

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



DESIGN SUPPORT TOOLS


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FEATURES

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

APPLICATIONS

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

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)

INSULATION RESISTANCE

Min. 1000 MΩ 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

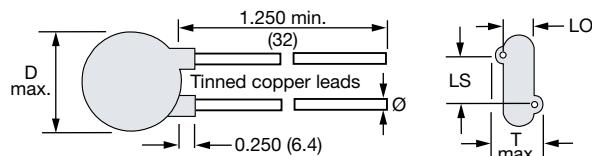
-25 °C to +85 °C

CLIMATIC CATEGORY ACC. TO EN 60068-1

25/85/21

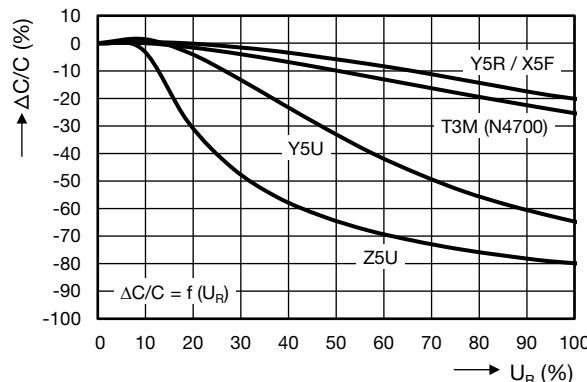
OPERATING TEMPERATURE RANGE

-25 °C to +105 °C

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)	0.220 (5.6)			615R100GAD10	
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	
2500	± 20	0.980 (24.9)						615R100GATD25	
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		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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