

Wet Tantalum Capacitors, Wet Sintered Anode TANTALEX[®] Components TANTAPAK[®] Capacitor Assemblies



FEATURES

- Assembly of silver case capacitors
- 200D, case negative, 5 "A" case codes
- 202D
 - Both terminations isolated from case, 12 case codes
 - Similar to Tansitor RW & Mallory TL assemblies
 - Designed to meet MIL-DTL-3965 and DSCC 04021 requirements

APPLICATIONS

- Military
- Industrial

PERFORMANCE CHARACTERISTICS

Operating Temperature: -55 °C to +125 °C

Capacitance Tolerance: at 120 Hz, +25 °C
± 20 % standard, ± 10 % available

DC Leakage Current (DCL Max.): at +25 °C

Life Test: capacitors shall withstand 2000 h at a temperature of +85 °C or +125 °C at the rated DC working voltage.

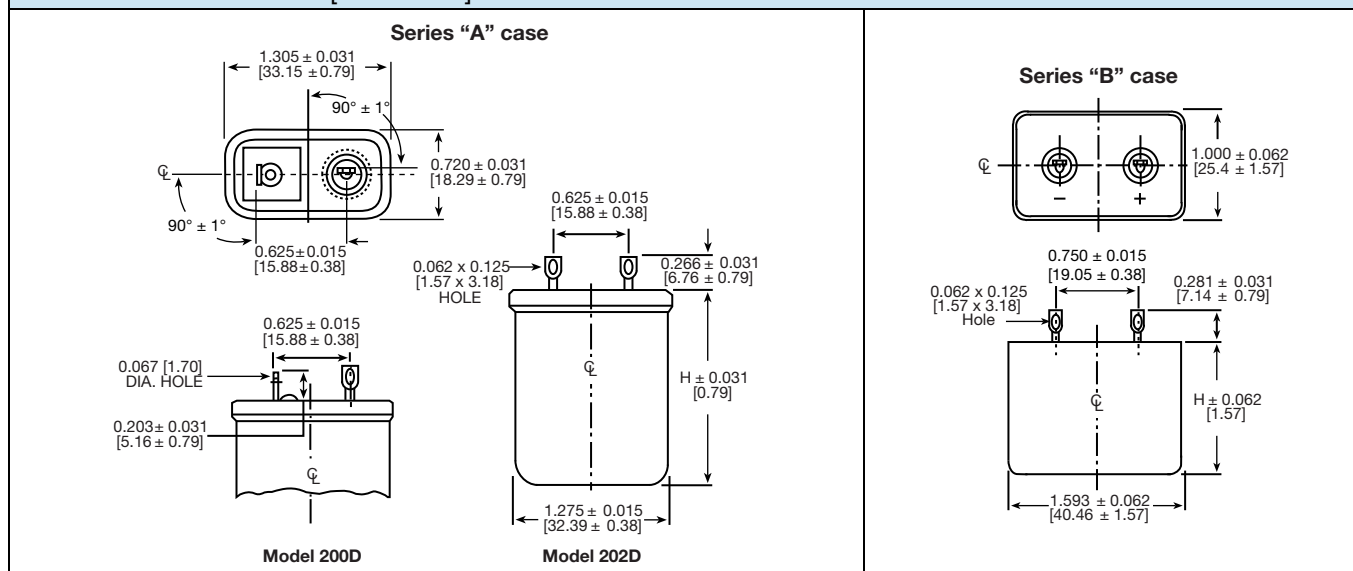
Following the life test:

1. DCL shall not exceed the original requirement.
2. ESR shall not be more than 130 % of the initial requirement.
3. Capacitance shall not change more than ± 25 %.

ORDERING INFORMATION

| 202D MODEL | 318 CAPACITANCE | X0 CAPACITANCE TOLERANCE | 006 DC VOLTAGE RATING AT +85 °C | A1 CASE CODE |
|---|--|-----------------------------|--|--------------------------------|
| 200D = negative terminal connected to case (Available only in "A" cases) 202D = both terminals insulated from case | This is expressed in picofarads. The first two digits are the significant figures. The third is the number of zeros to follow. | X0 = ± 20 % X9 = ± 10 % | This is expressed in volts. To complete the three-digit block, zeros precede the voltage rating. | See Dimensional Configurations |

DIMENSIONS in inches [millimeters]





| DIMENSIONS in inches [millimeters] | | |
|------------------------------------|------------------|-----------------------|
| CASE CODE | H CASE HEIGHT | TYPICAL WEIGHT (g) |
| A1 | 1.062 [26.97] | 45 |
| A2 | 1.375 [34.93] | 60 |
| A3 | 1.625 [41.28] | 80 |
| A4 | 2.000 [50.80] | 100 |
| A5 | 2.500 [63.50] | 125 |
| B1 | 1.500 [38.10] | 170 |
| B2 | 1.875 [47.63] | 210 |
| B3 | 2.250 [57.15] | 250 |
| B4 | 2.625 [66.68] | 290 |
| B5 | 3.000 [76.20] | 335 |
| B6 | 3.375 [85.73] | 380 |
| B7 | 3.750 [95.25] | 420 |

| STANDARD RATINGS TYPE 200D | | | | | | |
|--|-----------|-----------------|---------------------------------------|--|----------------------------------|--|
| CAPACITANCE (μ F) | CASE CODE | PART NUMBER (1) | MAX. ESR AT +25 °C (Ω) | MAX. IMP. AT -55 °C (Ω) | MAX. RMS RIPPLE 120 Hz (A) | |
| 15 V_{DC} AT +85 °C; 10 V_{DC} AT +125 °C | | | | | | |
| 960 | A1 | 200D967X0015A1 | 0.25 | 3.1 | 1.17 | |
| 1200 | A2 | 200D128X0015A2 | 0.21 | 2.3 | 1.45 | |
| 1400 | A3 | 200D148X0015A3 | 0.18 | 1.7 | 1.67 | |
| 1600 | A1 | 200D168X0015A1 | 0.25 | 4.2 | 1.20 | |
| 2100 | A2 | 200D218X0015A2 | 0.19 | 3.1 | 1.52 | |
| 2100 | A4 | 200D218X0015A4 | 0.12 | 1.3 | 2.22 | |
| 2400 | A5 | 200D248X0015A5 | 0.10 | 1.15 | 2.66 | |
| 2700 | A3 | 200D278X0015A3 | 0.15 | 2.5 | 1.83 | |
| 3200 | A4 | 200D328X0015A4 | 0.13 | 2.1 | 2.13 | |
| 4300 | A5 | 200D438X0015A5 | 0.095 | 1.6 | 2.73 | |
| 20 V_{DC} AT +85 °C; 13 V_{DC} AT +125 °C | | | | | | |
| 1300 | A1 | 200D138X0020A1 | 0.25 | 5.0 | 1.20 | |
| 1700 | A2 | 200D178X0020A2 | 0.19 | 3.8 | 1.52 | |
| 2200 | A3 | 200D228X0020A3 | 0.15 | 3.0 | 1.83 | |
| 2700 | A4 | 200D278X0020A4 | 0.13 | 2.5 | 2.13 | |
| 3500 | A5 | 200D358X0020A5 | 0.094 | 1.9 | 2.75 | |
| 25 V_{DC} AT +85 °C; 15 V_{DC} AT +125 °C | | | | | | |
| 1100 | A1 | 200D118X0025A1 | 0.30 | 5.3 | 1.10 | |
| 1400 | A2 | 200D148X0025A2 | 0.23 | 4.0 | 1.38 | |
| 1800 | A3 | 200D188X0025A3 | 0.18 | 3.2 | 1.67 | |
| 2200 | A4 | 200D228X0025A4 | 0.15 | 2.7 | 1.98 | |
| 2900 | A5 | 200D298X0025A5 | 0.11 | 2.0 | 2.54 | |
| 30 V_{DC} AT +85 °C; 20 V_{DC} AT +125 °C | | | | | | |
| 520 | A1 | 200D527X0030A1 | 0.48 | 5.3 | 0.87 | |
| 660 | A2 | 200D667X0030A2 | 0.38 | 4.2 | 1.08 | |
| 820 | A3 | 200D827X0030A3 | 0.31 | 2.9 | 1.27 | |
| 900 | A1 | 200D907X0030A1 | 0.37 | 5.8 | 0.99 | |
| 1200 | A2 | 200D128X0030A2 | 0.27 | 4.4 | 1.28 | |
| 1200 | A4 | 200D128X0030A4 | 0.21 | 2.3 | 1.68 | |
| 1300 | A5 | 200D138X0030A5 | 0.19 | 2.1 | 1.93 | |
| 1500 | A3 | 200D158X0030A3 | 0.22 | 3.5 | 1.50 | |
| 1800 | A4 | 200D188X0030A4 | 0.18 | 2.9 | 1.81 | |
| 2400 | A5 | 200D248X0030A5 | 0.14 | 2.2 | 2.25 | |

