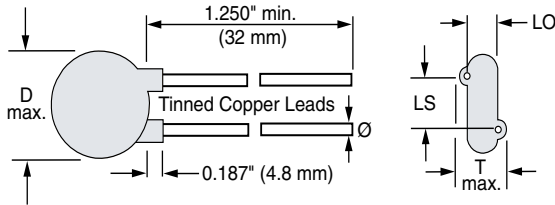


## Lower Voltage Ceramic Disc Capacitors 2 kV<sub>DC</sub> to 7.5 kV<sub>DC</sub>

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 kV <sub>DC</sub>	min. 10 000 MΩ
3 kV <sub>DC</sub>	min. 50 000 MΩ
6 kV <sub>DC</sub>	min. 75 000 MΩ
7.5 kV <sub>DC</sub>	min. 200 000 MΩ

### TOLERANCE ON CAPACITANCE

± 10 %, ± 20 %, - 20 % to + 80 %

### DISSIPATION FACTOR

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

### CATEGORY TEMPERATURE RANGE

- 25 °C to + 85 °C

### CLIMATIC CATEGORY ACC. TO EN60068-1

25/085/21

### OPERATING TEMPERATURE RANGE

- 25 °C to + 105 °C

### FEATURES

- Low losses
- High capacitance in small sizes
- High stability
- Radial leads
- Compliant to RoHS directive 2002/95/EC



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 radial kinked or straight leads having lead spacing of 0.250" (6.35 mm) or 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 "UL 94 V-0".

### CAPACITANCE RANGE

10 pF to 0.10 μF

### RATED VOLTAGE

2 kV<sub>DC</sub>  
3 kV<sub>DC</sub>  
6 kV<sub>DC</sub>  
7.5 kV<sub>DC</sub>

### DIELECTRIC STRENGTH BETWEEN LEADS

Component test:

2 kV <sub>DC</sub>	3500 V <sub>DC</sub> , 2 s
3 kV <sub>DC</sub>	5000 V <sub>DC</sub> , 2 s
6 kV <sub>DC</sub>	10 500 V <sub>DC</sub> , 2 s
7.5 kV <sub>DC</sub>	11 250 V <sub>DC</sub> , 2 s

### CERAMIC DIELECTRIC

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

# 564R and 565R Series



Vishay Cera-Mite

Lower Voltage Ceramic Disc Capacitors  
2 kV<sub>DC</sub> to 7.5 kV<sub>DC</sub>

ORDERING INFORMATION, CERAMIC 2 kV <sub>DC</sub>											
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			0.170 (4.3)				564R20TST68				
1000		0.400 (10.2)	0.175 (4.4)				564R20TSD10				
1500		0.430 (10.9)	0.160 (4.1)				564R20TSD15				
1800		0.460 (11.7)	0.170 (4.3)				564R20TSD18				
2200							564R20TSD22				
2700							564R20TSD27				
3300		0.530 (13.5)	0.160 (4.1)				564R20TSD33				
3900		0.680 (17.3)	0.170 (4.3)				564R20TSD39				
4700							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	0.620 (15.7)		0.170 (4.3)	564R20TSSD47							
5600				564R20TSSD56							
6800	0.680 (17.3)		0.170 (4.3)	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							564R20GAD33				
3900		0.490 (12.4)	0.170 (4.3)				564R20GAD39				
4700							564R20GAD47				
6800		0.560 (14.2)	0.170 (4.3)				564R20GAD68				
0.010 μF		0.680 (17.3)					0.375 (9.5)	564R20GAS10			
<b>Y5V</b>											
0.01 μF	± 20 %	0.620 (15.7)	0.170 (4.3)	0.375 (9.5)	20	0.032 (0.81)	564R20GASS10				
0.05 μF		0.950 (24.1)	0.174 (4.4)		20		564R20GAS50				
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 (for details of the packaging code see general section of the catalog)



ORDERING INFORMATION, CERAMIC 3 kV <sub>DC</sub>								
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)				0.180 (4.6)	564R30GAT33
390								564R30GAT39
470			± 10 %				0.330 (8.4)	0.180 (4.6)
680	0.180 (4.6)	564R30TST68						
1000	0.400 (10.2)	564R30TSD10						
1500	0.490 (12.5)	564R30TSD15						
1800	0.530 (13.5)	0.185 (4.7)		564R30TSD18				
2200		0.180 (4.6)		564R30TSD22				
2700	0.620 (15.7)	0.185 (4.7)		564R30TSD27				
3300		0.170 (4.3)		564R30TSD33				
3900	0.720 (18.3)	0.185 (4.7)		564R30TSD39				
4700		0.175 (4.4)		564R30TSD47				
6800	0.900 (22.9)	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					0.680 (17.3)	564R30TSSD39		
4700		0.790 (20.0)	0.190 (4.8)	0.375 (9.5)	564R30TSSD47			
5600					0.205 (5.2)	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)	0.200 (5.1)				564R30GAD22	
2700		0.460 (11.7)					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)	0.375 (9.5)	564R30GAD47			
6800		0.680 (17.3)	0.185 (4.7)		564R30GAD68			
8200					564R30GAD82			
0.010 μF		0.790 (20.0)	0.265 (6.7)		22	564R30GAS10		
0.020 μF		0.720 (18.3)				565R30GASS20		
0.033 μF		0.900 (22.9)		0.240 (6.1)		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**

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



# 564R and 565R Series

Lower Voltage Ceramic Disc Capacitors  
2 kV<sub>DC</sub> to 7.5 kV<sub>DC</sub>

Vishay Cera-Mite

ORDERING INFORMATION, CERAMIC 6 kV <sub>DC</sub>							
C (pF)	TOL. (%)	D DIAMETER INCH (mm)	T THICKNESS INCH (mm)	LS LEAD SPACE INCH (mm)	WIRE SIZE		ORDERING CODE
					AWG	INCH (mm)	
<b>C0G (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

ORDERING INFORMATION, CERAMIC 7.5 kV <sub>DC</sub>							
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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