High Voltage Ceramic DC Disc Capacitors
10 kV_{DC} and 15 kV_{DC}

FEATURES

- **20 kV rated voltage available on request**
- Low losses
- High capacitance in small sizes
- High stability
- Radial leads
- Ceramic singlelayer capacitor
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT

APPLICATIONS

- TV and monitors
- SMPS
- DC and pulse high voltage
- X-ray equipment

QUICK REFERENCE DATA				
DESCRIPTION	VALUE			
Ceramic Class	1		2	
Ceramic Dielectric	T3M (N4700)		X5F, Y5R, Y5U, Z5U	
Voltage (V_{DC})	10 000	15 000	10 000	15 000
Min. Capacitance (pF)	250	100	100	100
Max. Capacitance (pF)	1000	750	3300	2500
Mounting	Radial			

INSULATION RESISTANCE

Min. 1000 ΩF or 200 000 MΩ

TOLERANCE ON CAPACITANCE

± 20 % or + 80 % / - 20 %

DISSIPATION FACTOR

0.2 % max. at 1 kHz; 1 V (Class 1)
2.0 % max. at 1 kHz; 1 V (Class 2)

CATEGORY TEMPERATURE RANGE

-25 °C to +85 °C

CLIMATIC CATEGORY ACC. TO EN 60068-1

25/85/21

OPERATING TEMPERATURE RANGE

-25 °C to +105 °C

DESIGN

The capacitors consist of a ceramic disc of which both sides are silver-plated. Connection leads are made of tinned copper having diameters of 0.032" (0.81 mm).

The capacitors may be supplied with straight leads having lead spacing of 0.375" (9.5 mm), 0.500" (12.7 mm) or 0.750" (19.2 mm).

Coating is made of flame retardant epoxy resin in accordance with “UL 94 V-0”.

CAPACITANCE RANGE

100 pF to 3300 pF

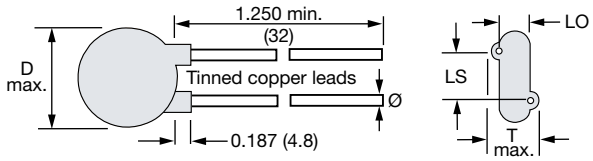
DIELECTRIC STRENGTH BETWEEN LEADS

10 kV_{DC}	15 000 V_{DC}, 2 s
15 kV_{DC}	24 000 V_{DC}, 2 s (in dielectric fluid)

CERAMIC DIELECTRIC

T3M (Class 1)
X5F, Y5R, Y5U, Z5U (Class 2)

DIMENSIONS in inches (millimeters)