Note

(1) The part numbers listed are for $\pm 20\%$ tolerance. To specify $\pm 10\%$ tolerance, change the digit following "X" from "0" to "9".
For requirements or ratings other than those listed, please contact a Vishay representative.



| STANDARD RATINGS TYPE 200D | | | | | | |
|--|------------------|-----------------------------------|---|--|---|--|
| CAPACITANCE (μF) | CASE CODE | PART NUMBER ⁽¹⁾ | MAX. ESR AT +25 °C (Ω) | MAX. IMP. AT -55 °C (Ω) | MAX. RMS RIPPLE 120 Hz (A) | |
| 35 V_{DC} AT +85 °C; 22 V_{DC} AT +125 °C | | | | | | |
| 720 | A1 | 200D727X0035A1 | 0.37 | 6.3 | 0.99 | |
| 960 | A2 | 200D967X0035A2 | 0.27 | 4.7 | 1.28 | |
| 1200 | A3 | 200D128X0035A3 | 0.22 | 3.8 | 1.51 | |
| 1400 | A4 | 200D148X0035A4 | 0.18 | 3.2 | 1.81 | |
| 1900 | A5 | 200D198X0035A5 | 0.14 | 2.4 | 2.25 | |
| 40 V_{DC} AT +85 °C; 25 V_{DC} AT +125 °C | | | | | | |
| 600 | A1 | 200D607X0040A1 | 0.33 | 6.7 | 1.04 | |
| 800 | A2 | 200D807X0040A2 | 0.25 | 5.0 | 1.33 | |
| 1000 | A3 | 200D108X0040A3 | 0.20 | 4.0 | 1.58 | |
| 1200 | A4 | 200D128X0040A4 | 0.17 | 3.3 | 1.86 | |
| 1600 | A5 | 200D168X0040A5 | 0.13 | 2.5 | 2.34 | |
| 50 V_{DC} AT +85 °C; 35 V_{DC} AT +125 °C | | | | | | |
| 400 | A1 | 200D407X0050A1 | 0.50 | 7.2 | 0.85 | |
| 430 | A1 | 200D437X0050A1 | 0.58 | 6.4 | 0.79 | |
| 490 | A1 | 200D497X0050A1 | 0.33 | 7.2 | 1.04 | |
| 500 | A2 | 200D507X0050A2 | 0.40 | 5.6 | 1.05 | |
| 600 | A3 | 200D607X0050A3 | 0.33 | 4.1 | 1.23 | |
| 660 | A2 | 200D667X0050A2 | 0.25 | 5.4 | 1.33 | |
| 800 | A4 | 200D807X0050A4 | 0.25 | 3.1 | 1.54 | |
| 820 | A3 | 200D827X0050A3 | 0.20 | 4.3 | 1.58 | |
| 980 | A4 | 200D987X0050A4 | 0.17 | 3.6 | 1.86 | |
| 1000 | A5 | 200D108X0050A5 | 0.25 | 2.8 | 2.84 | |
| 1300 | A5 | 200D138X0050A5 | 0.13 | 2.7 | 2.34 | |
| 60 V_{DC} AT +85 °C; 40 V_{DC} AT +125 °C | | | | | | |
| 410 | A1 | 200D417X0060A1 | 0.33 | 7.5 | 1.04 | |
| 550 | A2 | 200D557X0060A2 | 0.25 | 5.6 | 1.33 | |
| 680 | A3 | 200D687X0060A3 | 0.20 | 4.5 | 1.58 | |
| 820 | A4 | 200D827X0060A4 | 0.17 | 3.7 | 1.86 | |
| 1100 | A5 | 200D118X0060A5 | 0.13 | 2.8 | 2.34 | |
| 75 V_{DC} AT +85 °C; 50 V_{DC} AT +125 °C | | | | | | |
| 270 | A1 | 200D277X0075A1 | 0.56 | 8.5 | 0.80 | |
| 330 | A2 | 200D337X0075A2 | 0.46 | 7.0 | 0.98 | |
| 400 | A1 | 200D407X0075A1 | 0.26 | 7.5 | 1.18 | |
| 400 | A3 | 200D407X0075A3 | 0.38 | 5.0 | 1.15 | |
| 530 | A2 | 200D537X0075A2 | 0.20 | 5.6 | 1.48 | |
| 660 | A3 | 200D667X0075A3 | 0.16 | 4.5 | 1.77 | |
| 600 | A4 | 200D607X0075A4 | 0.25 | 3.65 | 1.54 | |
| 660 | A5 | 200D667X0075A5 | 0.23 | 3.5 | 1.76 | |
| 790 | A4 | 200D797X0075A4 | 0.13 | 3.7 | 2.13 | |
| 1100 | A5 | 200D118X0075A5 | 0.096 | 2.8 | 2.72 | |
| 85 V_{DC} AT +85 °C; 60 V_{DC} AT +125 °C | | | | | | |
| 280 | A1 | 200D287X0085A1 | 0.33 | 9.2 | 1.04 | |
| 370 | A2 | 200D377X0085A2 | 0.25 | 6.9 | 1.33 | |
| 470 | A3 | 200D477X0085A3 | 0.20 | 5.5 | 1.58 | |
| 570 | A4 | 200D577X0085A4 | 0.17 | 4.6 | 1.86 | |
| 750 | A5 | 200D757X0085A5 | 0.13 | 3.4 | 2.34 | |

Note

⁽¹⁾ The part numbers listed are for $\pm 20\%$ tolerance. To specify $\pm 10\%$ tolerance, change the digit following "X" from "0" to "9". For requirements or ratings other than those listed, please contact a Vishay representative.



| STANDARD RATINGS TYPE 200D | | | | | |
|--|-----------|-----------------|------------------------|-------------------------|----------------------------|
| CAPACITANCE (µF) | CASE CODE | PART NUMBER (1) | MAX. ESR AT +25 °C (Ω) | MAX. IMP. AT -55 °C (Ω) | MAX. RMS RIPPLE 120 Hz (A) |
| 100 V_{DC} AT +85 °C; 70 V_{DC} AT +125 °C | | | | | |
| 170 | A1 | 200D177X0100A1 | 0.94 | 15.0 | 0.62 |
| 220 | A2 | 200D227X0100A2 | 0.72 | 11.6 | 0.78 |
| 260 | A1 | 200D267X0100A1 | 0.40 | 8.3 | 0.95 |
| 260 | A3 | 200D267X0100A3 | 0.61 | 8.0 | 0.91 |
| 350 | A2 | 200D357X0100A2 | 0.30 | 6.2 | 1.21 |
| 350 | A4 | 200D357X0100A4 | 0.45 | 6.5 | 1.15 |
| 440 | A3 | 200D447X0100A3 | 0.24 | 5.0 | 1.44 |
| 440 | A5 | 200D447X0100A5 | 0.36 | 5.8 | 1.40 |
| 530 | A4 | 200D537X0100A4 | 0.20 | 4.2 | 1.72 |
| 700 | A5 | 200D707X0100A5 | 0.15 | 3.1 | 2.18 |
| 125 V_{DC} AT +85 °C; 80 V_{DC} AT +125 °C | | | | | |
| 170 | A1 | 200D177X0125A1 | 0.40 | 15.0 | 0.95 |
| 220 | A2 | 200D227X0125A2 | 0.30 | 12.0 | 1.21 |
| 280 | A3 | 200D287X0125A3 | 0.24 | 9.0 | 1.44 |
| 340 | A4 | 200D347X0125A4 | 0.20 | 7.5 | 1.72 |
| 150 V_{DC} AT +85 °C; 100 V_{DC} AT +125 °C | | | | | |
| 70 | A1 | 200D706X0150A1 | 2.27 | 28.8 | 0.40 |
| 90 | A2 | 200D906X0150A2 | 1.77 | 22.4 | 0.50 |
| 100 | A3 | 200D107X0150A3 | 1.59 | 16.4 | 0.56 |
| 140 | A4 | 200D147X0150A4 | 1.14 | 12.4 | 0.72 |
| 180 | A5 | 200D187X0150A5 | 0.88 | 11.2 | 0.90 |

