

Lower Voltage Ceramic Disc Capacitors 2 kV_{DC} to 7.5 kV_{DC}



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

| QUICK REFERENCE DATA | | | | | | |
|----------------------------|--------------|---------------|-------------------------|-------------------------|--------------------|---------------|
| DESCRIPTION | VALUE | | | | | |
| Ceramic Class | 1 | 1 | 2 | 2 | 2 | 2 |
| Ceramic Dielectric | U2J, R3L | C0G, U2J, R3L | X7R, Y5S, Y5U, Z5U, Y5V | X7R, Y5S, Y5U, Z5U, Y5V | X5F, X5S, Y5U, Z5U | X5F, Y5U, Z5U |
| Voltage (V _{DC}) | 3000 | 6000 | 2000 | 3000 | 6000 | 7500 |
| Min. Capacitance (pF) | 10 | 10 | 100 | 47 | 100 | 100 |
| Max. Capacitance (pF) | 33 | 47 | 100 000 | 10 000 | 10 000 | 2500 |
| Mounting | Through hole | | | | | |

INSULATION RESISTANCE

| | |
|----------------------|-----------------|
| 2 kV _{DC} | min. 10 000 MΩ |
| 3 kV _{DC} | min. 50 000 MΩ |
| 6 kV _{DC} | min. 75 000 MΩ |
| 7.5 kV _{DC} | 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
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912



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_{DC}
3 kV_{DC}
6 kV_{DC}
7.5 kV_{DC}

DIELECTRIC STRENGTH BETWEEN LEADS

Component test:

| | |
|----------------------|------------------------------|
| 2 kV _{DC} | 3500 V _{DC} , 2 s |
| 3 kV _{DC} | 5000 V _{DC} , 2 s |
| 6 kV _{DC} | 10 500 V _{DC} , 2 s |
| 7.5 kV _{DC} | 11 250 V _{DC} , 2 s |

CERAMIC DIELECTRIC

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



| ORDERING INFORMATION, CERAMIC 2 kV _{DC} | | | | | | | | | | | |
|--|-------------|----------------------------|-----------------------------|-------------------------------|-----------|--------------|------------------|-------------|--|--|-------------|
| C (pF) | TOL. (%) | D DIAMETER INCH (mm) | T THICKNESS INCH (mm) | LS LEAD SPACE INCH (mm) | WIRE SIZE | | ORDERING CODE | | | | |
| | | | | | AWG | INCH (mm) | | | | | |
| X7R | | | | | | | | | | | |
| 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 | | | 0.175 (4.4) | | | | 564R20TST68 | | | | |
| 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 | | 0.530 (13.5) | 0.160 (4.1) | | | | 564R20TSD22 | | | | |
| 2700 | | 0.680 (17.3) | 0.170 (4.3) | | | | 564R20TSD27 | | | | |
| 3300 | | | | | | | 564R20TSD33 | | | | |
| 3900 | | | | | | | 564R20TSD39 | | | | |
| 4700 | | | | | | | 564R20TSD47 | | | | |
| | | | | | | | 0.375 (9.5) | | | | 564R20TSD47 |
| Y5S | | | | | | | | | | | |
| 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) | | | | | 564R20TSSD27 | | | | |
| 3300 | | 0.620 (15.7) | 0.175 (4.4) | | | | 564R20TSSD33 | | | | |
| 3900 | | | | | | | 564R20TSSD39 | | | | |
| 4700 | | | | | | | 564R20TSSD47 | | | | |
| 5600 | | 0.680 (17.3) | 0.170 (4.3) | | | | 564R20TSSD56 | | | | |
| 6800 | | 0.720 (18.3) | | | | | 564R20TSSD68 | | | | |
| Y5U | | | | | | | | | | | |
| 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 | | | | |
| Z5U | | | | | | | | | | | |
| 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 | | 0.490 (12.4) | | | | | 564R20GAD39 | | | | |
| 4700 | | 0.560 (14.2) | 0.170 (4.3) | | | | 564R20GAD47 | | | | |
| 6800 | | | | | | | 564R20GAD68 | | | | |
| 0.010 μF | | | | | | | 564R20GAS10 | | | | |
| | | 0.680 (17.3) | | | | | 0.375 (9.5) | | | | |
| Y5V | | | | | | | | | | | |
| 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 _{DC} | | | | | | | |
|--|-------------|----------------------------|-----------------------------|-------------------------------|--------------|--------------|------------------|
| C (pF) | TOL. (%) | D DIAMETER INCH (mm) | T THICKNESS INCH (mm) | LS LEAD SPACE INCH (mm) | WIRE SIZE | | ORDERING CODE |
| | | | | | AWG | INCH (mm) | |
| U2J (N750) | | | | | | | |
| 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 |
| R3L (N2200) | | | | | | | |
| 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 |
| X7R | | | | | | | |
| 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) | | | | 564R30GAT33 |
| 390 | | | 0.180 (4.6) | | | | 564R30GAT39 |
| 470 | | | 0.175 (4.4) | | | | 564R30GAT47 |
| 680 | ± 10 | 0.400 (10.2) | 0.180 (4.6) | 0.375 (9.5) | 20 | 0.032 (0.81) | 564R30TST68 |
| 1000 | | | 0.175 (4.4) | | | | 564R30TSD10 |
| 1500 | | | 0.490 (12.5) | | | | 564R30TSD15 |
| 1800 | | | 0.185 (4.7) | | | | 564R30TSD18 |
| 2200 | | | 0.530 (13.5) | | | | 564R30TSD22 |
| 2700 | | | 0.185 (4.7) | | | | 564R30TSD27 |
| 3300 | | | 0.170 (4.3) | | | | 564R30TSD33 |
| 3900 | | | 0.185 (4.7) | | | | 564R30TSD39 |
| 4700 | | | 0.175 (4.4) | | | | 564R30TSD47 |
| 6800 | | | 0.900 (22.9) | | | | 564R30TSD68 |
| Y5S | | | | | | | |
| 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) | 0.185 (4.7) | 0.375 (9.5) | 564R30TSSD27 | | |
| 3300 | | 0.620 (15.7) | | | 564R30TSSD33 | | |
| 3900 | | 0.680 (17.3) | | | 564R30TSSD39 | | |
| 4700 | | 0.790 (20.0) | | | 564R30TSSD47 | | |
| 5600 | | 0.190 (4.8) | 564R30TSSD56 | | | | |
| 6800 | | 0.900 (22.9) | 0.205 (5.2) | 564R30TSSD68 | | | |
| Y5U | | | | | | | |
| 680 | ± 20 | 0.330 (8.4) | 0.175 (4.4) | 0.250 (6.4) | 20 | 0.032 (0.81) | 564R30GAT68 |
| Z5U | | | | | | | |
| 1000 | ± 20 | 0.330 (8.4) | 0.190 (4.8) | 0.250 (6.4) | 20 | 0.032 (0.81) | 564R30GAD10 |
| 1500 | | 0.360 (9.1) | | | | | 564R30GAD15 |
| 1800 | | 0.400 (10.2) | | | | | 564R30GAD18 |
| 2200 | | 0.430 (10.9) | | | | | 564R30GAD22 |
| 2700 | | 0.460 (11.7) | 0.200 (5.1) | 0.375 (9.5) | 564R30GAD27 | | |
| 3300 | | 0.490 (12.4) | 0.185 (4.7) | | 564R30GAD33 | | |
| 3900 | | 0.530 (13.5) | 0.195 (5.0) | | 564R30GAD39 | | |
| 4700 | | 0.620 (15.7) | 0.195 (5.0) | | 564R30GAD47 | | |
| 6800 | | 0.680 (17.3) | 0.185 (4.7) | 0.375 (9.5) | 564R30GAD68 | | |
| 8200 | | 0.720 (18.3) | | | 564R30GAD82 | | |
| 0.010 μF | | 0.720 (18.3) | | | 564R30GAS10 | | |
| 0.020 μF | | 0.720 (18.3) | | | 0.265 (6.7) | 22 | 0.025 (0.64) |
| 0.033 μF | | 0.900 (22.9) | 0.240 (6.1) | 0.240 (6.1) | 22 | 0.025 (0.64) | 565R30GASS33 |
| Y5V | | | | | | | |
| 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).



