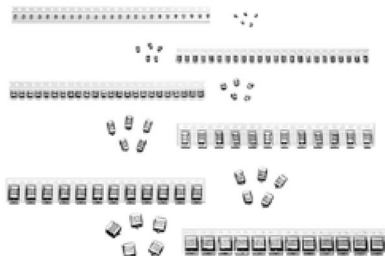


# Solid Tantalum Chip Capacitors, TANTAMOUNT<sup>®</sup>, Conformal Coated, Maximum CV, Low ESR



## FEATURES

- Large capacitance rating range
- Mounting: Surface mount
- Lowest ESR for a surface mount tantalum chip capacitor
- Terminations: 100 % tin (2) standard; tin/lead available
- 8 mm, 12 mm tape and reel packaging available per EIA 481 and reeling per IEC 60286-3. 7" [178 mm] standard. 13" [330 mm] available.
- Case code compatibility with EIA 535BAAC and CECC 30801
- Material categorization: For definitions please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS\***  
COMPLIANT

## Note

\* Lead (Pb)-containing terminations are not RoHS-compliant. Exemptions may apply.

## PERFORMANCE CHARACTERISTICS

[www.vishay.com/doc?40088](http://www.vishay.com/doc?40088)

**Operating Temperature:** - 55 °C to + 125 °C  
(above 85 °C, voltage derating is required)

**Capacitance Range:** 1.0 µF to 1500 µF

**Capacitance Tolerance:** ± 10 %, ± 20 % standard

**Voltage Rating:** 4 V<sub>DC</sub> to 50 V<sub>DC</sub>

**Equivalent Series Resistance:** ESR readings measured at 100 kHz, + 25 °C from 3500 mΩ to 30 mΩ

## ORDERING INFORMATION

| 594D | 477                                                                                                                    | X0                                       | 004                                                                                                                                                | R                               | 2                                                                                                   | T                                                                                   |
|------|------------------------------------------------------------------------------------------------------------------------|------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| TYPE | CAPACITANCE                                                                                                            | CAPACITANCE TOLERANCE                    | DC VOLTAGE RATING AT + 85 °C                                                                                                                       | CASE CODE                       | TERMINATION                                                                                         | REEL SIZE AND PACKAGING                                                             |
|      | This is expressed in pF. The first two digits are the significant figures. The third is the number of zeros to follow. | <b>X0 = ± 20 %</b><br><b>X9 = ± 10 %</b> | This is expressed in V. To complete the three-digit block, zeros precede the voltage rating. A decimal point is indicated by an "R" (6R3 = 6.3 V). | See Ratings and Case Code table | <b>2 = 100 % tin</b><br><b>4 = Gold plated</b><br><b>8 = Solder plated (60/40)</b><br>Special order | <b>Tape and reel</b><br><b>T = 7" [178 mm] reel</b><br><b>W = 13" [330 mm] reel</b> |

## Note

- Preferred tolerances and reel sizes are in bold. We reserve the right to supply higher voltage ratings and tighter capacitance tolerance capacitors in the same case size.