Note

(1) The part numbers listed are for ± 20 % tolerance. To specify ± 10 % tolerance, change the digit following “X” from “0” to “9”. For requirements or ratings other than those listed, please contact a Vishay representative.

| STANDARD RATINGS TYPE 202D | | | | | |
|--|-----------|-----------------|------------------------|-------------------------|----------------------------|
| CAPACITANCE (µF) | CASE CODE | PART NUMBER (1) | MAX. ESR AT +25 °C (Ω) | MAX. IMP. AT -55 °C (Ω) | MAX. RMS RIPPLE 120 Hz (A) |
| 15 V_{DC} AT +85 °C; 10 V_{DC} AT +125 °C | | | | | |
| 960 | A1 | 202D967X0015A1 | 0.25 | 3.1 | 1.17 |
| 1200 | A2 | 202D128X0015A2 | 0.21 | 2.3 | 1.45 |
| 1400 | A3 | 202D148X0015A3 | 0.18 | 1.7 | 1.67 |
| 1600 | A1 | 202D168X0015A1 | 0.25 | 4.2 | 1.20 |
| 2100 | A2 | 202D218X0015A2 | 0.19 | 3.1 | 1.52 |
| 2100 | A4 | 202D218X0015A4 | 0.12 | 1.3 | 2.22 |
| 2400 | A5 | 202D248X0015A5 | 0.10 | 1.15 | 2.66 |
| 2700 | A3 | 202D278X0015A3 | 0.15 | 2.5 | 1.83 |
| 3200 | A4 | 202D328X0015A4 | 0.13 | 2.1 | 2.13 |
| 3300 | B1 | 202D338X0015B1 | 0.14 | 3.2 | 2.17 |
| 4300 | A5 | 202D438X0015A5 | 0.095 | 1.6 | 2.73 |
| 4500 | B2 | 202D458X0015B2 | 0.11 | 2.4 | 2.65 |
| 5600 | B3 | 202D568X0015B3 | 0.085 | 1.9 | 3.24 |
| 6700 | B4 | 202D678X0015B4 | 0.070 | 1.6 | 3.80 |
| 7800 | B5 | 202D788X0015B5 | 0.061 | 1.4 | 4.28 |
| 9000 | B6 | 202D908X0015B6 | 0.053 | 1.2 | 4.84 |
| 10 000 | B7 | 202D109X0015B7 | 0.047 | 1.1 | 5.38 |

Note

(1) The part numbers listed are for ± 20 % tolerance. To specify ± 10 % tolerance, change the digit following “X” from “0” to “9”. For requirements or ratings other than those listed, please contact a Vishay representative.



| STANDARD RATINGS TYPE 202D | | | | | | |
|--|-----------|-----------------|---------------------------------------|--|----------------------------------|--|
| CAPACITANCE (μ F) | CASE CODE | PART NUMBER (1) | MAX. ESR AT +25 °C (Ω) | MAX. IMP. AT -55 °C (Ω) | MAX. RMS RIPPLE 120 Hz (A) | |
| 20 V_{DC} AT +85 °C; 13 V_{DC} AT +125 °C | | | | | | |
| 1300 | A1 | 202D138X0020A1 | 0.25 | 5.0 | 1.20 | |
| 1700 | A2 | 202D178X0020A2 | 0.19 | 3.8 | 1.52 | |
| 2200 | A3 | 202D228X0020A3 | 0.15 | 3.0 | 1.83 | |
| 2700 | A4 | 202D278X0020A4 | 0.13 | 2.5 | 2.13 | |
| 2800 | B1 | 202D288X0020B1 | 0.14 | 3.3 | 2.17 | |
| 3500 | A5 | 202D358X0020A5 | 0.094 | 1.9 | 2.75 | |
| 3800 | B2 | 202D388X0020B2 | 0.11 | 2.5 | 2.65 | |
| 4700 | B3 | 202D478X0020B3 | 0.085 | 2.0 | 3.24 | |
| 5600 | B4 | 202D568X0020B4 | 0.071 | 1.7 | 3.77 | |
| 6600 | B5 | 202D668X0020B5 | 0.061 | 1.4 | 4.28 | |
| 7500 | B6 | 202D758X0020B6 | 0.053 | 1.3 | 4.84 | |
| 8500 | B7 | 202D858X0020B7 | 0.047 | 1.1 | 5.38 | |
| 25 V_{DC} AT +85 °C; 15 V_{DC} AT +125 °C | | | | | | |
| 1100 | A1 | 202D118X0025A1 | 0.30 | 5.3 | 1.10 | |
| 1400 | A2 | 202D148X0025A2 | 0.23 | 4.0 | 1.38 | |
| 1800 | A3 | 202D188X0025A3 | 0.18 | 3.2 | 1.67 | |
| 2200 | A4 | 202D228X0025A4 | 0.15 | 2.7 | 1.98 | |
| 2300 | B1 | 202D238X0025B1 | 0.14 | 3.5 | 2.17 | |
| 2900 | A5 | 202D298X0025A5 | 0.11 | 2.0 | 2.54 | |
| 3100 | B2 | 202D318X0025B2 | 0.11 | 2.6 | 2.65 | |
| 3900 | B3 | 202D398X0025B3 | 0.085 | 2.1 | 3.24 | |
| 4700 | B4 | 202D478X0025B4 | 0.071 | 1.8 | 3.77 | |
| 5500 | B5 | 202D558X0025B5 | 0.061 | 1.5 | 4.28 | |
| 6200 | B6 | 202D628X0025B6 | 0.053 | 1.3 | 4.84 | |
| 7000 | B7 | 202D708X0025B7 | 0.047 | 1.2 | 5.38 | |
| 30 V_{DC} AT +85 °C; 20 V_{DC} AT +125 °C | | | | | | |
| 520 | A1 | 202D527X0030A1 | 0.48 | 5.3 | 0.87 | |
| 660 | A2 | 202D667X0030A2 | 0.38 | 4.2 | 1.08 | |
| 820 | A3 | 202D827X0030A3 | 0.31 | 2.9 | 1.27 | |
| 900 | A1 | 202D907X0030A1 | 0.37 | 5.8 | 0.99 | |
| 1200 | A2 | 202D128X0030A2 | 0.27 | 4.4 | 1.28 | |
| 1200 | A4 | 202D128X0030A4 | 0.21 | 2.3 | 1.68 | |
| 1300 | A5 | 202D138X0030A5 | 0.19 | 2.1 | 1.93 | |
| 1500 | A3 | 202D158X0030A3 | 0.22 | 3.5 | 1.50 | |
| 1800 | A4 | 202D188X0030A4 | 0.18 | 2.9 | 1.81 | |
| 2000 | B1 | 202D208X0030B1 | 0.17 | 1.7 | 1.97 | |
| 2400 | A5 | 202D248X0030A5 | 0.14 | 2.2 | 2.25 | |
| 2600 | B2 | 202D268X0030B2 | 0.13 | 2.8 | 2.43 | |
| 3300 | B3 | 202D338X0030B3 | 0.10 | 2.2 | 2.98 | |
| 4000 | B4 | 202D408X0030B4 | 0.085 | 1.8 | 3.45 | |
| 4600 | B5 | 202D468X0030B5 | 0.073 | 1.6 | 3.92 | |
| 5300 | B6 | 202D538X0030B6 | 0.064 | 1.4 | 4.40 | |
| 6000 | B7 | 202D608X0030B7 | 0.057 | 1.2 | 4.88 | |

Note

(1) The part numbers listed are for $\pm 20\%$ tolerance. To specify $\pm 10\%$ tolerance, change the digit following "X" from "0" to "9".
For requirements or ratings other than those listed, please contact a Vishay representative.