| ORDERING INFORMATION, CERAMIC 6 kV _{DC} | | | | | | | |
|--|-------------|----------------------------|-----------------------------|-------------------------------|-----------|--------------|------------------|
| C (pF) | TOL. (%) | D DIAMETER INCH (mm) | T THICKNESS INCH (mm) | LS LEAD SPACE INCH (mm) | WIRE SIZE | | ORDERING CODE |
| | | | | | AWG | INCH (mm) | |
| C0G (NP0) | | | | | | | |
| 10 | ± 20 | 0.400 (10.2) | 0.220 (5.6) | 0.375 (9.5) | 20 | 0.032 (0.81) | 564R60GAQ10 |
| U2J (N750) | | | | | | | |
| 22 | ± 20 | 0.460 (11.7) | 0.240 (6.1) | 0.375 (9.5) | 20 | 0.032 (0.81) | 564R60GAQ22 |
| R3L (N2200) | | | | | | | |
| 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 |
| X5F | | | | | | | |
| 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 |
| X5S | | | | | | | |
| 330 | ± 20 | 0.400 (10.2) | 0.260 (6.6) | 0.375 (9.5) | 20 | 0.032 (0.81) | 564R60GAT33 |
| Y5U | | | | | | | |
| 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 |
| Z5U | | | | | | | |
| 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) |
| 0.010 μF | | 0.950 (24.1) | 0.250 (6.4) | | | | 564R60GAS10 |

| ORDERING INFORMATION, CERAMIC 7.5 kV _{DC} | | | | | | | |
|--|-------------|----------------------------|-----------------------------|-------------------------------|-----------|--------------|------------------|
| C (pF) | TOL. (%) | D DIAMETER INCH (mm) | T THICKNESS INCH (mm) | LS LEAD SPACE INCH (mm) | WIRE SIZE | | ORDERING CODE |
| | | | | | AWG | INCH (mm) | |
| X5F | | | | | | | |
| 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 |
| Y5U | | | | | | | |
| 1000 | + 80/- 20 | 0.620 (15.7) | 0.320 (8.1) | 0.500 (12.7) | 20 | 0.032 (0.81) | 564R75GAD10 |
| Z5U | | | | | | | |
| 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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На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

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