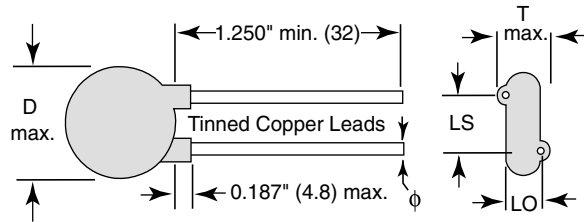


## High Voltage Ceramic Disc Capacitors 2 kVDC to 7.5 kVDC

Fig. 1



LEAD OFFSET 'LO'	
NOMINAL	~ Thickness - 0.100"
EXCEPTION	0.07 (1.8 mm) - 565R20GAP10
	0.08 (2.0 mm) - 565R30GASS20
	0.10 (2.54 mm) - 565R30GASS33

### INSULATION RESISTANCE:

2 kVDC	min. 10 000 MΩ
3 kVDC	min. 50 000 MΩ
6 kVDC	min. 75 000 MΩ
7.5 kVDC	min. 200 000 MΩ

### TOLERANCE ON CAPACITANCE:

± 10 %; ± 20 %, + 80 - 20 %

### DISSIPATION FACTOR:

0.2 % max. at 1 MHz; 1 V  
2.0 % max. at 1 kHz; 1 V

### CATEGORY TEMPERATURE RANGE:

(- 25 to + 85) °C

### CLIMATIC CATEGORY ACC. TO EN60068-1:

25/085/21

### OPERATING TEMPERATURE RANGE:

(- 25 to + 105) °C

### FEATURES

- Low losses
- High capacitance in small size
- High stability



RoHS  
COMPLIANT

### APPLICATIONS

- Lighting Ballasts
- SMPS
- DC and Pulse High voltage

### 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 0.025" (0.64 mm) or 0.032" (0.81 mm).

The capacitors may be supplied with straight leads having lead spacing of 0.250" (6.35 mm), 0.375" (9.5 mm) or 0.500" (12.7 mm).

The standard tolerances are ± 10 % or ± 20 %.

Coating is made of resin coating or flame retardant epoxy resin in accordance with "UL94V-0".

### CAPACITANCE RANGE:

10 pF to 0.10 μF

### RATED VOLTAGE:

2 kVDC  
3 kVDC  
6 kVDC  
7.5 kVDC

### DIELECTRIC STRENGTH BETWEEN LEADS:

Component test:

2 kVDC	3500 VDC, 2 s
3 kVDC	5000 VDC, 2 s
6 kVDC	10 500 VDC, 2 s
7.5 kVDC	11 250 VDC, 2 s

### CERAMIC DIELECTRIC:

C0G, U2J, R3L (Class 1)  
X7R, X5F, X5S, Y5S, Y5U, Y5V, Z5U (Class 2)

# 564R & 565R Series



Vishay Cera-Mite

High Voltage Ceramic Disc Capacitors  
2 kVDC to 7.5 kVDC

ORDERING INFORMATION, CERAMIC 2 kVDC							
C (pF)	TOL. (%)	D DIAMETER INCH (mm)	T THICKNESS INCH (mm)	LS LEAD SPACE INCH (mm)	WIRE SIZE		ORDERING CODE
					AWG	INCH (mm)	
<b>X7R</b>							
100	± 10 %	0.330 (8.4)	0.190 (4.8)	0.250 (6.4)	20	0.032 (0.81)	564R20TST10
220			0.180 (4.6)				564R20TST22
330			0.170 (4.3)				564R20TST33
470			0.185 (4.7)				564R20TST47
560			0.170 (4.3)				564R20TST56
680			0.400 (10.2)				0.175 (4.4)
1000		0.430 (10.9)	0.160 (4.1)				564R20TSD10
1500		0.460 (11.7)	0.170 (4.3)				564R20TSD15
1800		0.530 (13.5)	0.170 (4.3)				564R20TSD18
2200			0.160 (4.1)				564R20TSD22
2700			0.170 (4.3)				564R20TSD27
3300		0.680 (17.3)	0.160 (4.1)				564R20TSD33
3900			0.170 (4.3)				564R20TSD39
4700			0.375 (9.5)				564R20TSD47
<b>Y5S</b>							
1000	± 20 %	0.330 (8.4)	0.175 (4.4)	0.250 (6.4)	20	0.032 (0.81)	564R20TSSD10
1500		0.400 (10.2)	0.170 (4.3)				564R20TSSD15
1800		0.430 (10.9)					564R20TSSD18
2200		0.460 (11.7)					564R20TSSD22
2700		0.530 (13.5)	0.175 (4.4)				564R20TSSD27
3300							564R20TSSD33
3900							564R20TSSD39
4700		0.680 (17.3)	0.170 (4.3)				564R20TSSD47
5600							564R20TSSD56
6800							564R20TSSD68
<b>Y5U</b>							
1000	± 20 %	0.330 (8.4)	0.170 (4.3)	0.250 (6.4)	20	0.032 (0.81)	564R20GAD10
1500		0.330 (8.4)	0.170 (4.3)				564R20GAD15
<b>Z5U</b>							
1800	± 20 %	0.360 (9.1)	0.170 (4.3)	0.250 (6.4)	20	0.032 (0.81)	564R20GAD18
2200		0.400 (10.2)	0.175 (4.4)				564R20GAD22
2700		0.430 (10.9)					564R20GAD27
3300		0.490 (12.4)					564R20GAD33
3900		0.560 (14.2)	0.170 (4.3)				564R20GAD39
4700							564R20GAD47
6800							564R20GAD68
0.010 μF		0.680 (17.3)	0.375 (9.5)				564R20GAS10
<b>Y5V</b>							
0.010 μF	± 20 %	0.620 (15.7)	0.170 (4.3)	0.375 (9.5)	20	0.032 (0.81)	564R20GASS10
0.10 μF		0.950 (24.1)	0.240 (6.1)		22	0.025 (0.64)	565R20GAP10