| STANDARD RATINGS TYPE 202D | | | | | | |
|--|------------------|------------------------|---|--|---|--|
| CAPACITANCE (μF) | CASE CODE | PART NUMBER (1) | MAX. ESR AT +25 °C (Ω) | MAX. IMP. AT -55 °C (Ω) | MAX. RMS RIPPLE 120 Hz (A) | |
| 35 V_{DC} AT +85 °C; 22 V_{DC} AT +125 °C | | | | | | |
| 720 | A1 | 202D727X0035A1 | 0.37 | 6.3 | 0.99 | |
| 960 | A2 | 202D967X0035A2 | 0.27 | 4.7 | 1.28 | |
| 1200 | A3 | 202D128X0035A3 | 0.22 | 3.8 | 1.51 | |
| 1400 | A4 | 202D148X0035A4 | 0.18 | 3.2 | 1.81 | |
| 1600 | B1 | 202D168X0035B1 | 0.20 | 3.8 | 1.82 | |
| 1900 | A5 | 202D198X0035A5 | 0.14 | 2.4 | 2.25 | |
| 2200 | B2 | 202D228X0035B2 | 0.15 | 2.9 | 2.27 | |
| 2700 | B3 | 202D278X0035B3 | 0.12 | 2.3 | 2.72 | |
| 3200 | B4 | 202D328X0035B4 | 0.10 | 1.9 | 3.18 | |
| 3800 | B5 | 202D388X0035B5 | 0.085 | 1.6 | 3.63 | |
| 4300 | B6 | 202D438X0035B6 | 0.075 | 1.4 | 4.07 | |
| 4900 | B7 | 202D498X0035B7 | 0.067 | 1.3 | 4.51 | |
| 40 V_{DC} AT +85 °C; 25 V_{DC} AT +125 °C | | | | | | |
| 600 | A1 | 202D607X0040A1 | 0.33 | 6.7 | 1.04 | |
| 800 | A2 | 202D807X0040A2 | 0.25 | 5.0 | 1.33 | |
| 1000 | A3 | 202D108X0040A3 | 0.20 | 4.0 | 1.58 | |
| 1200 | A4 | 202D128X0040A4 | 0.17 | 3.3 | 1.86 | |
| 1300 | B1 | 202D138X0040B1 | 0.20 | 4.0 | 1.82 | |
| 1600 | A5 | 202D168X0040A5 | 0.13 | 2.5 | 2.34 | |
| 1800 | B2 | 202D188X0040B2 | 0.15 | 3.0 | 2.27 | |
| 2200 | B3 | 202D228X0040B3 | 0.12 | 2.4 | 2.72 | |
| 2600 | B4 | 202D268X0040B4 | 0.10 | 2.0 | 3.18 | |
| 3100 | B5 | 202D318X0040B5 | 0.086 | 1.7 | 3.61 | |
| 3500 | B6 | 202D358X0040B6 | 0.075 | 1.5 | 4.07 | |
| 4000 | B7 | 202D408X0040B7 | 0.057 | 1.3 | 4.51 | |
| 50 V_{DC} AT +85 °C; 35 V_{DC} AT +125 °C | | | | | | |
| 400 | A1 | 202D407X0050A1 | 0.50 | 7.2 | 0.85 | |
| 430 | A1 | 202D437X0050A1 | 0.58 | 6.4 | 0.79 | |
| 490 | A1 | 202D497X0050A1 | 0.33 | 7.2 | 1.04 | |
| 500 | A2 | 202D507X0050A2 | 0.40 | 5.6 | 1.05 | |
| 600 | A3 | 202D607X0050A3 | 0.33 | 4.1 | 1.23 | |
| 660 | A2 | 202D667X0050A2 | 0.25 | 5.4 | 1.33 | |
| 800 | A4 | 202D807X0050A4 | 0.25 | 3.1 | 1.54 | |
| 820 | A3 | 202D827X0050A3 | 0.20 | 4.3 | 1.58 | |
| 980 | A4 | 202D987X0050A4 | 0.17 | 3.6 | 1.86 | |
| 1000 | A5 | 202D108X0050A5 | 0.25 | 2.8 | 2.84 | |
| 1100 | B1 | 202D118X0050B1 | 0.20 | 4.2 | 1.82 | |
| 1300 | A5 | 202D138X0050A5 | 0.13 | 2.7 | 2.34 | |
| 1400 | B2 | 202D148X0050B2 | 0.15 | 3.1 | 2.27 | |
| 1800 | B3 | 202D188X0050B3 | 0.12 | 2.5 | 2.72 | |
| 2200 | B4 | 202D228X0050B4 | 0.10 | 2.0 | 3.18 | |
| 2500 | B5 | 202D258X0050B5 | 0.086 | 1.8 | 3.61 | |
| 2900 | B6 | 202D298X0050B6 | 0.075 | 1.6 | 4.07 | |
| 3200 | B7 | 202D328X0050B7 | 0.067 | 1.4 | 4.51 | |

Note

(1) The part numbers listed are for \pm 20 % tolerance. To specify \pm 10 % tolerance, change the digit following "X" from "0" to "9". For requirements or ratings other than those listed, please contact a Vishay representative.



| STANDARD RATINGS TYPE 202D | | | | | | |
|--|------------------|------------------------|---|--|---|--|
| CAPACITANCE (μF) | CASE CODE | PART NUMBER (1) | MAX. ESR AT +25 °C (Ω) | MAX. IMP. AT -55 °C (Ω) | MAX. RMS RIPPLE 120 Hz (A) | |
| 60 V_{DC} AT +85 °C; 40 V_{DC} AT +125 °C | | | | | | |
| 410 | A1 | 202D417X0060A1 | 0.33 | 7.5 | 1.04 | |
| 550 | A2 | 202D557X0060A2 | 0.25 | 5.6 | 1.33 | |
| 680 | A3 | 202D687X0060A3 | 0.20 | 4.5 | 1.58 | |
| 820 | A4 | 202D827X0060A4 | 0.17 | 3.7 | 1.86 | |
| 900 | B1 | 202D907X0060B1 | 0.22 | 4.3 | 1.73 | |
| 1100 | A5 | 202D118X0060A5 | 0.13 | 2.8 | 2.34 | |
| 1200 | B2 | 202D128X0060B2 | 0.16 | 3.3 | 2.19 | |
| 1500 | B3 | 202D158X0060B3 | 0.13 | 2.6 | 2.62 | |
| 1800 | B4 | 202D188X0060B4 | 0.11 | 2.2 | 3.03 | |
| 2100 | B5 | 202D218X0060B5 | 0.093 | 1.9 | 3.47 | |
| 2400 | B6 | 202D248X0060B6 | 0.081 | 1.6 | 3.9 | |
| 2700 | B7 | 202D278X0060B7 | 0.072 | 1.4 | 4.35 | |
| 75 V_{DC} AT +85 °C; 50 V_{DC} AT +125 °C | | | | | | |
| 270 | A1 | 202D277X0075A1 | 0.56 | 8.5 | 0.80 | |
| 330 | A2 | 202D337X0075A2 | 0.46 | 7.0 | 0.98 | |
| 400 | A1 | 202D407X0075A1 | 0.26 | 7.5 | 1.18 | |
| 400 | A3 | 202D407X0075A3 | 0.38 | 5.0 | 1.15 | |
| 530 | A2 | 202D537X0075A2 | 0.20 | 5.6 | 1.48 | |
| 660 | A3 | 202D667X0075A3 | 0.16 | 4.5 | 1.77 | |
| 600 | A4 | 202D607X0075A4 | 0.25 | 3.65 | 1.54 | |
| 660 | A5 | 202D667X0075A5 | 0.23 | 3.5 | 1.76 | |
| 790 | A4 | 202D797X0075A4 | 0.13 | 3.7 | 2.13 | |
| 720 | B1 | 202D727X0075B1 | 0.28 | 4.5 | 1.54 | |
| 110 | A5 | 202D118X0075A5 | 0.096 | 2.8 | 2.72 | |
| 960 | B2 | 202D967X0075B2 | 0.21 | 3.4 | 1.91 | |
| 1200 | B3 | 202D128X0075B3 | 0.17 | 2.7 | 2.29 | |
| 1400 | B4 | 202D148X0075B4 | 0.14 | 2.1 | 2.69 | |
| 1700 | B5 | 202D178X0075B5 | 0.12 | 1.9 | 3.06 | |
| 1900 | B6 | 202D198X0075B6 | 0.11 | 1.7 | 3.36 | |
| 2200 | B7 | 202D228X0075B7 | 0.095 | 1.5 | 3.78 | |
| 85 V_{DC} AT +85 °C; 60 V_{DC} AT +125 °C | | | | | | |
| 280 | A1 | 202D287X0085A1 | 0.33 | 9.2 | 1.04 | |
| 370 | A2 | 202D377X0085A2 | 0.25 | 6.9 | 1.33 | |
| 470 | A3 | 202D477X0085A3 | 0.20 | 5.5 | 1.58 | |
| 570 | A4 | 202D577X0085A4 | 0.17 | 4.6 | 1.86 | |
| 600 | B1 | 202D607X0085B1 | 0.28 | 4.7 | 1.54 | |
| 750 | A5 | 202D757X0085A5 | 0.13 | 3.4 | 2.34 | |
| 800 | B2 | 202D807X0085B2 | 0.21 | 3.5 | 1.91 | |
| 1000 | B3 | 202D108X0085B3 | 0.17 | 2.8 | 2.29 | |
| 1200 | B4 | 202D128X0085B4 | 0.14 | 2.4 | 2.69 | |
| 1400 | B5 | 202D148X0085B5 | 0.12 | 2.0 | 3.06 | |
| 1600 | B6 | 202D168X0085B6 | 0.11 | 1.8 | 3.36 | |
| 1800 | B7 | 202D188X0085B7 | 0.095 | 1.6 | 3.78 | |

