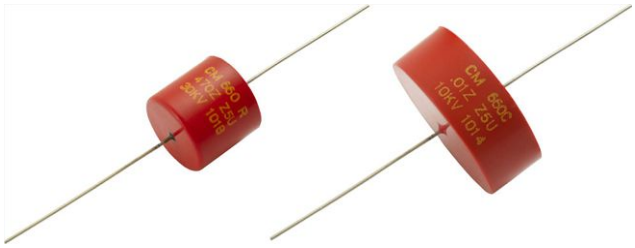
High Voltage Ceramic DC Disc Capacitors with Axial Leads, 10 kV_{DC} to 30 kV_{DC}



FEATURES

RoHS* Available

- Class 1 and class 2 ceramic
- High insulation resistance
- Epoxy encapsulated
- Wide capacitance range
- Ceramic singlelayer capacitor
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Note

* This datasheet provides information about parts that are RoHS-compliant and / or parts that are non-RoHS-compliant. For example, parts with lead (Pb) terminations are not RoHS-compliant. Please see the information / tables in this datasheet for details.

QUICK REFERENCE DATA												
DESCRIPTION	VALUE											
Ceramic Class	1				2				2			
Ceramic Dielectric	N4700 (T3M)				X7R				Z5U			
Voltage (V_{DC})	10 000	15 000	20 000	30 000	10 000	15 000	20 000	30 000	10 000	15 000	20 000	30 000
Min. Capacitance (pF)	470	390	220	180	180	100	100	100	1500	1000	680	470
Max. Capacitance (pF)	2000	1500	1000	680	4700	3900	2700	2000	10 000	6800	5000	3300
Mounting	Axial											

MARKING

Capacitance value and tolerance, rated DC voltage, T/C code, production date code, CM mark.

MATERIAL

Capacitor elements made from class 1 or class 2 ceramic in a molded case, high temperature epoxy construction.

Leads: tinned copper clad steel.

DIELECTRIC STRENGTH

150 % of rated voltage (in dielectric fluid), charging current limited to 50 mA.

DISSIPATION FACTOR tan δ

N4700 (T3M): $\leq 2 \times 10^{-3}$ (1 kHz)

X7R, Z5U: $\leq 20 \times 10^{-3}$ (1 kHz)

INSULATION RESISTANCE

Min. 200 000 MΩ, at 180 V_{DC} or 1000 ΩF

OPERATING TEMPERATURE RANGE

-30 °C to +85 °C

RATED VOLTAGE (1)

Standard version

- 660C10A### 10 kV_{DC} (3.5 kV_{RMS})
- 660C15A### 15 kV_{DC} (5.6 kV_{RMS})
- 660C20A### 20 kV_{DC} (7.0 kV_{RMS})
- 660C30A### 30 kV_{DC} (10.6 kV_{RMS})

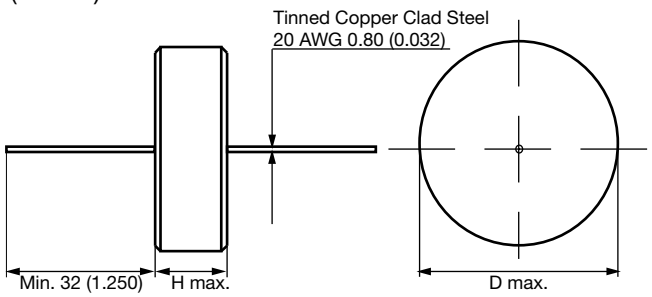
RoHS compliant version

- 660R10A### 10 kV_{DC} (3.5 kV_{RMS})
- 660R15A### 15 kV_{DC} (5.6 kV_{RMS})
- 660R20A### 20 kV_{DC} (7.0 kV_{RMS})
- 660R30A### 30 kV_{DC} (10.6 kV_{RMS})

Note

(1) All kV_{RMS} values up to 60 Hz

DIMENSIONS in millimeters (inches)



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ORDERING INFORMATION

660C20AZT68	20 kV_{DC}	680 pF	± 20 %	N4700
MODEL	RATED VOLTAGE	CAPACITANCE VALUE	TOLERANCE	CERAMIC

SAP NUMBER AND ELECTRICAL DATA

MODEL NUMBER 4TH DIGIT: C = STANDARD R = RoHS COMPLIANT	CERAMIC	CAP. VALUE (pF)	TOLERANCE (%)	RATED VOLTAGE (kV_{DC})	RATED VOLTAGE (kV_{RMS})	D MAX. (mm)	D MAX. (INCHES)	H MAX. (mm)	H MAX. (INCHES)
660#10AZ###									
660#10AZT47	N4700 (T3M)	470	± 20 %	10	3.5	21	0.83	13	0.50
660#10AZD10		1000				30	1.18		
660#10AZD20		2000				37	1.45		
660#10AC###									
660#10ACT18	X7R	180	± 20 %	10	3.5	21	0.83	13	0.50
660#10ACT22		220							
660#10ACT33		330							
660#10ACT47		470							
660#10ACT68		680							
660#10ACD10		1000							
660#10ACD15		1500				30	1.18	15	0.60
660#10ACD22		2200						14	0.55
660#10ACD33		3300						13	0.50
660#10ACD47		4700				37	1.45		
660#10AE###									
660#10AED15	Z5U	1500	+ 80 % / - 20 %	10	3.5	21	0.83	13	0.50
660#10AED22		2200							
660#10AED33		3300				30	1.18		
660#10AED47		4700							
660#10AED68		6800				37	1.45		
660#10AES10		10 000						11	0.45
660#15AZ###									
660#15AZT39	N4700 (T3M)	390	± 20 %	15	5.3	21	0.83	13	0.50
660#15AZT82		820				30	1.18		
660#15AZD15		1500				37	1.45	11	0.45
660#15AC###									
660#15ACT10	X7R	100	± 20 %	15	5.3	21	0.83	13	0.50
660#15ACT22		220							
660#15ACT33		330						15	0.60
660#15ACT47		470							
660#15ACT68		680						13	0.50
660#15ACD10		1000				30	1.18	15	0.60
660#15ACD15		1500						17	0.65
660#15ACD22		2200						15	0.60
660#15ACD33		3300				37	1.45		
660#15ACD39		3900							