## DIMENSIONS in inches [millimeters]

| CASE CODE | L <sub>MAX.</sub> | W                                          | H                                          | A                            | B                            | D <sub>REF.</sub> | J <sub>MAX.</sub> |
|-----------|-------------------|--------------------------------------------|--------------------------------------------|------------------------------|------------------------------|-------------------|-------------------|
| B         | 0.157<br>[4.0]    | 0.110 + 0.012/- 0.016<br>[2.8 + 0.3/- 0.4] | 0.075 + 0.012/- 0.024<br>[1.9 + 0.3/- 0.6] | 0.031 ± 0.012<br>[0.8 ± 0.3] | 0.098 ± 0.016<br>[2.5 ± 0.4] | 0.138<br>[3.5]    | 0.004<br>[0.1]    |
| C         | 0.280<br>[7.1]    | 0.126 ± 0.012<br>[3.2 ± 0.3]               | 0.098 ± 0.012<br>[2.5 ± 0.3]               | 0.051 ± 0.012<br>[1.3 ± 0.3] | 0.181 ± 0.024<br>[4.6 ± 0.6] | 0.236<br>[6.0]    | 0.004<br>[0.1]    |
| D         | 0.295<br>[7.5]    | 0.169 + 0.012/- 0.024<br>[4.3 + 0.3/- 0.6] | 0.110 ± 0.012<br>[2.8 ± 0.3]               | 0.051 ± 0.012<br>[1.3 ± 0.3] | 0.181 ± 0.024<br>[4.6 ± 0.6] | 0.252<br>[6.4]    | 0.004<br>[0.1]    |
| R         | 0.283<br>[7.2]    | 0.236 + 0.012/- 0.024<br>[6.0 + 0.3/- 0.6] | 0.138 + 0.012/- 0.016<br>[3.5 + 0.3/- 0.4] | 0.051 ± 0.012<br>[1.3 ± 0.3] | 0.181 ± 0.024<br>[4.6 ± 0.6] | 0.244<br>[6.2]    | 0.004<br>[0.1]    |

## Note

- The anode termination (D less B) will be a minimum of 0.012" [0.3 mm]

**RATINGS AND CASE CODES**

| $\mu\text{F}$ | 4 V | 6.3 V | 10 V  | 16 V | 20 V | 25 V | 35 V | 50 V |
|---------------|-----|-------|-------|------|------|------|------|------|
| 1.0           |     |       |       |      |      |      |      | B    |
| 2.2           |     |       |       |      |      |      | B    |      |
| 3.3           |     |       |       |      |      | B    |      |      |
| 4.7           |     |       |       |      | B    |      | B    | C    |
| 6.8           |     |       |       |      | B    |      | C    | C/D  |
| 10            |     |       |       |      | B    | B    |      |      |
| 15            |     |       | B     | B    |      | C    | C/D  | R    |
| 22            |     | B     | B     | B    | B/C  | C    | D/R  |      |
| 33            | B   |       | B     | B/C  |      | D    | R    |      |
| 47            |     |       | B     | B/C  | C/D  | D/R  | R    |      |
| 68            |     | B     | B/C   | C/D  | D    | D/R  |      |      |
| 100           | B   | B     | B/C   | C/D  | D    | R    |      |      |
| 120           |     | C     | C     | R    | R    |      |      |      |
| 150           | B/C |       | C/D   | D    | D    |      |      |      |
| 180           |     |       | D     | R    |      |      |      |      |
| 220           |     | C/D   | C/D/R | R    |      |      |      |      |
| 270           | D   |       |       |      |      |      |      |      |
| 330           | C   | C/D   | D/R   | R    |      |      |      |      |
| 390           |     | R     |       |      |      |      |      |      |
| 470           | C/R | D/R   | R     |      |      |      |      |      |
| 680           | D   | R     | R     |      |      |      |      |      |
| 1000          |     | R     |       |      |      |      |      |      |
| 1500          | R   |       |       |      |      |      |      |      |

