



Ultra High Voltage Ceramic Capacitors

With metal terminals

Non-insulated Type

TSF/H/GA series

TSF-40C

TSF-30

H-11

GA-14


PRECAUTIONS
(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.

(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 (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

Non-insulated Type

Overview of the TSF/H/GA Series

FEATURES

- TSF Series with molded metal terminals (rated voltage Eac: 20 kV), H Series with non-insulated metal terminals (rated voltage Eac: 8 kV), and GA series with non-insulated metal terminals (rated voltage Eac: 10 kV) available.
- Strong impulse voltage.
- Low-loss and low distortion factor.
- Excellent voltage-capacitance characteristics.
- High capacitance and excellent temperature characteristics.

APPLICATION

Circuit breakers for gas insulation switchgears (supporting SF6 gas)

OPERATING TEMPERATURE RANGE, PRODUCT WEIGHT

Part No.	Temperature range		Individual weight (g)
	Operating temperature	Storage temperature	
	(°C)	(°C)	
TSF-40C	-30 to +85	-30 to +85	149
TSF-30	-30 to +85	-30 to +85	80
H-11	-20 to +70	-20 to +70	79
GA-14	-20 to +70	-20 to +70	124

○ RoHS Directive Compliant Product: See the following for more details related to RoHS Directive compliant products. <http://www.tdk.co.jp/rohs/>

• All specifications are subject to change without notice.

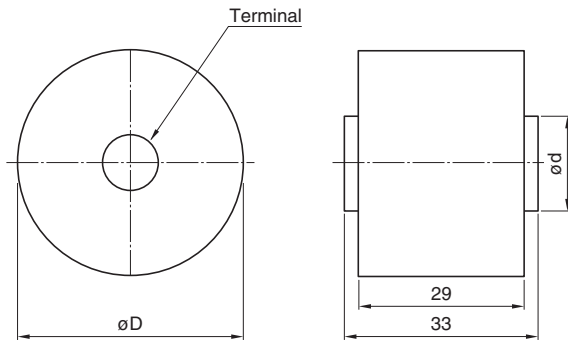
TSF series

TSF-40C, TSF-30



SHAPE & DIMENSIONS

Molded type



Part No.	ϕD	ϕd
TSF-40C	40	15
TSF-30	30	10

Molded with epoxide resin; alumina filler.

MARKING

Item	Marking example
1. Part No.	1 → TSF-40C
2. Nominal capacitance and tolerance code	2 → 112J
3. Rated voltage	3 → AC20kV
4. Manufacturer's name (TDK or TDK logo mark)	4 → TDK
5. Lot No.	5 → 1234

TSF series **TSF-40C, TSF-30**

■ ELECTRICAL CHARACTERISTICS

□ CHARACTERISTICS SPECIFICATION TABLE

Class 2 (Temperature Stable)

