

# 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

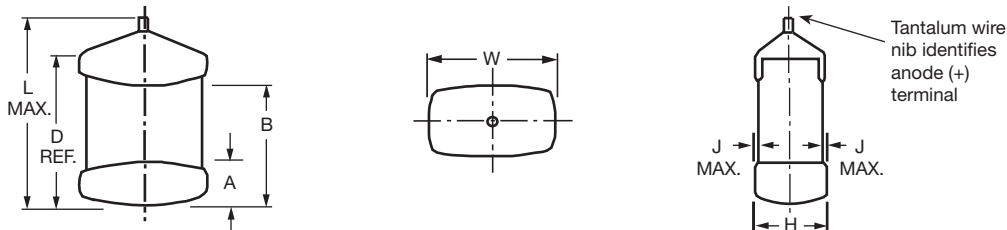
## ORDERING INFORMATION

| 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>X9 = ± 10 % | 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>4 = Gold plated<br>8 = Solder plated (60/40)<br>Special order | <b>Tape and reel</b><br><b>T = 7" [178 mm] reel</b><br>W = 13" [330 mm] reel |

## 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 |     |       |       |      |      |      |      |      |
|------------------------|-----|-------|-------|------|------|------|------|------|
| μF                     | 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 (μF)   | CASE CODE | PART NUMBER          | MAX. DCL AT + 25 °C (μA) | MAX. DF AT + 25 °C 120 Hz (%) | MAX. ESR AT + 25 °C 100 kHz (Ω) | MAX. RIPPLE 100 kHz I <sub>RMS</sub> (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) |
| <b>6.3 V<sub>DC</sub> AT + 85 °C, 4 V<sub>DC</sub> AT + 125 °C</b> |           |                      |                                      |  |   |  |
| 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                                       |
| <b>10 V<sub>DC</sub> AT + 85 °C, 7 V<sub>DC</sub> AT + 125 °C</b>  |           |                      |                                      |  |   |  |
| 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                                       |
| <b>16 V<sub>DC</sub> AT + 85 °C, 10 V<sub>DC</sub> AT + 125 °C</b> |           |                      |                                      |  |   |  |
| 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>( $\mu$ 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) |
| <b>20 V<sub>DC</sub> AT + 85 °C, 13 V<sub>DC</sub> AT + 125 °C</b> |           |                      |                                      |  |   |  |
| 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                                       |
| <b>25 V<sub>DC</sub> AT + 85 °C, 17 V<sub>DC</sub> AT + 125 °C</b> |           |                      |                                      |  |   |  |
| 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                                       |
| <b>35 V<sub>DC</sub> AT + 85 °C, 23 V<sub>DC</sub> AT + 125 °C</b> |           |                      |                                      |  |   |  |
| 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                                       |
| <b>50 V<sub>DC</sub> AT + 85 °C, 33 V<sub>DC</sub> AT + 125 °C</b> |           |                      |                                      |  |   |  |
| 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:
  - 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".



| 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                |





| 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> |
| SELECTOR GUIDES                |  |
| 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> |
| FAQ                            |  |
| Frequently Asked Questions     | <a href="http://www.vishay.com/doc?40110">www.vishay.com/doc?40110</a> |



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- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
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- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

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## JONHON

«**JONHON**» (основан в 1970 г.)

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ВЧ соединители, коаксиальные кабели,  
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