Note

(1) The part numbers listed are for $\pm 20\%$ tolerance. To specify $\pm 10\%$ tolerance, change the digit following "X" from "0" to "9". For requirements or ratings other than those listed, please contact a Vishay representative.



| STANDARD RATINGS TYPE 202D | | | | | |
|--|-----------|-----------------|---------------------------------------|--|----------------------------------|
| CAPACITANCE (μ F) | CASE CODE | PART NUMBER (1) | MAX. ESR AT +25 °C (Ω) | MAX. IMP. AT -55 °C (Ω) | MAX. RMS RIPPLE 120 Hz (A) |
| 100 V_{DC} AT +85 °C; 70 V_{DC} AT +125 °C | | | | | |
| 170 | A1 | 202D177X0100A1 | 0.94 | 15.0 | 0.62 |
| 220 | A2 | 202D227X0100A2 | 0.72 | 11.6 | 0.78 |
| 260 | A1 | 202D267X0100A1 | 0.40 | 8.3 | 0.95 |
| 260 | A3 | 202D267X0100A3 | 0.61 | 8.0 | 0.91 |
| 350 | A2 | 202D357X0100A2 | 0.30 | 6.2 | 1.21 |
| 350 | A4 | 202D357X0100A4 | 0.45 | 6.5 | 1.15 |
| 440 | A3 | 202D447X0100A3 | 0.24 | 5.0 | 1.44 |
| 440 | A5 | 202D447X0100A5 | 0.36 | 5.8 | 1.40 |
| 510 | B1 | 202D517X0100B1 | 0.28 | 4.8 | 1.54 |
| 530 | A4 | 202D537X0100A4 | 0.20 | 4.2 | 1.72 |
| 680 | B2 | 202D687X0100B2 | 0.21 | 3.6 | 1.91 |
| 700 | A5 | 202D707X0100A5 | 0.15 | 3.1 | 2.18 |
| 850 | B3 | 202D857X0100B3 | 0.17 | 2.9 | 2.29 |
| 1000 | B4 | 202D108X0100B4 | 0.14 | 2.4 | 2.69 |
| 1200 | B5 | 202D128X0100B5 | 0.12 | 2.1 | 3.06 |
| 1400 | B6 | 202D148X0100B6 | 0.11 | 1.8 | 3.36 |
| 1500 | B7 | 202D158X0100B7 | 0.095 | 1.6 | 3.78 |
| 125 V_{DC} AT +85 °C; 80 V_{DC} AT +125 °C | | | | | |
| 170 | A1 | 202D177X0125A1 | 0.40 | 15.0 | 0.95 |
| 220 | A2 | 202D227X0125A2 | 0.30 | 12.0 | 1.21 |
| 280 | A3 | 202D287X0125A3 | 0.24 | 9.0 | 1.44 |
| 340 | A4 | 202D347X0125A4 | 0.20 | 7.5 | 1.72 |
| 340 | B1 | 202D347X0125B1 | 0.28 | 5.4 | 1.54 |
| 560 | B3 | 202D567X0125B3 | 0.17 | 3.2 | 2.29 |
| 670 | B4 | 202D677X0125B4 | 0.14 | 2.7 | 2.69 |
| 790 | B5 | 202D797X0125B5 | 0.12 | 2.4 | 3.06 |
| 900 | B6 | 202D907X0125B6 | 0.11 | 2.0 | 3.38 |
| 1000 | B7 | 202D108X0125B7 | 0.095 | 1.8 | 3.78 |
| 150 V_{DC} AT +85 °C; 100 V_{DC} AT +125 °C | | | | | |
| 70 | A1 | 202D706X0150A1 | 2.27 | 28.8 | 0.40 |
| 90 | A2 | 202D906X0150A2 | 1.77 | 22.4 | 0.50 |
| 100 | A3 | 202D107X0150A3 | 1.59 | 16.4 | 0.56 |
| 140 | A4 | 202D147X0150A4 | 1.14 | 12.4 | 0.72 |
| 180 | A5 | 202D187X0150A5 | 0.88 | 11.2 | 0.90 |

Note

(1) The part numbers listed are for $\pm 20\%$ tolerance. To specify $\pm 10\%$ tolerance, change the digit following "X" from "0" to "9".
For requirements or ratings other than those listed, please contact a Vishay representative.