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

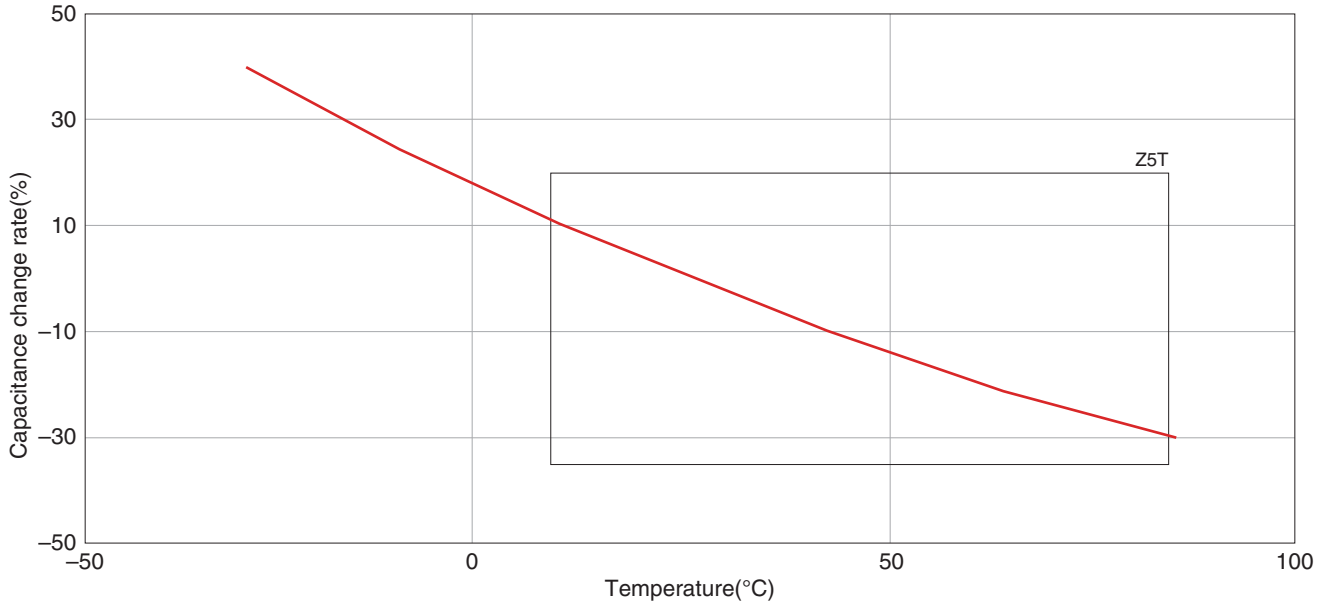
Part No.	Rated voltage	Capacitance	Withstanding voltage	Dissipation factor (tan δ)	Insulation resistance	AC Corona starting voltage
	(kV)	(pF) \pm 10%	(kV)	(%) max.	(M Ω) min.	(kV) min. [3PC*]
TSF-40C	20	1080	42	0.2	100000	25
TSF-30	20	400	42	0.2	100000	25

* PC : Pico coulomb.

