment |
| (6) Seabed equipment | (13) Other applications that are not considered general-purpose applications |
| (7) Transportation control equipment | |

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.