## TAPE AND REEL OPTIONS

To specify tape and reel, add two letter suffix to the ordering code (Details of the packaging code see general section of the catalog)



ORDERING INFORMATION, CERAMIC 3 kVDC											
C (pF)	TOL. (%)	D DIAMETER INCH (mm)	T THICKNESS INCH (mm)	LS LEAD SPACE INCH (mm)	WIRE SIZE		ORDERING CODE				
					AWG	INCH (mm)					
<b>U2J (N750)</b>											
10	± 20 %	0.330 (8.4)	0.210 (5.3)	0.250 (6.4)	20	0.032 (0.81)	564R30GAQ10				
12			0.210 (5.3)				564R30GAQ12				
15			0.180 (4.6)				564R30GAQ15				
<b>R3L (N2200)</b>											
22	± 20 %	0.330 (8.4)	0.200 (5.1)	0.250 (6.4)	20	0.032 (0.81)	564R30GAQ22				
27			0.190 (4.8)				564R30GAQ27				
33			0.170 (4.3)				564R30GAQ33				
<b>X7R</b>											
47	± 20 %	0.330 (8.4)	0.230 (5.8)	0.250 (6.4)	20	0.032 (0.81)	564R30GAQ47				
56			0.190 (4.8)				564R30GAQ56				
68			0.200 (5.1)				564R30GAQ68				
100			0.180 (4.6)				564R30GAT10				
150			0.190 (4.8)				564R30GAT15				
220			0.175 (4.4)				564R30GAT22				
270			0.180 (4.6)				564R30GAT27				
330			0.175 (4.4)				0.330 (8.4)	0.250 (6.4)	20	0.032 (0.81)	564R30GAT33
390											564R30GAT39
470											564R30GAT47
680	564R30TST68										
1000	± 10 %	0.400 (10.2)	0.175 (4.4)	0.375 (9.5)			564R30TSD10				
1500		0.490 (12.5)	0.185 (4.7)				564R30TSD15				
1800		0.530 (13.5)	0.180 (4.6)				564R30TSD18				
2200			0.185 (4.7)				564R30TSD22				
2700		0.620 (15.7)	0.185 (4.7)				564R30TSD27				
3300			0.170 (4.3)				564R30TSD33				
3900		0.720 (18.3)	0.330 (8.4)				0.250 (6.4)	20	0.032 (0.81)	564R30TSD39	
4700										0.175 (4.4)	564R30TSD47
6800										0.185 (4.7)	564R30TSD68
<b>Y5S</b>											
1000	± 20 %	0.400 (10.2)	0.190 (4.8)	0.250 (6.4)	20	0.032 (0.81)	564R30TSSD10				
1500		0.460 (11.7)					564R30TSSD15				
1800		0.490 (12.4)					564R30TSSD18				
2200		0.530 (13.5)					564R30TSSD22				
2700		0.560 (14.2)					564R30TSSD27				
3300		0.620 (15.7)	0.185 (4.7)	0.375 (9.5)	564R30TSSD33						
3900					564R30TSSD39						
4700		0.680 (17.3)	564R30TSSD47								
5600		0.790 (20.0)	0.190 (4.8)	564R30TSSD56							
6800		0.900 (22.9)	0.205 (5.2)	564R30TSSD68							
<b>Y5U</b>											
680	± 20 %	0.330 (8.4)	0.175 (4.4)	0.250 (6.4)	20	0.032 (0.81)	564R30GAT68				
<b>Z5U</b>											
1000	± 20 %	0.330 (8.4)	0.195 (5.0)	0.250 (6.4)	20	0.032 (0.81)	564R30GAD10				
1500		0.360 (9.1)	0.190 (4.8)				564R30GAD15				
1800		0.400 (10.2)					564R30GAD18				
2200		0.430 (10.9)					564R30GAD22				
2700		0.460 (11.7)					0.200 (5.1)	564R30GAD27			
3300		0.490 (12.4)	0.185 (4.7)	564R30GAD33							
3900		0.530 (13.5)		564R30GAD39							
4700		0.620 (15.7)	0.195 (5.0)	564R30GAD47							
6800		0.680 (17.3)	0.330 (8.4)	0.250 (6.4)	20	0.032 (0.81)	564R30GAD68				
8200							0.185 (4.7)	564R30GAD82			
0.010 μF		± 20 %	0.790 (20.0)	0.240 (6.1)	0.375 (9.5)	22	0.025 (0.64)	564R30GAS10			
0.020 μF			0.720 (18.3)					565R30GASS20			
0.033 μF			0.900 (22.9)					565R30GASS33			
<b>Y5V</b>											
0.010 μF		± 20 %	0.720 (18.3)	0.185 (4.7)	0.375 (9.5)	20	0.032 (0.81)	564R30GASS10			