**STANDARD RATINGS**

| CAPACITANCE<br>( $\mu\text{F}$ )                                   | CASE CODE | PART NUMBER          | MAX. DCL<br>AT + 25 °C<br>( $\mu\text{A}$ ) | MAX. DF<br>AT + 25 °C<br>120 Hz<br>(%) | MAX. ESR<br>AT + 25 °C<br>100 kHz<br>( $\Omega$ ) | MAX. RIPPLE<br>100 kHz<br>$I_{\text{RMS}}$<br>(A) |
|--------------------------------------------------------------------|-----------|----------------------|---------------------------------------------|----------------------------------------|---------------------------------------------------|---------------------------------------------------|
| <b>4 V<sub>DC</sub> AT + 85 °C, 2.7 V<sub>DC</sub> AT + 125 °C</b> |           |                      |                                             |                                        |                                                   |                                                   |
| 33                                                                 | B         | 594D336(1)004B(2)(3) | 1.30                                        | 6                                      | 0.380                                             | 0.47                                              |
| 100                                                                | B         | 594D107(1)004B(2)(3) | 4.00                                        | 8                                      | 0.300                                             | 0.53                                              |
| 150                                                                | B         | 594D157(1)004B(2)(3) | 6.00                                        | 8                                      | 0.250                                             | 0.58                                              |
| 150                                                                | C         | 594D157(1)004C(2)(3) | 6.00                                        | 8                                      | 0.080                                             | 1.17                                              |
| 270                                                                | D         | 594D277(1)004D(2)(3) | 10.80                                       | 8                                      | 0.060                                             | 1.58                                              |
| 330                                                                | C         | 594D337(1)004C(2)(3) | 13.20                                       | 8                                      | 0.080                                             | 1.17                                              |
| 470                                                                | C         | 594D477(1)004C(2)(3) | 18.80                                       | 10                                     | 0.075                                             | 1.21                                              |
| 470                                                                | R         | 594D477(1)004R(2)(3) | 18.80                                       | 10                                     | 0.045                                             | 2.36                                              |
| 680                                                                | D         | 594D687(1)004D(2)(3) | 27.20                                       | 12                                     | 0.060                                             | 1.58                                              |
| 1500                                                               | R         | 594D158(1)004R(2)(3) | 60.00                                       | 20                                     | 0.030                                             | 2.89                                              |
| <b>6.3 V<sub>DC</sub> AT + 85 °C, 4 V<sub>DC</sub> AT + 125 °C</b> |           |                      |                                             |                                        |                                                   |                                                   |
| 22                                                                 | B         | 594D226(1)6R3B(2)(3) | 1.40                                        | 6                                      | 0.380                                             | 0.47                                              |
| 68                                                                 | B         | 594D686(1)6R3B(2)(3) | 4.30                                        | 6                                      | 0.319                                             | 0.52                                              |
| 100                                                                | B         | 594D107(1)6R3B(2)(3) | 6.30                                        | 8                                      | 0.250                                             | 0.58                                              |

**Note**

- Part number definitions:
  - Tolerance: For 10 % tolerance, specify "X9"; for 20 % tolerance, change to "X0"
  - Termination: For 100 % tin specify "2", for gold plated specify "4", for solder plated 60/40 specify "8"
  - Packaging code: For 7" reels specify "T", for 13" reels specify "W".