| EXTENDED RATINGS TYPE 200D | | | | | | |
|--|------------------|--------------------|---|--|---|--|
| CAPACITANCE (μF) | CASE CODE | PART NUMBER | MAX. ESR AT +25 °C (Ω) | MAX. IMP. AT -55 °C (Ω) | MAX. RMS RIPPLE 120 Hz (A) | |
| 6 V_{DC} AT +85 °C; 4 V_{DC} AT +125 °C | | | | | | |
| 6600 | A1 | 200D668X0006A1 | 0.28 | 2.3 | 1.13 | |
| 8200 | A2 | 200D828X0006A2 | 0.22 | 1.8 | 1.41 | |
| 9900 | A3 | 200D998X0006A3 | 0.18 | 1.5 | 1.67 | |
| 13 000 | A4 | 200D139X0006A4 | 0.14 | 1.1 | 2.05 | |
| 8 V_{DC} AT +85 °C; 5 V_{DC} AT +125 °C | | | | | | |
| 5400 | A1 | 200D548X0008A1 | 0.28 | 2.8 | 1.13 | |
| 6800 | A2 | 200D688X0008A2 | 0.22 | 2.2 | 1.41 | |
| 8200 | A3 | 200D828X0008A3 | 0.18 | 1.8 | 1.67 | |
| 11000 | A4 | 200D119X0008A4 | 0.14 | 1.4 | 2.05 | |
| 14 000 | A5 | 200D149X0008A5 | 0.11 | 1.1 | 2.35 | |
| 10 V_{DC} AT +85 °C; 7 V_{DC} AT +125 °C | | | | | | |
| 4500 | A1 | 200D458X0010A1 | 0.28 | 3.4 | 1.13 | |
| 5600 | A2 | 200D568X0010A2 | 0.22 | 2.7 | 1.41 | |
| 6800 | A3 | 200D688X0010A3 | 0.18 | 2.2 | 1.67 | |
| 9000 | A4 | 200D908X0010A4 | 0.14 | 1.7 | 2.05 | |
| 11 000 | A5 | 200D119X0010A5 | 0.11 | 1.4 | 2.35 | |
| 15 V_{DC} AT +85 °C; 10 V_{DC} AT +125 °C | | | | | | |
| 3100 | A1 | 200D318X0015A1 | 0.28 | 3.9 | 1.13 | |
| 3900 | A2 | 200D398X0015A2 | 0.22 | 3.1 | 1.41 | |
| 4700 | A3 | 200D478X0015A3 | 0.18 | 2.6 | 1.67 | |
| 6200 | A4 | 200D628X0015A4 | 0.14 | 1.9 | 2.05 | |
| 7800 | A5 | 200D788X0015A5 | 0.11 | 1.6 | 2.54 | |
| 20 V_{DC} AT +85 °C; 13 V_{DC} AT +125 °C | | | | | | |
| 2600 | A1 | 200D268X0020A1 | 0.28 | 3.9 | 1.13 | |
| 3300 | A2 | 200D338X0020A2 | 0.22 | 3.1 | 1.41 | |
| 4000 | A3 | 200D408X0020A3 | 0.18 | 2.6 | 1.67 | |
| 5300 | A4 | 200D538X0020A4 | 0.14 | 1.9 | 2.05 | |
| 6600 | A5 | 200D668X0020A5 | 0.11 | 1.6 | 2.54 | |
| 25 V_{DC} AT +85 °C; 15 V_{DC} AT +125 °C | | | | | | |
| 2200 | A1 | 200D228X0025A1 | 0.28 | 4.1 | 1.13 | |
| 2700 | A2 | 200D278X0025A2 | 0.22 | 3.3 | 1.41 | |
| 3200 | A3 | 200D328X0025A3 | 0.18 | 2.8 | 1.67 | |
| 4300 | A4 | 200D438X0025A4 | 0.14 | 2.1 | 2.05 | |
| 5400 | A5 | 200D548X0025A5 | 0.11 | 1.7 | 2.54 | |
| 30 V_{DC} AT +85 °C; 20 V_{DC} AT +125 °C | | | | | | |
| 1800 | A1 | 200D188X0030A1 | 0.28 | 4.5 | 1.13 | |
| 2200 | A2 | 200D228X0030A2 | 0.22 | 3.6 | 1.41 | |
| 2600 | A3 | 200D268X0030A3 | 0.18 | 3.0 | 1.67 | |
| 3500 | A4 | 200D358X0030A4 | 0.14 | 2.3 | 2.05 | |
| 4400 | A5 | 200D448X0030A5 | 0.11 | 1.8 | 2.54 | |

Note

(1) The part numbers listed are for $\pm 20\%$ tolerance. To specify $\pm 10\%$ tolerance, change the digit following "X" from "0" to "9". For requirements or ratings other than those listed, please contact a Vishay representative.



| EXTENDED RATINGS TYPE 200D | | | | | | |
|--|------------------|--------------------|---|--|---|--|
| CAPACITANCE (μF) | CASE CODE | PART NUMBER | MAX. ESR AT +25 °C (Ω) | MAX. IMP. AT -55 °C (Ω) | MAX. RMS RIPPLE 120 Hz (A) | |
| 35 V_{DC} AT +85 °C; 22 V_{DC} AT +125 °C | | | | | | |
| 1400 | A1 | 200D148X0035A1 | 0.28 | 5.1 | 1.13 | |
| 1800 | A2 | 200D188X0035A2 | 0.22 | 4.1 | 1.41 | |
| 2200 | A3 | 200D228X0035A3 | 0.18 | 3.4 | 1.67 | |
| 2900 | A4 | 200D298X0035A4 | 0.14 | 2.6 | 2.05 | |
| 3600 | A5 | 200D368X0035A5 | 0.11 | 2.1 | 2.54 | |
| 40 V_{DC} AT +85 °C; 25 V_{DC} AT +125 °C | | | | | | |
| 1200 | A1 | 200D128X0040A1 | 0.28 | 5.5 | 1.13 | |
| 1500 | A2 | 200D158X0040A2 | 0.22 | 4.4 | 1.41 | |
| 1800 | A3 | 200D188X0040A3 | 0.18 | 3.7 | 1.67 | |
| 2400 | A4 | 200D248X0040A4 | 0.14 | 2.8 | 2.05 | |
| 3000 | A5 | 200D308X0040A5 | 0.11 | 2.3 | 2.54 | |
| 50 V_{DC} AT +85 °C; 35 V_{DC} AT +125 °C | | | | | | |
| 960 | A1 | 200D967X0050A1 | 0.28 | 6.1 | 1.13 | |
| 1200 | A2 | 200D128X0050A2 | 0.22 | 4.9 | 1.14 | |
| 1400 | A3 | 200D148X0050A3 | 0.18 | 4.1 | 1.67 | |
| 1900 | A4 | 200D198X0050A4 | 0.14 | 3.1 | 2.05 | |
| 2400 | A5 | 200D248X0050A5 | 0.11 | 2.5 | 2.54 | |
| 60 V_{DC} AT +85 °C; 40 V_{DC} AT +125 °C | | | | | | |
| 800 | A1 | 200D807X0060A1 | 0.28 | 6.8 | 1.13 | |
| 1000 | A2 | 200D108X0060A2 | 0.22 | 5.4 | 1.41 | |
| 1200 | A3 | 200D128X0060A3 | 0.18 | 4.5 | 1.67 | |
| 1600 | A4 | 200D168X0060A4 | 0.14 | 3.4 | 2.05 | |
| 2000 | A5 | 200D208X0060A5 | 0.11 | 2.7 | 2.54 | |
| 75 V_{DC} AT +85 °C; 50 V_{DC} AT +125 °C | | | | | | |
| 650 | A1 | 200D657X0075A1 | 0.28 | 7.9 | 1.13 | |
| 820 | A2 | 200D827X0075A2 | 0.22 | 6.3 | 1.41 | |
| 980 | A3 | 200D987X0075A3 | 0.18 | 5.2 | 1.64 | |
| 1300 | A4 | 200D138X0075A4 | 0.14 | 3.9 | 2.05 | |
| 1600 | A5 | 200D168X0075A5 | 0.11 | 3.2 | 2.54 | |

Note

(1) The part numbers listed are for $\pm 20\%$ tolerance. To specify $\pm 10\%$ tolerance, change the digit following "X" from "0" to "9". For requirements or ratings other than those listed, please contact a Vishay representative.