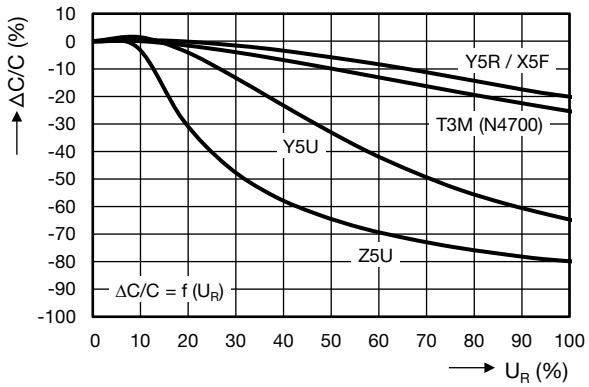


ORDERING INFORMATION, CERAMIC 10 kV_{DC}

C (pF)	TOL. (%)	$D_{max.}$ DIAMETER INCH (mm)	$T_{max.}$ THICKNESS INCH (mm)	LS LEAD SPACE INCH (mm) ± 0.040" (± 1 mm)	LO LEAD OFFSET INCH (mm) ± 0.020" (± 0.5 mm)	WIRE SIZE		ORDERING CODE
						AWG	INCH (mm)	
T3M (N4700)								
250	± 20	0.490 (12.4)	0.290 (7.4)	0.375 (9.5)	0.193 (4.9)	20	0.032 (0.81)	615R100GATT25
500		0.680 (17.3)	0.272 (6.9)	0.500 (12.7)	0.173 (4.4)			615R100GATT50
680		0.750 (19.1)	0.300 (7.6)		0.181 (4.6)			615R100GATT68
820		0.810 (20.6)			0.181 (4.6)			615R100GATT82
1000		0.980 (24.9)	0.320 (8.1)		0.189 (4.8)			615R100GATD10
X5F								
100	± 20	0.680 (17.3)	0.382 (9.7)	0.500 (12.7)	0.283 (7.2)	20	0.032 (0.81)	615R100GAT10
250			0.300 (7.6)		0.201 (5.1)			615R100GAT25
500			0.345 (8.8)		0.248 (6.3)			615R100GAT50
Y5R								
100	± 20	0.490 (12.4)	0.320 (8.1)	0.375 (9.5)	0.220 (5.6)	20	0.032 (0.81)	615R100GAST10
250			0.331 (8.4)		0.232 (5.9)			615R100GAST25
500			0.310 (7.9)		0.213 (5.4)			615R100GAST50
1000		0.750 (19.1)	0.320 (8.1)	0.500 (12.7)	0.220 (5.6)			615R100GAD10
2500		0.980 (24.9)	0.330 (8.4)		0.232 (5.9)			615R100GATD25
Y5U								
1000	+ 80 / - 20	0.680 (17.3)	0.330 (8.4)	0.500 (12.7)	0.232 (5.9)	20	0.032 (0.81)	615R100GASD10
Z5U								
2500	+ 80 / - 20	0.750 (19.1)	0.350 (8.9)	0.500 (12.7)	0.256 (6.5)	20	0.032 (0.81)	615R100GAD25
3300		0.980 (24.9)	0.390 (9.9)		0.303 (7.7)			615R100GAD33

ORDERING INFORMATION, CERAMIC 15 kV_{DC}								
C (pF)	TOL. (%)	$D_{max.}$ DIAMETER INCH (mm)	$T_{max.}$ THICKNESS INCH (mm)	LS LEAD SPACE INCH (mm) ± 0.040" (± 1 mm)	LO LEAD OFFSET INCH (mm) ± 0.020" (± 0.5 mm)	WIRE SIZE AWG	WIRE SIZE INCH (mm)	ORDERING CODE
T3M (N4700)								
100	± 20	0.490 (12.4)	0.470 (11.9)	0.500 (12.7)	0.370 (9.4)	20	0.032 (0.81)	615R150GATT10
250		0.670 (17.0)	0.460 (11.7)	0.750 (19.1)	0.362 (9.2)			615R150GATT25
390		0.750 (19.1)	0.425 (10.8)		0.283 (7.2)			615R150GATT39
500		0.810 (20.6)	0.382 (9.7)		0.283 (7.2)			615R150GATT50
750		1.063 (27.0)	0.430 (10.9)		0.331 (8.4)			615R150GATT75
X5F								
100	± 20	0.670 (17.0)	0.430 (10.9)	0.750 (19.1)	0.331 (8.4)	20	0.032 (0.81)	615R150GAT10
250			0.455 (11.6)		0.358 (9.1)			615R150GAT25
Y5R								
100	± 20	0.490 (12.4)	0.449 (11.4)	0.500 (12.7)	0.350 (8.9)	20	0.032 (0.81)	615R150GAST10
250			0.480 (12.2)		0.382 (9.7)			615R150GAST25
500		0.670 (17.0)	0.450 (11.4)	0.750 (19.1)	0.331 (8.4)			615R150GAT50
1000		0.980 (24.9)	0.460 (11.7)		0.362 (9.2)			615R150GATD10
Y5U								
500	+ 80 / - 20	0.490 (12.4)	0.375 (9.5)	0.500 (12.7)	0.276 (7.0)	20	0.032 (0.81)	615R150GAST50
1000		0.670 (17.0)	0.420 (10.7)	0.750 (19.1)	0.323 (8.2)			615R150GAD10
Z5U								
2200	+ 80 / - 20	0.980 (24.9)	0.510 (13.0)	0.750 (19.1)	0.413 (10.5)	20	0.032 (0.81)	615R150GAD22
2500			0.450 (11.4)		0.350 (8.9)			615R150GAD25

CAPACITANCE CHANGE VS. VOLTAGE (typical)



RELATED DOCUMENTS	
General Information	www.vishay.com/doc?23140

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