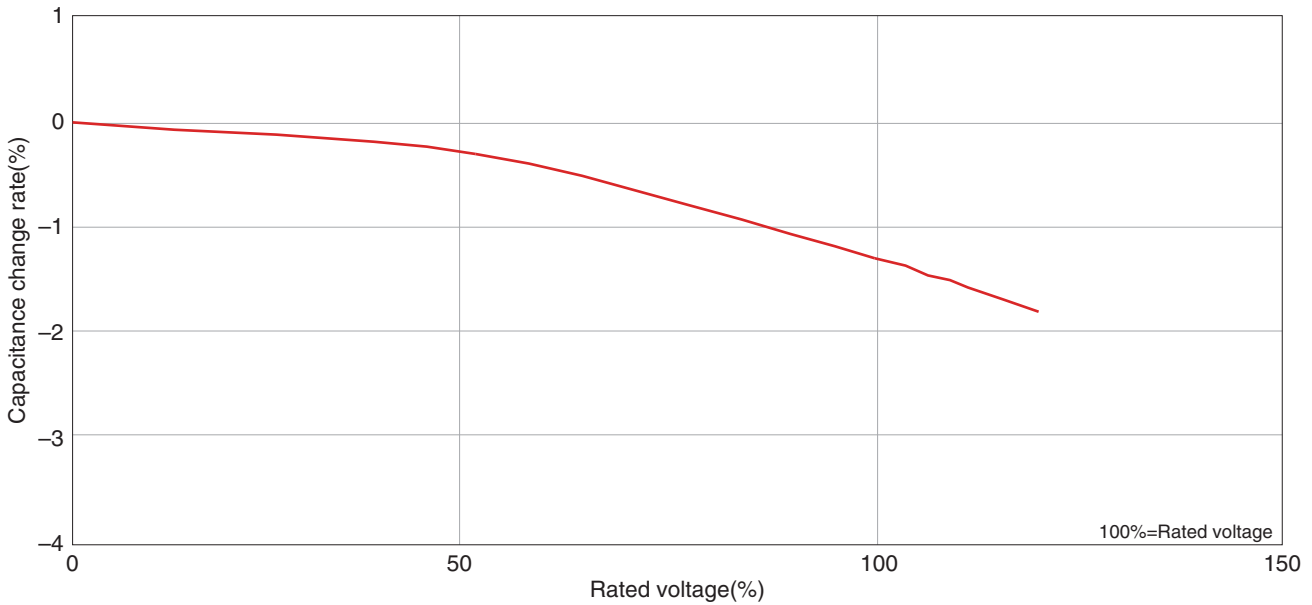
TSF series **TSF-40C, TSF-30**

■ ELECTRICAL CHARACTERISTICS

□ CAPACITANCE VS. TEMPERATURE CHARACTERISTICS



□ CAPACITANCE VS. AC VOLTAGE CHARACTERISTICS



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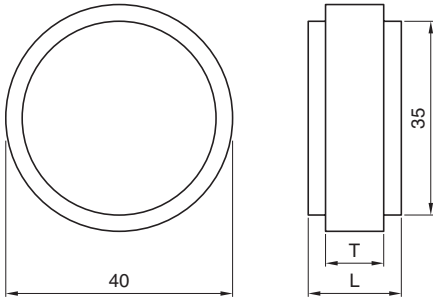
H/GA series

H-11, GA-14



■ SHAPE & DIMENSIONS

Non-insulated type



Part No.	T	L
H-11	8	11
GA-14	10	16

H/GA series H-11, GA-14

■ ELECTRICAL CHARACTERISTICS

□ CHARACTERISTICS SPECIFICATION TABLE

Class 2 (Temperature Stable)

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

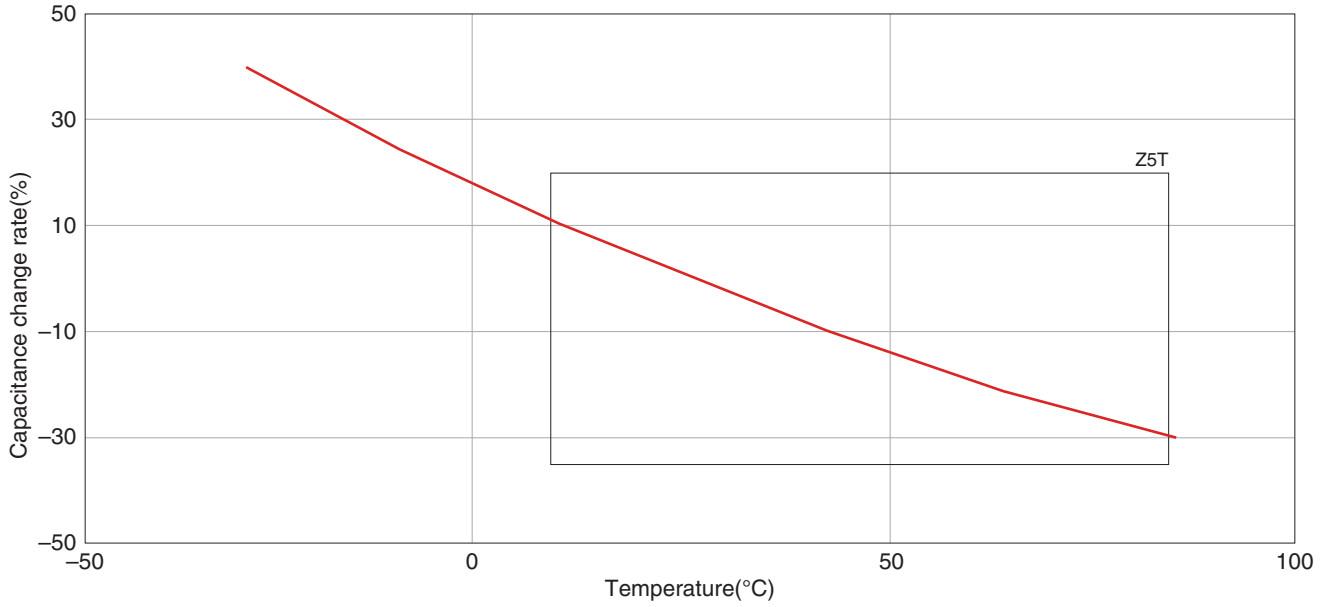
Part No.	Rated voltage	Capacitance	Withstanding voltage	Dissipation factor (tanδ)	Insulation resistance	AC Corona starting voltage
	(kV)	(pF)±10%	(kV)	(%) max.	(MΩ) min.	(kV) min. [3PC*]
H-11	8	2900	16	0.2	100000	8
GA-14	10	1700	20	0.2	100000	10

* PC : Pico coulomb.