| EXTENDED RATINGS TYPE 202D | | | | | | |
|--|------------------|--------------------|---|--|---|--|
| CAPACITANCE (μF) | CASE CODE | PART NUMBER | MAX. ESR AT +25 °C (Ω) | MAX. IMP. AT -55 °C (Ω) | MAX. RMS RIPPLE 120 Hz (A) | |
| 6 V_{DC} AT +85 °C; 4 V_{DC} AT +125 °C | | | | | | |
| 6600 | A1 | 202D668X0006A1 | 0.28 | 2.3 | 1.13 | |
| 8200 | A2 | 202D828X0006A2 | 0.22 | 1.8 | 1.41 | |
| 9900 | A3 | 202D998X0006A3 | 0.18 | 1.5 | 1.67 | |
| 12 000 | B1 | 202D129X0006B1 | 0.11 | 0.90 | 2.54 | |
| 13 000 | A4 | 202D139X0006A4 | 0.14 | 1.1 | 2.05 | |
| 15 000 | A5 | 202D159X0006A5 | 0.12 | 1.8 | 2.35 | |
| 8 V_{DC} AT +85 °C; 5 V_{DC} AT +125 °C | | | | | | |
| 5400 | A1 | 202D548X0008A1 | 0.28 | 2.8 | 1.13 | |
| 6800 | A2 | 202D688X0008A2 | 0.22 | 2.2 | 1.41 | |
| 8200 | A3 | 202D828X0008A3 | 0.18 | 1.8 | 1.67 | |
| 9600 | B1 | 202D968X0008B1 | 0.12 | 1.8 | 2.54 | |
| 11000 | A4 | 202D119X0008A4 | 0.14 | 1.4 | 2.05 | |
| 12 000 | B2 | 202D129X0008B2 | 0.086 | 1.3 | 2.99 | |
| 14 000 | A5 | 202D149X0008A5 | 0.11 | 1.1 | 2.35 | |
| 10 V_{DC} AT +85 °C; 7 V_{DC} AT +125 °C | | | | | | |
| 4500 | A1 | 202D458X0010A1 | 0.28 | 3.4 | 1.13 | |
| 5600 | A2 | 202D568X0010A2 | 0.22 | 2.7 | 1.41 | |
| 6800 | A3 | 202D688X0010A3 | 0.18 | 2.2 | 1.67 | |
| 9000 | A4 | 202D908X0010A4 | 0.14 | 1.7 | 2.05 | |
| 9600 | B1 | 202D968X0010B1 | 0.12 | 1.8 | 2.54 | |
| 11 000 | A5 | 202D119X0010A5 | 0.11 | 1.4 | 2.35 | |
| 15 V_{DC} AT +85 °C; 10 V_{DC} AT +125 °C | | | | | | |
| 3100 | A1 | 202D318X0015A1 | 0.28 | 3.9 | 1.13 | |
| 3900 | A2 | 202D398X0015A2 | 0.22 | 3.1 | 1.41 | |
| 4700 | A3 | 202D478X0015A3 | 0.18 | 2.6 | 1.67 | |
| 6200 | A4 | 202D628X0015A4 | 0.14 | 1.9 | 2.05 | |
| 6560 | B1 | 202D668X0015B1 | 0.16 | 2.2 | 2.03 | |
| 7800 | A5 | 202D788X0015A5 | 0.11 | 1.6 | 2.54 | |
| 20 V_{DC} AT +85 °C; 13 V_{DC} AT +125 °C | | | | | | |
| 2600 | A1 | 202D268X0020A1 | 0.28 | 3.9 | 1.13 | |
| 3300 | A2 | 202D338X0020A2 | 0.22 | 3.1 | 1.41 | |
| 4000 | A3 | 202D408X0020A3 | 0.18 | 2.6 | 1.67 | |
| 5300 | A4 | 202D538X0020A4 | 0.14 | 1.9 | 2.05 | |
| 6600 | A5 | 202D668X0020A5 | 0.11 | 1.6 | 2.54 | |
| 25 V_{DC} AT +85 °C; 15 V_{DC} AT +125 °C | | | | | | |
| 2200 | A1 | 202D228X0025A1 | 0.28 | 4.1 | 1.13 | |
| 2700 | A2 | 202D278X0025A2 | 0.22 | 3.3 | 1.41 | |
| 3200 | A3 | 202D328X0025A3 | 0.18 | 2.8 | 1.67 | |
| 4300 | A4 | 202D438X0025A4 | 0.14 | 2.1 | 2.05 | |
| 5400 | A5 | 202D548X0025A5 | 0.11 | 1.7 | 2.54 | |
| 30 V_{DC} AT +85 °C; 20 V_{DC} AT +125 °C | | | | | | |
| 1800 | A1 | 202D188X0030A1 | 0.28 | 4.5 | 1.13 | |
| 2200 | A2 | 202D228X0030A2 | 0.22 | 3.6 | 1.41 | |
| 2600 | A3 | 202D268X0030A3 | 0.18 | 3.0 | 1.67 | |
| 3500 | A4 | 202D358X0030A4 | 0.14 | 2.3 | 2.05 | |
| 4400 | A5 | 202D448X0030A5 | 0.11 | 1.8 | 2.54 | |

Note

(1) The part numbers listed are for $\pm 20\%$ tolerance. To specify $\pm 10\%$ tolerance, change the digit following "X" from "0" to "9". For requirements or ratings other than those listed, please contact a Vishay representative.



| EXTENDED RATINGS TYPE 202D | | | | | | |
|--|------------------|--------------------|---|--|---|--|
| CAPACITANCE (μF) | CASE CODE | PART NUMBER | MAX. ESR AT +25 °C (Ω) | MAX. IMP. AT -55 °C (Ω) | MAX. RMS RIPPLE 120 Hz (A) | |
| 35 V_{DC} AT +85 °C; 22 V_{DC} AT +125 °C | | | | | | |
| 1400 | A1 | 202D148X0035A1 | 0.28 | 5.1 | 1.13 | |
| 1800 | A2 | 202D188X0035A2 | 0.22 | 4.1 | 1.41 | |
| 2200 | A3 | 202D228X0035A3 | 0.18 | 3.4 | 1.67 | |
| 2900 | A4 | 202D298X0035A4 | 0.14 | 2.6 | 2.05 | |
| 3600 | A5 | 202D368X0035A5 | 0.11 | 2.1 | 2.54 | |
| 3900 | B1 | 202D398X0035B1 | 0.16 | 2.7 | 2.03 | |
| 5500 | B2 | 202D558X0035B2 | 0.11 | 1.9 | 2.64 | |
| 7000 | B3 | 202D708X0035B3 | 0.089 | 1.5 | 3.16 | |
| 8600 | B4 | 202D868X0035B4 | 0.073 | 1.2 | 3.72 | |
| 10 000 | B5 | 202D109X0035B5 | 0.062 | 1.0 | 4.25 | |
| 12 000 | B6 | 202D129X0035B6 | 0.053 | 0.90 | 4.84 | |
| 13 000 | B7 | 202D139X0035B7 | 0.047 | 0.79 | 5.38 | |
| 40 V_{DC} AT +85 °C; 25 V_{DC} AT +125 °C | | | | | | |
| 1200 | A1 | 202D128X0040A1 | 0.28 | 5.5 | 1.13 | |
| 1500 | A2 | 202D158X0040A2 | 0.22 | 4.4 | 1.41 | |
| 1800 | A3 | 202D188X0040A3 | 0.18 | 3.7 | 1.67 | |
| 2400 | A4 | 202D248X0040A4 | 0.14 | 2.8 | 2.05 | |
| 3000 | A5 | 202D308X0040A5 | 0.11 | 2.3 | 2.54 | |
| 50 V_{DC} AT +85 °C; 35 V_{DC} AT +125 °C | | | | | | |
| 960 | A1 | 202D967X0050A1 | 0.28 | 6.1 | 1.13 | |
| 1200 | A2 | 202D128X0050A2 | 0.22 | 4.9 | 1.14 | |
| 1400 | A3 | 202D148X0050A3 | 0.18 | 4.1 | 1.67 | |
| 1900 | A4 | 202D198X0050A4 | 0.14 | 3.1 | 2.05 | |
| 2400 | A5 | 202D248X0050A5 | 0.11 | 2.5 | 2.54 | |
| 60 V_{DC} AT +85 °C; 40 V_{DC} AT +125 °C | | | | | | |
| 800 | A1 | 202D807X0060A1 | 0.28 | 6.8 | 1.13 | |
| 1000 | A2 | 202D108X0060A2 | 0.22 | 5.4 | 1.41 | |
| 1200 | A3 | 202D128X0060A3 | 0.18 | 4.5 | 1.67 | |
| 1600 | A4 | 202D168X0060A4 | 0.14 | 3.4 | 2.05 | |
| 2000 | A5 | 202D208X0060A5 | 0.11 | 2.7 | 2.54 | |
| 75 V_{DC} AT +85 °C; 50 V_{DC} AT +125 °C | | | | | | |
| 650 | A1 | 202D657X0075A1 | 0.28 | 7.9 | 1.13 | |
| 820 | A2 | 202D827X0075A2 | 0.22 | 6.3 | 1.41 | |
| 980 | A3 | 202D987X0075A3 | 0.18 | 5.2 | 1.64 | |
| 1300 | A4 | 202D138X0075A4 | 0.14 | 3.9 | 2.05 | |
| 1600 | A5 | 202D168X0075A5 | 0.11 | 3.2 | 2.54 | |

Note

(1) The part numbers listed are for $\pm 20\%$ tolerance. To specify $\pm 10\%$ tolerance, change the digit following "X" from "0" to "9". For requirements or ratings other than those listed, please contact a Vishay representative.