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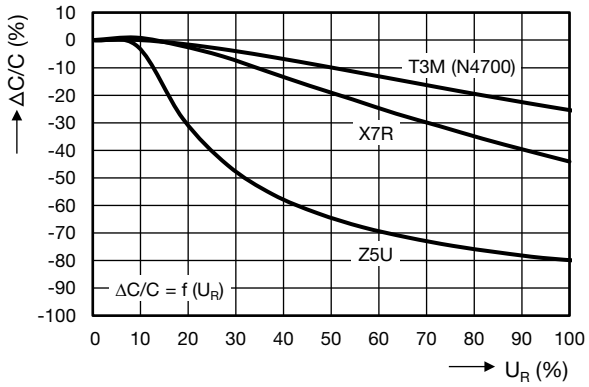
SAP NUMBER AND ELECTRICAL DATA

MODEL NUMBER 4TH DIGIT: C = STANDARD R = RoHS COMPLIANT	CERAMIC	CAP. VALUE (pF)	TOLERANCE (%)	RATED VOLTAGE (kV_{DC})	RATED VOLTAGE (kV_{RMS})	D MAX. (mm)	D MAX. (INCHES)	H MAX. (mm)	H MAX. (INCHES)
660#15AE###									
660#15AED10	Z5U	1000	+ 80 % / - 20 %	15	5.3	21	0.83	13	0.50
660#15AED15		1500							
660#15AED22		2200				30	1.18		
660#15AED33		3300							
660#15AED47		4700							
660#15AED68		6800				37	1.45	13.5	0.53
660#20AZ###									
660#20AZT22	N4700 (T3M)	220	± 20 %	20	7	21	0.83	15	0.60
660#20AZT68		680				30	1.18		
660#20AZD10		1000				37	1.45		
660#20AC###									
660#20ACT10	X7R	100	± 20 %	20	7	21	0.83	15	0.60
660#20ACT22		220							
660#20ACT33		330							
660#20ACT47		470						17	0.65
660#20ACT68		680				30	1.18	15	0.60
660#20ACD10		1000							
660#20ACD15		1500						20	0.80
660#20ACD22		2200				37	1.45	18	0.70
660#20ACD25		2500						19	0.75
660#20ACD27		2700						20	0.80
660#20AE###									
660#20AET68	Z5U	680	+ 80 % / - 20 %	20	7	21	0.83	15	0.60
660#20AED10		1000						17	0.66
660#20AED15		1500						15	0.60
660#20AED22		2200				30	1.18		
660#20AED33		3300							
660#20AED47		4700				37	1.45	19	0.75
660#20AED50		5000						14	0.55
660#30AZ###									
660#30AZT18	N4700 (T3M)	180	± 20 %	30	10.6	21	0.83	20	0.80
660#30AZT47		470				30	1.18		
660#30AZT68		680				37	1.45		
660#30AC###									
660#30ACT10	X7R	100	± 20 %	30	10.6	21	0.83	20	0.80
660#30ACT22		220							
660#30ACT33		330							
660#30ACT47		470						19	0.75
660#30ACT68		680				30	1.18	20	0.80
660#30ACD10		1000							
660#30ACD15		1500				37	1.45		
660#30ACD20		2000							

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SAP NUMBER AND ELECTRICAL DATA									
MODEL NUMBER 4TH DIGIT: C = STANDARD R = RoHS COMPLIANT	CERAMIC	CAP. VALUE (pF)	TOLERANCE (%)	RATED VOLTAGE (kV_{DC})	RATED VOLTAGE (kV_{RMS})	D MAX. (mm)	D MAX. (INCHES)	H MAX. (mm)	H MAX. (INCHES)
660#30AE###									
660#30AET47	Z5U	470	+ 80 % / - 20 %	30	10.6	21	0.83	20	0.80
660#30AET68		680						19	0.75
660#30AET82		820						20	0.80
660#30AED10		1000				30	1.18		
660#30AED12		1200						19	0.75
660#30AED15		1500							
660#30AED18		1800				37	1.45		
660#30AED20		2000							
660#30AED22		2200							
660#30AED25		2500							
660#30AED30		3000							
660#30AED33		3300						20	0.80

CAPACITANCE CHANGE VS. VOLTAGE (typical)



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

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