| STANDARD RATINGS                                              |           |                      |                                      |                                        |                                                   |                                            |
|---------------------------------------------------------------|-----------|----------------------|--------------------------------------|----------------------------------------|---------------------------------------------------|--------------------------------------------|
| CAPACITANCE<br>( $\mu$ F)                                     | CASE CODE | PART NUMBER          | MAX. DCL<br>AT + 25 °C<br>( $\mu$ A) | MAX. DF<br>AT + 25 °C<br>120 Hz<br>(%) | MAX. ESR<br>AT + 25 °C<br>100 kHz<br>( $\Omega$ ) | MAX. RIPPLE<br>100 kHz<br>$I_{RMS}$<br>(A) |
| 6.3 V <sub>DC</sub> AT + 85 °C, 4 V <sub>DC</sub> AT + 125 °C |           |                      |                                      |                                        |                                                   |                                            |
| 120                                                           | C         | 594D127(1)6R3C(2)(3) | 7.60                                 | 8                                      | 0.085                                             | 1.14                                       |
| 220                                                           | C         | 594D227(1)6R3C(2)(3) | 13.90                                | 8                                      | 0.080                                             | 1.17                                       |
| 220                                                           | D         | 594D227(1)6R3D(2)(3) | 13.90                                | 8                                      | 0.065                                             | 1.52                                       |
| 330                                                           | C         | 594D337(1)6R3C(2)(3) | 20.80                                | 8                                      | 0.080                                             | 1.17                                       |
| 330                                                           | D         | 594D337(1)6R3D(2)(3) | 20.80                                | 8                                      | 0.060                                             | 1.58                                       |
| 390                                                           | R         | 594D397(1)6R3R(2)(3) | 24.60                                | 8                                      | 0.045                                             | 2.36                                       |
| 470                                                           | D         | 594D477(1)6R3D(2)(3) | 29.60                                | 8                                      | 0.060                                             | 1.58                                       |
| 470                                                           | R         | 594D477(1)6R3R(2)(3) | 29.60                                | 10                                     | 0.050                                             | 2.24                                       |
| 680                                                           | R         | 594D687(1)6R3R(2)(3) | 42.80                                | 10                                     | 0.045                                             | 2.36                                       |
| 1000                                                          | R         | 594D108(1)6R3R(2)(3) | 63.00                                | 16                                     | 0.030                                             | 2.89                                       |
| 10 V <sub>DC</sub> AT + 85 °C, 7 V <sub>DC</sub> AT + 125 °C  |           |                      |                                      |                                        |                                                   |                                            |
| 15                                                            | B         | 594D156(1)010B(2)(3) | 1.50                                 | 6                                      | 0.500                                             | 0.41                                       |
| 22                                                            | B         | 594D226(1)010B(2)(3) | 2.20                                 | 6                                      | 0.500                                             | 0.41                                       |
| 33                                                            | B         | 594D336(1)010B(2)(3) | 3.30                                 | 6                                      | 0.500                                             | 0.41                                       |
| 47                                                            | B         | 594D476(1)010B(2)(3) | 4.70                                 | 6                                      | 0.400                                             | 0.46                                       |
| 68                                                            | B         | 594D686(1)010B(2)(3) | 6.80                                 | 6                                      | 0.350                                             | 0.49                                       |
| 68                                                            | C         | 594D686(1)010C(2)(3) | 6.80                                 | 6                                      | 0.100                                             | 1.05                                       |
| 100                                                           | B         | 594D107(1)010B(2)(3) | 10.00                                | 12                                     | 0.250                                             | 0.58                                       |
| 100                                                           | C         | 594D107(1)010C(2)(3) | 10.00                                | 8.0                                    | 0.095                                             | 1.08                                       |
| 120                                                           | C         | 594D127(1)010C(2)(3) | 12.00                                | 7.0                                    | 0.095                                             | 1.08                                       |
| 150                                                           | C         | 594D157(1)010C(2)(3) | 15.00                                | 8.0                                    | 0.090                                             | 1.11                                       |