| 04021 RATINGS AND CASE CODES | | | | | |
|--|---------------------------|--|------------------------|---|--------------------------------|
| DSCC DRAWING 04021 | CAPACITANCE (μ F) | CASE CODE | MAX. DCL (μ A) | | MAX. IMPEDANCE (Ω) |
| | | | 25 °C | 85 °C AND 125 °C | |
| 15 V_{DC} AT 85 °C RATED | | 17.2 V_{DC} AT 85 °C SURGE | | 10 V_{DC} AT 125 °C DERATED | |
| 04021-01 | 960 | A1 | 7 | 58 | 3.10 |
| 04021-02 | 1200 | A2 | 9 | 72 | 2.30 |
| 04021-03 | 1400 | A3 | 11 | 84 | 1.70 |
| 04021-04 | 2100 | A4 | 16 | 126 | 1.30 |
| 04021-05 | 2400 | A5 | 18 | 144 | 1.15 |
| 30 V_{DC} AT 85 °C RATED | | 34.5 V_{DC} AT 85 °C SURGE | | 20 V_{DC} AT 125 °C DERATED | |
| 04021-06 | 520 | A1 | 8 | 63 | 5.30 |
| 04021-07 | 660 | A2 | 10 | 80 | 4.20 |
| 04021-08 | 820 | A3 | 13 | 99 | 2.90 |
| 04021-09 | 1200 | A4 | 18 | 144 | 2.30 |
| 04021-10 | 1300 | A5 | 20 | 156 | 2.10 |
| 50 V_{DC} AT 85 °C RATED | | 57.5 V_{DC} AT 85 °C SURGE | | 30 V_{DC} AT 125 °C DERATED | |
| 04021-11 | 400 | A1 | 10 | 80 | 7.20 |
| 04021-12 | 430 | A1 | 10 | 78 | 6.40 |
| 04021-13 | 500 | A2 | 13 | 100 | 5.60 |
| 04021-14 | 600 | A3 | 15 | 120 | 4.10 |
| 04021-15 | 800 | A4 | 20 | 160 | 3.10 |
| 04021-16 | 1000 | A5 | 23 | 180 | 2.80 |
| 75 V_{DC} AT 85 °C RATED | | 86.2 V_{DC} AT 85 °C SURGE | | 50 V_{DC} AT 125 °C DERATED | |
| 04021-17 | 270 | A1 | 9 | 81 | 8.50 |
| 04021-18 | 330 | A2 | 12 | 99 | 7.00 |
| 04021-19 | 400 | A3 | 15 | 119 | 5.00 |
| 04021-20 | 600 | A4 | 20 | 180 | 3.65 |
| 04021-21 | 660 | A5 | 23 | 198 | 3.50 |
| 100 V_{DC} AT 85 °C RATED | | 115.0 V_{DC} AT 85 °C SURGE | | 65 V_{DC} AT 125 °C DERATED | |
| 04021-22 | 170 | A1 | 9 | 68 | 15.00 |
| 04021-23 | 220 | A2 | 11 | 88 | 11.60 |
| 04021-24 | 260 | A3 | 13 | 104 | 8.00 |
| 04021-25 | 350 | A4 | 18 | 140 | 6.50 |
| 04021-26 | 440 | A5 | 22 | 176 | 5.80 |
| 150 V_{DC} AT 85 °C RATED | | 172.0 V_{DC} AT 85 °C SURGE | | 100 V_{DC} AT 125 °C DERATED | |
| 04021-27 | 70 | A1 | 6 | 42 | 28.80 |
| 04021-28 | 90 | A2 | 7 | 54 | 22.40 |
| 04021-29 | 100 | A3 | 9 | 60 | 16.40 |
| 04021-30 | 140 | A4 | 11 | 84 | 12.40 |
| 04021-31 | 180 | A5 | 14 | 104 | 11.20 |

| ORDERING INFORMATION - DSCC PART NUMBER | |
|--|----------------|
| 04021 | -29 |
| DSCC DRAWING NUMBER | DASH NUMBER |

| | |
|---|------------------------------|
| DEFENSE SUPPLY CENTER, COLUMBUS COLUMBUS, OHIO | DRAWING NO. 04021 |
|---|------------------------------|



| MILITARY SPECIFICATION TANTAPAK® CAPACITOR ASSEMBLIES - CROSS REFERENCE | | | | | |
|--|--|----------------------|-------------------------------|---|---|
| CAPACITANCE (µF) | RATED VOLTAGE AT +85 °C | CASE CODE | VISHAY PART NUMBER | (DISCONTINUED) CL55 TYPE (1) DESIGNATION | (NEW) DSCC DRAWING (1) 04021 |
| 960.0 | 15 | A1 | 202D967X0015A1 | CL55BE961MPG | 04021-01 |
| 1200.0 | 15 | A2 | 202D128X0015A2 | CL55BE122MPG | 04021-02 |
| 1400.0 | 15 | A3 | 202D148X0015A3 | CL55BE142MPG | 04021-03 |
| 2100.0 | 15 | A4 | 202D218X0015A4 | CL55BE212MPG | 04021-04 |
| 2400.0 | 15 | A5 | 202D248X0015A5 | CL55BE242MPG | 04021-05 |
| 520.0 | 30 | A1 | 202D527X0030A1 | CL55BH521MPG | 04021-06 |
| 660.0 | 30 | A2 | 202D667X0030A2 | CL55BH661MPG | 04021-07 |
| 820.0 | 30 | A3 | 202D827X0030A3 | CL55BH821MPG | 04021-08 |
| 1200.0 | 30 | A4 | 202D128X0030A4 | CL55BH122MPG | 04021-09 |
| 1300.0 | 30 | A5 | 202D138X0030A5 | CL55BH132MPG | 04021-10 |
| 400.0 | 50 | A1 | 202D407X0050A1 | CL55BJ401MPG | 04021-11 |
| 430.0 | 50 | A1 | 202D437X0050A1 | CL55BJ431MPG | 04021-12 |
| 500.0 | 50 | A2 | 202D507X0050A2 | CL55BJ501MPG | 04021-13 |
| 600.0 | 50 | A3 | 202D607X0050A3 | CL55BJ601MPG | 04021-14 |
| 800.0 | 50 | A4 | 202D807X0050A4 | CL55BJ801MPG | 04021-15 |
| 1000.0 | 50 | A5 | 202D108X0050A5 | CL55BJ102MPG | 04021-16 |
| 270.0 | 75 | A1 | 202D277X0075A1 | CL55BL271MPG | 04021-17 |
| 330.0 | 75 | A2 | 202D337X0075A2 | CL55BL331MPG | 04021-18 |
| 400.0 | 75 | A3 | 202D407X0075A3 | CL55BL401MPG | 04021-19 |
| 600.0 | 75 | A4 | 202D607X0075A4 | CL55BL601MPG | 04021-20 |
| 660.0 | 75 | A5 | 202D667X0075A5 | CL55BL661MPG | 04021-21 |
| 170.0 | 100 | A1 | 202D177X0100A1 | CL55BN171MPG | 04021-22 |
| 220.0 | 100 | A2 | 202D227X0100A2 | CL55BN221MPG | 04021-23 |
| 260.0 | 100 | A3 | 202D267X0100A3 | CL55BN261MPG | 04021-24 |
| 350.0 | 100 | A4 | 202D357X0100A4 | CL55BN351MPG | 04021-25 |
| 440.0 | 100 | A5 | 202D447X0100A5 | CL55BN441MPG | 04021-26 |
| 70.0 | 150 | A1 | 202D706X0150A1 | CL55BQ700MPG | 04021-27 |
| 90.0 | 150 | A2 | 202D906X0150A2 | CL55BQ900MPG | 04021-28 |
| 100.0 | 150 | A3 | 202D107X0150A3 | CL55BQ101MPG | 04021-29 |
| 140.0 | 150 | A4 | 202D147X0150A4 | CL55BQ141MPG | 04021-30 |
| 180.0 | 150 | A5 | 202D187X0150A5 | CL55BQ181MPG | 04021-31 |

Note

(1) Vishay is no longer qualified to provide military CL55 type which has been discontinued. It has been replaced by an equivalent product built to DSCC drawing 04021



Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Hyperlinks included in this datasheet may direct users to third-party websites. These links are provided as a convenience and for informational purposes only. Inclusion of these hyperlinks does not constitute an endorsement or an approval by Vishay of any of the products, services or opinions of the corporation, organization or individual associated with the third-party website. Vishay disclaims any and all liability and bears no responsibility for the accuracy, legality or content of the third-party website or for that of subsequent links.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.