

## High Voltage Ceramic DC Disc Capacitors 10 kV<sub>DC</sub> and 15 kV<sub>DC</sub>


**RoHS**  
COMPLIANT

### 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](http://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<sub>DC</sub>      15 000 V<sub>DC</sub>, 2 s  
 15 kV<sub>DC</sub>      24 000 V<sub>DC</sub>, 2 s  
 (in dielectric fluid)

### CERAMIC DIELECTRIC

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

### DESIGN SUPPORT TOOLS

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QUICK REFERENCE DATA				
DESCRIPTION	VALUE			
Ceramic Class	1		2	
Ceramic Dielectric	T3M (N4700)		X5F, Y5R, Y5U, Z5U	
Voltage (V <sub>DC</sub> )	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

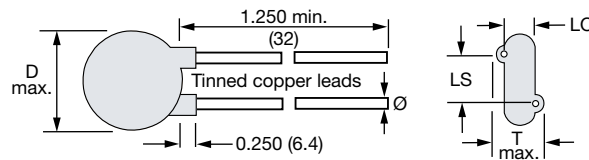
-25 °C to +85 °C

### CLIMATIC CATEGORY ACC. TO EN 60068-1

25/85/21

### OPERATING TEMPERATURE RANGE

-25 °C to +105 °C

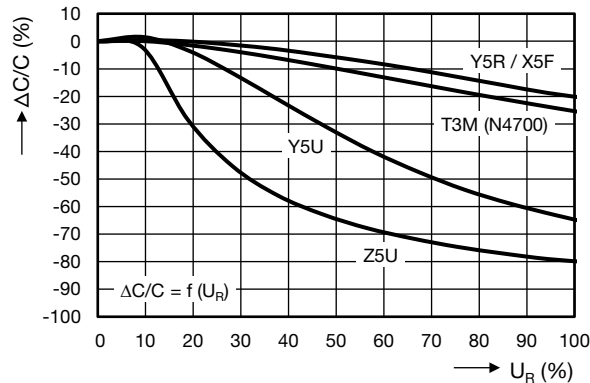
**DIMENSIONS** in inches (millimeters)

**ORDERING INFORMATION, CERAMIC 10 kV<sub>DC</sub>**

C (pF)	TOL. (%)	D <sub>max.</sub> DIAMETER INCH (mm)	T <sub>max.</sub> 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)	
<b>T3M (N4700)</b>								
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)	0.300 (7.6)		0.181 (4.6)			615R100GATT82
1000		0.980 (24.9)	0.320 (8.1)	0.189 (4.8)	615R100GATD10			
<b>X5F</b>								
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
<b>Y5R</b>								
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
<b>Y5U</b>								
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
<b>Z5U</b>								
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 <sub>DC</sub>								
C (pF)	TOL. (%)	D <sub>max.</sub> DIAMETER INCH (mm)	T <sub>max.</sub> 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)	
<b>T3M (N4700)</b>								
100	± 20	0.490 (12.4)	0.470 (11.9)	0.750 (19.1)	0.370 (9.4)	20	0.032 (0.81)	615R150GATT10
250		0.670 (17.0)	0.460 (11.7)		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
<b>X5F</b>								
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
<b>Y5R</b>								
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
<b>Y5U</b>								
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
<b>Z5U</b>								
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	<a href="http://www.vishay.com/doc?23140">www.vishay.com/doc?23140</a>



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