| 150                                                           | D         | 594D157(1)010D(2)(3) | 15.00                                | 8                                      | 0.075                                             | 1.41                                       |
| 180                                                           | D         | 594D187(1)010D(2)(3) | 18.00                                | 7                                      | 0.090                                             | 1.29                                       |
| 220                                                           | C         | 594D227(1)010C(2)(3) | 22.00                                | 8                                      | 0.100                                             | 1.05                                       |
| 220                                                           | D         | 594D227(1)010D(2)(3) | 22.00                                | 8                                      | 0.065                                             | 1.52                                       |
| 220                                                           | R         | 594D227(1)010R(2)(3) | 22.00                                | 8                                      | 0.065                                             | 1.96                                       |
| 330                                                           | D         | 594D337(1)010D(2)(3) | 33.00                                | 8                                      | 0.065                                             | 1.52                                       |
| 330                                                           | R         | 594D337(1)010R(2)(3) | 33.00                                | 8                                      | 0.045                                             | 2.36                                       |
| 470                                                           | R         | 594D477(1)010R(2)(3) | 47.00                                | 8                                      | 0.045                                             | 2.36                                       |
| 680                                                           | R         | 594D687(1)010R(2)(3) | 68.00                                | 14                                     | 0.045                                             | 2.36                                       |
| 16 V <sub>DC</sub> AT + 85 °C, 10 V <sub>DC</sub> AT + 125 °C |           |                      |                                      |                                        |                                                   |                                            |
| 15                                                            | B         | 594D156(1)016B(2)(3) | 2.40                                 | 6                                      | 0.550                                             | 0.39                                       |
| 22                                                            | B         | 594D226(1)016B(2)(3) | 3.50                                 | 6                                      | 0.500                                             | 0.41                                       |
| 33                                                            | B         | 594D336(1)016B(2)(3) | 5.30                                 | 6                                      | 0.500                                             | 0.41                                       |
| 33                                                            | C         | 594D336(1)016C(2)(3) | 5.30                                 | 6                                      | 0.150                                             | 0.86                                       |
| 47                                                            | B         | 594D476(1)016B(2)(3) | 7.50                                 | 6                                      | 0.720                                             | 0.34                                       |
| 47                                                            | C         | 594D476(1)016C(2)(3) | 7.50                                 | 6                                      | 0.110                                             | 1.00                                       |
| 68                                                            | C         | 594D686(1)016C(2)(3) | 10.90                                | 6                                      | 0.123                                             | 0.95                                       |
| 68                                                            | D         | 594D686(1)016D(2)(3) | 10.90                                | 6                                      | 0.095                                             | 1.26                                       |
| 100                                                           | C         | 594D107(1)016C(2)(3) | 16.00                                | 8                                      | 0.080                                             | 1.17                                       |
| 100                                                           | D         | 594D107(1)016D(2)(3) | 16.00                                | 8                                      | 0.075                                             | 1.41                                       |
| 120                                                           | R         | 594D127(1)016R(2)(3) | 19.20                                | 8                                      | 0.080                                             | 1.77                                       |
| 150                                                           | D         | 594D157(1)016D(2)(3) | 24.00                                | 8                                      | 0.085                                             | 1.33                                       |
| 180                                                           | R         | 594D187(1)016R(2)(3) | 28.80                                | 8                                      | 0.055                                             | 2.13                                       |
| 220                                                           | R         | 594D227(1)016R(2)(3) | 35.20                                | 8                                      | 0.055                                             | 2.13                                       |
| 330                                                           | R         | 594D337(1)016R(2)(3) | 52.80                                | 14                                     | 0.055                                             | 2.13                                       |