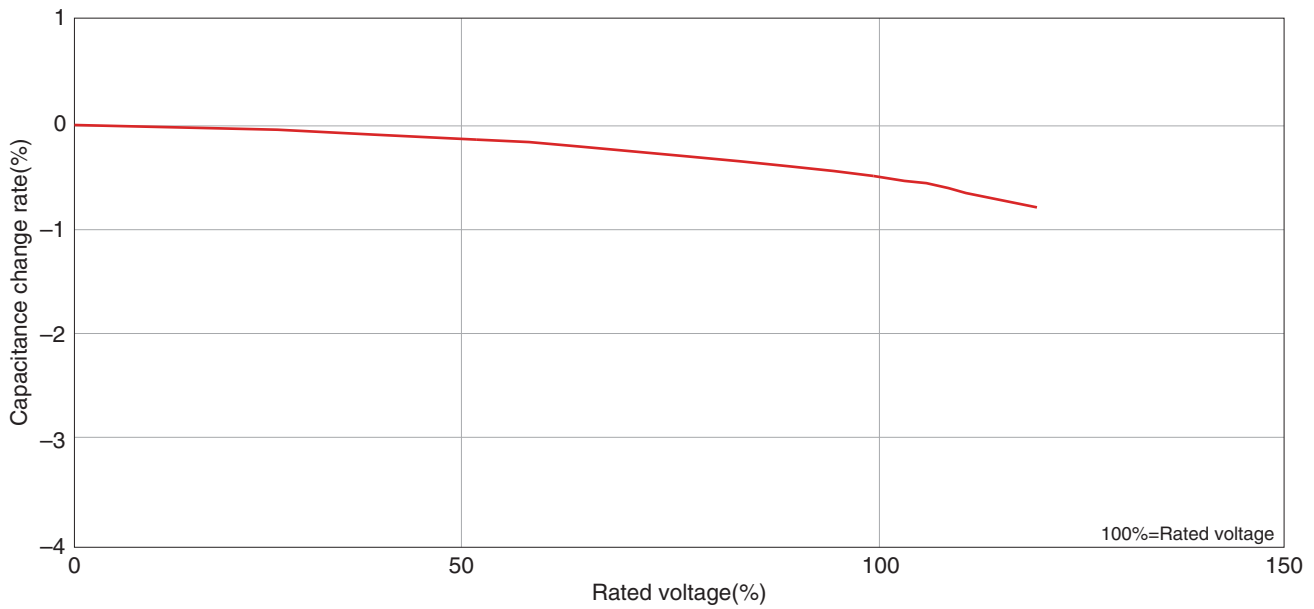
H series H-11

ELECTRICAL CHARACTERISTICS

CAPACITANCE VS. TEMPERATURE CHARACTERISTICS



CAPACITANCE VS. AC VOLTAGE CHARACTERISTICS

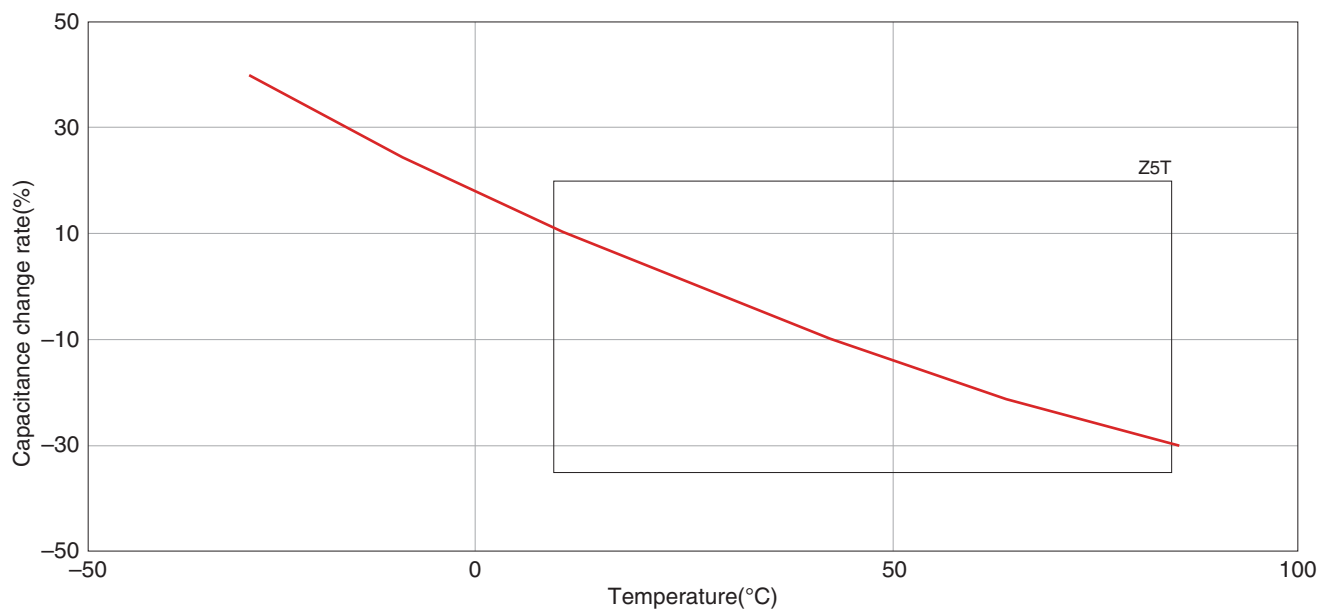