**TAPE AND REEL OPTIONS**

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# 564R & 565R Series



Vishay Cera-Mite

High Voltage Ceramic Disc Capacitors  
2 kVDC to 7.5 kVDC

<b>ORDERING INFORMATION, CERAMIC 6 kVDC</b>							
C (pF)	TOL. (%)	D DIAMETER INCH (mm)	T THICKNESS INCH (mm)	LS LEAD SPACE INCH (mm)	WIRE SIZE		ORDERING CODE
					AWG	INCH (mm)	
<b>COG (NP0)</b>							
10	± 20 %	0.400 (10.2)	0.220 (5.6)	0.375 (9.5)	20	0.032 (0.81)	564R60GAQ10
<b>U2J (N750)</b>							
22	± 20 %	0.460 (11.7)	0.240 (6.1)	0.375 (9.5)	20	0.032 (0.81)	564R60GAQ22
<b>R3L (N2200)</b>							
33	± 20 %	0.400 (10.2)	0.230 (5.8)	0.375 (9.5)	20	0.032 (0.81)	564R60GAQ33
47		0.460 (11.7)	0.205 (5.2)				564R60GAQ47
<b>X5F</b>							
100	± 20 %	0.400 (10.2)	0.240 (6.1)	0.375 (9.5)	20	0.032 (0.81)	564R60GAT10
220			0.265 (6.7)				564R60GAT22
<b>X5S</b>							
330	± 20 %	0.400 (10.2)	0.260 (6.6)	0.375 (9.5)	20	0.032 (0.81)	564R60GAT33
<b>Y5U</b>							
470	± 20 %	0.400 (10.2)	0.265 (6.7)	0.375 (9.5)	20	0.032 (0.81)	564R60GAT47
560			0.240 (6.1)				564R60GAT56
<b>Z5U</b>							
1000	± 20 %	0.400 (10.2)	0.270 (6.9)	0.375 (9.5)	20	0.032 (0.81)	564R60GAD10
1500		0.460 (11.7)	0.280 (7.1)				564R60GAD15
2200		0.530 (13.5)	0.240 (6.1)				564R60GAD22
3300		0.620 (15.7)	0.260 (6.6)				564R60GAD33
4700		0.790 (20.0)					564R60GAD47
0.010 μF		0.950 (24.1)	0.250 (6.4)				564R60GAS10

<b>ORDERING INFORMATION, CERAMIC 7.5 kVDC</b>							
C (pF)	TOL. (%)	D DIAMETER INCH (mm)	T THICKNESS INCH (mm)	LS LEAD SPACE INCH (mm)	WIRE SIZE		ORDERING CODE
					AWG	INCH (mm)	
<b>X5F</b>							
100	± 20 %	0.530 (13.5)	0.310 (7.9)	0.500 (12.7)	20	0.032 (0.81)	564R75GAT10
470		0.620 (15.7)	0.270 (6.9)				564R75GAT47
<b>Y5U</b>							
1000	+ 80/- 20 %	0.620 (15.7)	0.320 (8.1)	0.500 (12.7)	20	0.032 (0.81)	564R75GAD10
<b>Z5U</b>							
2500	+ 80/- 20 %	0.620 (15.7)	0.280 (7.1)	0.500 (12.7)	20	0.032 (0.81)	564R75GAD25



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