**Note**

- Part number definitions:
  - Tolerance: For 10 % tolerance, specify "X9"; for 20 % tolerance, change to "X0"
  - Termination: For 100 % tin specify "2", for gold plated specify "4", for solder plated 60/40 specify "8"
  - Packaging code: For 7" reels specify "T", for 13" reels specify "W".



| STANDARD RATINGS                                              |           |                      |                                             |                                        |                                                   |                                                   |
|---------------------------------------------------------------|-----------|----------------------|---------------------------------------------|----------------------------------------|---------------------------------------------------|---------------------------------------------------|
| CAPACITANCE<br>( $\mu\text{F}$ )                              | CASE CODE | PART NUMBER          | MAX. DCL<br>AT + 25 °C<br>( $\mu\text{A}$ ) | MAX. DF<br>AT + 25 °C<br>120 Hz<br>(%) | MAX. ESR<br>AT + 25 °C<br>100 kHz<br>( $\Omega$ ) | MAX. RIPPLE<br>100 kHz<br>$I_{\text{RMS}}$<br>(A) |
| 20 V <sub>DC</sub> AT + 85 °C, 13 V <sub>DC</sub> AT + 125 °C |           |                      |                                             |                                        |                                                   |                                                   |
| 4.7                                                           | B         | 594D475(1)020B(2)(3) | 0.90                                        | 6                                      | 0.900                                             | 0.31                                              |
| 6.8                                                           | B         | 594D685(1)020B(2)(3) | 1.40                                        | 6                                      | 0.900                                             | 0.31                                              |
| 10                                                            | B         | 594D106(1)020B(2)(3) | 2.00                                        | 6                                      | 0.850                                             | 0.32                                              |
| 22                                                            | B         | 594D226(1)020B(2)(3) | 4.40                                        | 6                                      | 0.600                                             | 0.38                                              |
| 22                                                            | C         | 594D226(1)020C(2)(3) | 4.40                                        | 6                                      | 0.150                                             | 0.86                                              |
| 47                                                            | C         | 594D476(1)020C(2)(3) | 9.40                                        | 6                                      | 0.140                                             | 0.89                                              |
| 47                                                            | D         | 594D476(1)020D(2)(3) | 9.40                                        | 6                                      | 0.095                                             | 1.26                                              |
| 68                                                            | D         | 594D686(1)020D(2)(3) | 13.60                                       | 6                                      | 0.132                                             | 1.07                                              |
| 100                                                           | D         | 594D107(1)020D(2)(3) | 20.00                                       | 8                                      | 0.085                                             | 1.33                                              |
| 120                                                           | R         | 594D127(1)020R(2)(3) | 24.00                                       | 8                                      | 0.080                                             | 1.77                                              |
| 150                                                           | D         | 594D157(1)020D(2)(3) | 30.00                                       | 12                                     | 0.100                                             | 1.22                                              |
| 25 V <sub>DC</sub> AT + 85 °C, 17 V <sub>DC</sub> AT + 125 °C |           |                      |                                             |                                        |                                                   |                                                   |
| 3.3                                                           | B         | 594D335(1)025B(2)(3) | 0.80                                        | 6                                      | 1.500                                             | 0.24                                              |
| 10                                                            | B         | 594D106(1)025B(2)(3) | 2.50                                        | 6                                      | 0.900                                             | 0.31                                              |
| 15                                                            | C         | 594D156(1)025C(2)(3) | 3.80                                        | 6                                      | 0.220                                             | 0.71                                              |
| 22                                                            | C         | 594D226(1)025C(2)(3) | 5.50                                        | 6                                      | 0.200                                             | 0.74                                              |
| 33                                                            | D         | 594D336(1)025D(2)(3) | 8.30                                        | 6                                      | 0.130                                             | 1.07                                              |
| 47                                                            | D         | 594D476(1)025D(2)(3) | 11.80                                       | 6                                      | 0.130                                             | 1.07                                              |
| 47                                                            | R         | 594D476(1)025R(2)(3) | 11.80                                       | 6                                      | 0.099                                             | 1.59                                              |
| 68                                                            | D         | 594D686(1)025D(2)(3) | 17.00                                       | 8                                      | 0.200                                             | 0.87                                              |
| 68                                                            | R         | 594D686(1)025R(2)(3) | 17.00                                       | 6                                      | 0.095                                             | 1.62                                              |
| 100                                                           | R         | 594D107(1)025R(2)(3) | 25.00                                       | 8                                      | 0.090                                             | 1.67                                              |
| 35 V <sub>DC</sub> AT + 85 °C, 23 V <sub>DC</sub> AT + 125 °C |           |                      |                                             |                                        |                                                   |                                                   |
| 2.2                                                           | B         | 594D225(1)035B(2)(3) | 0.80                                        | 6                                      | 1.700                                             | 0.22                                              |
| 4.7                                                           | B         | 594D475(1)035B(2)(3) | 1.60                                        | 6                                      | 1.400                                             | 0.25                                              |
| 6.8                                                           | C         | 594D685(1)035C(2)(3) | 2.40                                        | 6                                      | 0.430                                             | 0.51                                              |
| 15                                                            | C         | 594D156(1)035C(2)(3) | 5.30                                        | 6                                      | 0.400                                             | 0.52                                              |
| 15                                                            | D         | 594D156(1)035D(2)(3) | 5.30                                        | 6                                      | 0.270                                             | 0.75                                              |
| 22                                                            | D         | 594D226(1)035D(2)(3) | 7.70                                        | 6                                      | 0.270                                             | 0.75                                              |
| 22                                                            | R         | 594D226(1)035R(2)(3) | 7.70                                        | 6                                      | 0.220                                             | 1.07                                              |
| 33                                                            | R         | 594D336(1)035R(2)(3) | 11.60                                       | 6                                      | 0.200                                             | 1.12                                              |
| 47                                                            | R         | 594D476(1)035R(2)(3) | 16.60                                       | 6                                      | 0.200                                             | 1.12                                              |
| 50 V <sub>DC</sub> AT + 85 °C, 33 V <sub>DC</sub> AT + 125 °C |           |                      |                                             |                                        |                                                   |                                                   |
| 1.0                                                           | B         | 594D105(1)050B(2)(3) | 0.50                                        | 4                                      | 3.500                                             | 0.16                                              |
| 4.7                                                           | C         | 594D475(1)050C(2)(3) | 2.40                                        | 6                                      | 0.800                                             | 0.37                                              |
| 6.8                                                           | C         | 594D685(1)050C(2)(3) | 3.40                                        | 6                                      | 0.800                                             | 0.37                                              |
| 6.8                                                           | D         | 594D685(1)050D(2)(3) | 3.40                                        | 6                                      | 0.450                                             | 0.58                                              |
| 15                                                            | R         | 594D156(1)050R(2)(3) | 7.50                                        | 6                                      | 0.350                                             | 0.85                                              |