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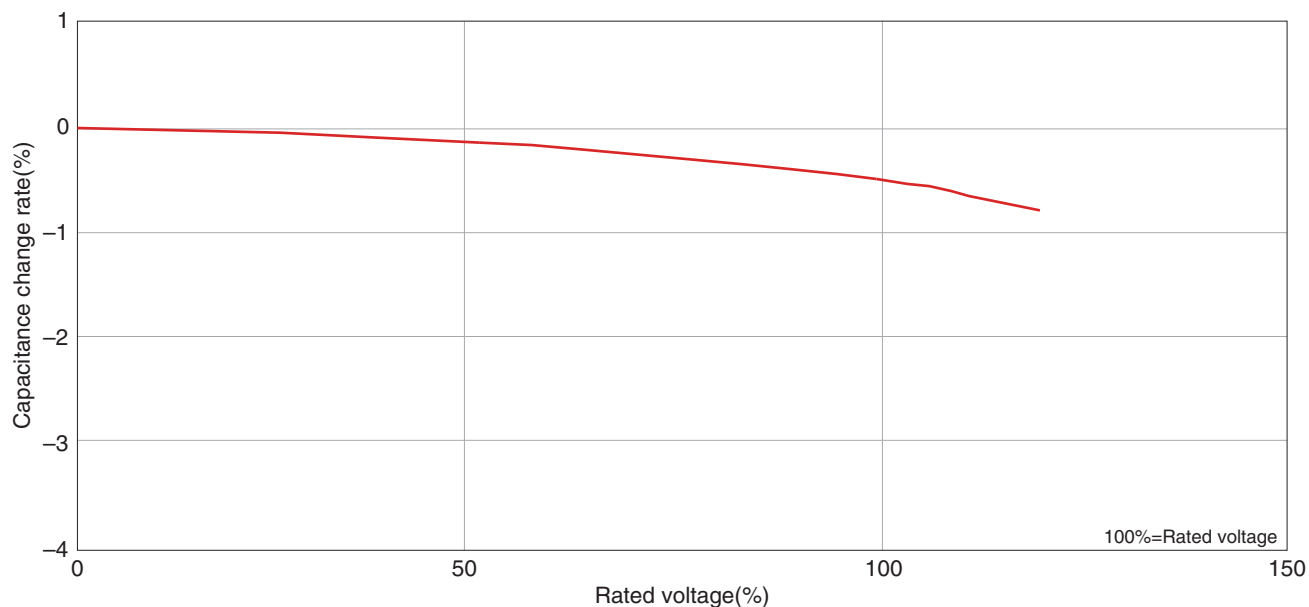
GA series GA-14

ELECTRICAL CHARACTERISTICS

CAPACITANCE VS. TEMPERATURE CHARACTERISTICS



CAPACITANCE VS. AC VOLTAGE CHARACTERISTICS



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