**Note**

- Part number definitions:
  - (1) Tolerance: For 10 % tolerance, specify "X9"; for 20 % tolerance, change to "X0"
  - (2) Termination: For 100 % tin specify "2", for gold plated specify "4", for solder plated 60/40 specify "8"
  - (3) Packaging code: For 7" reels specify "T", for 13" reels specify "W".



**RECOMMENDED VOLTAGE DERATING GUIDELINES** (for temperature below + 85 °C)

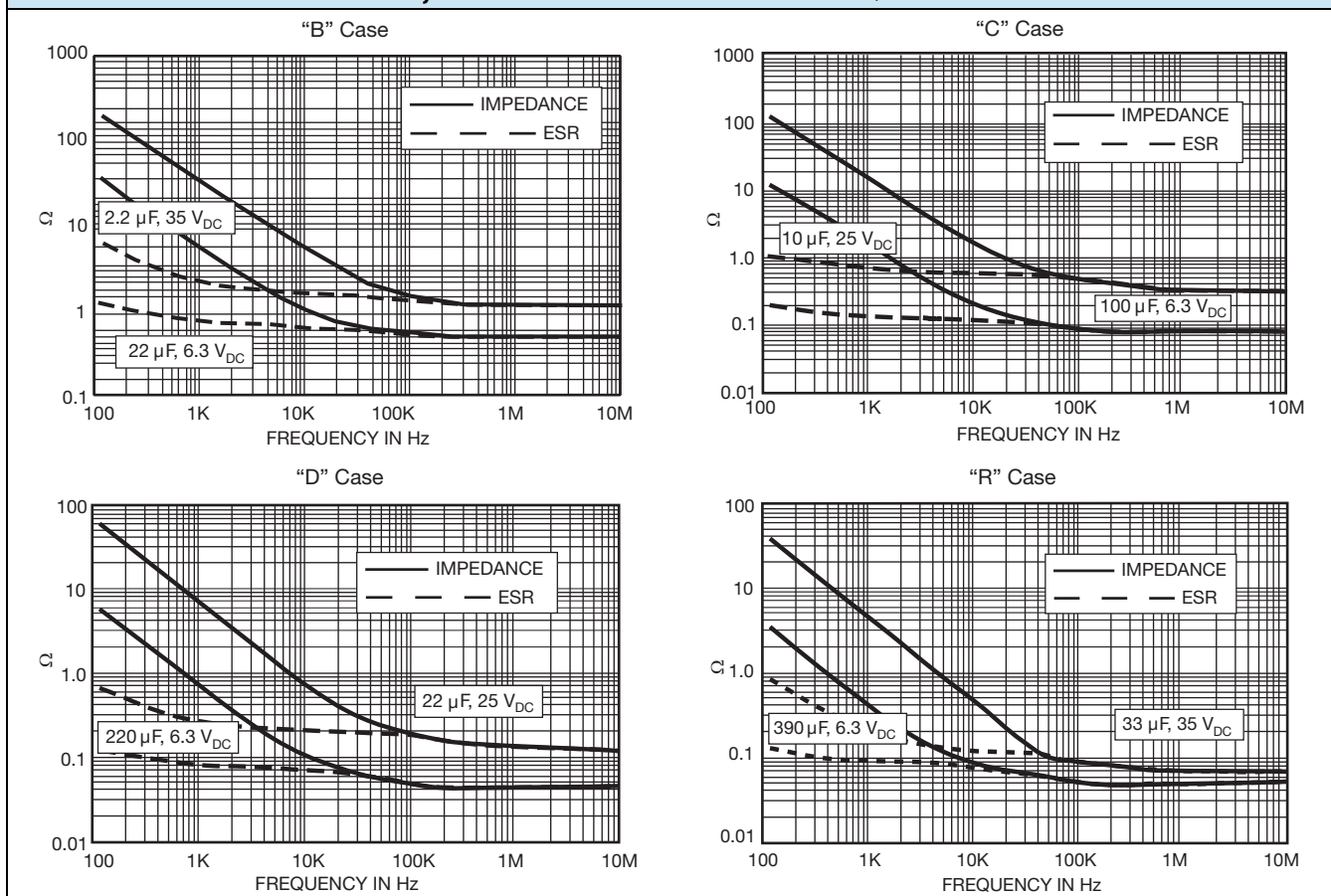
**STANDARD CONDITIONS. FOR EXAMPLE: OUTPUT FILTERS**

| Capacitor Voltage Rating | Operating Voltage |
|--------------------------|-------------------|
| 4.0                      | 2.5               |
| 6.3                      | 3.6               |
| 10                       | 6.0               |
| 16                       | 10                |
| 20                       | 12                |
| 25                       | 15                |
| 35                       | 24                |
| 50                       | 28                |

**SEVERE CONDITIONS. FOR EXAMPLE: INPUT FILTERS**

| Capacitor Voltage Rating | Operating Voltage |
|--------------------------|-------------------|
| 4.0                      | 2.5               |
| 6.3                      | 3.3               |
| 10                       | 5.0               |
| 16                       | 8.0               |
| 20                       | 10                |
| 25                       | 12                |
| 35                       | 15                |
| 50                       | 24                |

**TYPICAL CURVES AT + 25 °C; IMPEDANCE AND ESR VS. FREQUENCY**



**POWER DISSIPATION**

| CASE CODE | MAXIMUM PERMISSIBLE POWER DISSIPATION AT + 25 °C (W) IN FREE AIR |
|-----------|------------------------------------------------------------------|
| B         | 0.085                                                            |
| C         | 0.110                                                            |
| D         | 0.150                                                            |
| R         | 0.250                                                            |

**STANDARD PACKAGING QUANTITY**

| CASE CODE | UNITS PER REEL |          |
|-----------|----------------|----------|
|           | 7" REEL        | 13" REEL |
| B         | 2000           | 8000     |
| C         | 500            | 3000     |
| D         | 500            | 3000     |
| R         | 600            | n/a      |

**PRODUCT INFORMATION**

|                                |                                                                        |
|--------------------------------|------------------------------------------------------------------------|
| Conformal Coated Guide         | <a href="http://www.vishay.com/doc?40150">www.vishay.com/doc?40150</a> |
| Moisture Sensitivity           | <a href="http://www.vishay.com/doc?40135">www.vishay.com/doc?40135</a> |
| <b>SELECTOR GUIDES</b>         |                                                                        |
| Solid Tantalum Selector Guide  | <a href="http://www.vishay.com/doc?49053">www.vishay.com/doc?49053</a> |
| Solid Tantalum Chip Capacitors | <a href="http://www.vishay.com/doc?40091">www.vishay.com/doc?40091</a> |
| <b>FAQ</b>                     |                                                                        |
| Frequently Asked Questions     | <a href="http://www.vishay.com/doc?40110">www.vishay.com/doc?40110</a> |



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**Please note that some Vishay documentation may still make reference to RoHS Directive 2002/95/EC. We confirm that all the products identified as being compliant to Directive 2002/95/EC conform to Directive 2011/65/EU.**

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<http://moschip.ru/get-element>

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Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

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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