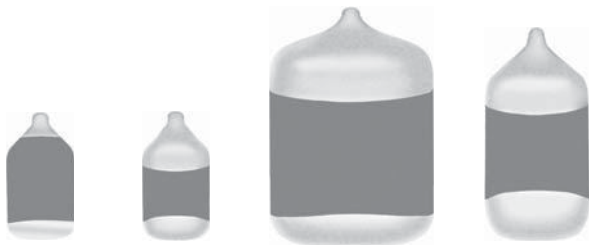


# Solid Tantalum Chip Capacitors

## TANTAMOUNT<sup>®</sup>, Low Profile, Conformal Coated, Maximum CV



P case top P case bottom B and T cases Q, S, and A cases

Images not to scale

**FEATURES**

- P case offers single-sided lead (Pb)-free terminations
- Wraparound lead (Pb)-free terminations: Q, S, A, B, and T cases
- 8 mm and 12 mm tape and reel packaging available per EIA-481 and reeling per IEC 60286-3 7" [178 mm] standard 13" [330 mm] available
- Mounting: Surface mount
- Compliant to RoHS Directive 2002/95/EC


**RoHS**  
COMPLIANT

**PERFORMANCE CHARACTERISTICS**
[www.vishay.com/doc?40088](http://www.vishay.com/doc?40088)
**Operating Temperature:** - 55 °C to + 85 °C  
(to + 125 °C with voltage derating)

**Capacitance Range:** 2.2 μF to 220 μF

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

**Voltage Rating:** 4 V<sub>DC</sub> to 35 V<sub>DC</sub>

ORDERING INFORMATION						
572D	336	X0	6R3	A	2	T
TYPE	CAPACITANCE	CAPACITANCE TOLERANCE	DC VOLTAGE RATING AT + 85 °C	CASE CODE	TERMINATION	REEL SIZE AND PACKAGING
This is expressed in picofarads. The first two digits are the significant figures. The third is the number of zeros to follow.		<b>X0 = ± 20 %</b> X9 = ± 10 %	This is expressed in volts. 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 Codes table	<b>2 = 100 % tin</b> 4 = Gold plated	<b>T = Tape and reel</b> <b>7" [178 mm] reel</b> W = 13" [330 mm] reel

**Notes**

- Preferred tolerance 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]							
				Single-side electrodes (both electrodes at bottom side only)			
CASE CODE	L (MAX.)	W	H	A	B	C	D (REF.)
P	0.087 ± 0.012 [2.2 ± 0.3]	0.049 ± 0.012 [1.25 ± 0.3]	0.039 ± 0.008 [1.0 ± 0.2]	0.024 ± 0.012 [0.6 ± 0.3]	0.031 ± 0.012 [0.8 ± 0.3]	0.031 ± 0.012 [0.8 ± 0.3]	0.008 [0.2]
CASE CODE	L (MAX.)	W	H	A	B	C	D (REF.)
Q	0.126 ± 0.008 [3.2 ± 0.2]	0.063 ± 0.008 [1.6 ± 0.2]	0.031 ± 0.008 [0.8 ± 0.2]	0.031 ± 0.008 [0.8 ± 0.2]	0.047 ± 0.008 [1.2 ± 0.2]	0.031 ± 0.008 [0.8 ± 0.2]	0.008 [0.2]
S	0.126 ± 0.012 [3.2 ± 0.3]	0.063 ± 0.012 [1.6 ± 0.3]	0.039 ± 0.008 [1.0 ± 0.2]	0.031 ± 0.012 [0.8 ± 0.3]	0.047 ± 0.012 [1.2 ± 0.3]	0.031 ± 0.012 [0.8 ± 0.3]	0.008 [0.2]
A	0.126 ± 0.012 [3.2 ± 0.3]	0.067 ± 0.012 [1.7 ± 0.3]	0.051 ± 0.012 [1.3 ± 0.3]	0.031 ± 0.012 [0.8 ± 0.3]	0.047 ± 0.012 [1.2 ± 0.3]	0.031 ± 0.012 [0.8 ± 0.3]	0.008 [0.2]
B	0.130 ± 0.012 [3.3 ± 0.3]	0.106 ± 0.012 [2.7 ± 0.3]	0.067 ± 0.012 [1.7 ± 0.3]	0.031 ± 0.012 [0.8 ± 0.3]	0.047 ± 0.012 [1.2 ± 0.3]	0.043 ± 0.012 [1.1 ± 0.3]	0.008 [0.2]
T	0.138 ± 0.008 [3.5 ± 0.2]	0.106 ± 0.008 [2.7 ± 0.2]	0.039 ± 0.008 [1.0 ± 0.2]	0.031 ± 0.008 [0.8 ± 0.2]	0.047 ± 0.008 [1.2 ± 0.2]	0.043 ± 0.008 [1.1 ± 0.2]	0.008 [0.2]



RATINGS AND CASE CODES						
μF	4 V	6.3 V	10 V	16 V	25 V	35 V
2.2					Q	A
4.7					A/S	
10			P	P	A	
22				A/B/T		
33		A/P/Q/S	A/P/S			
47		Q/S	S			
68		S	B			
100		A/B/S/T	B/T			
220	B/S/T	B				

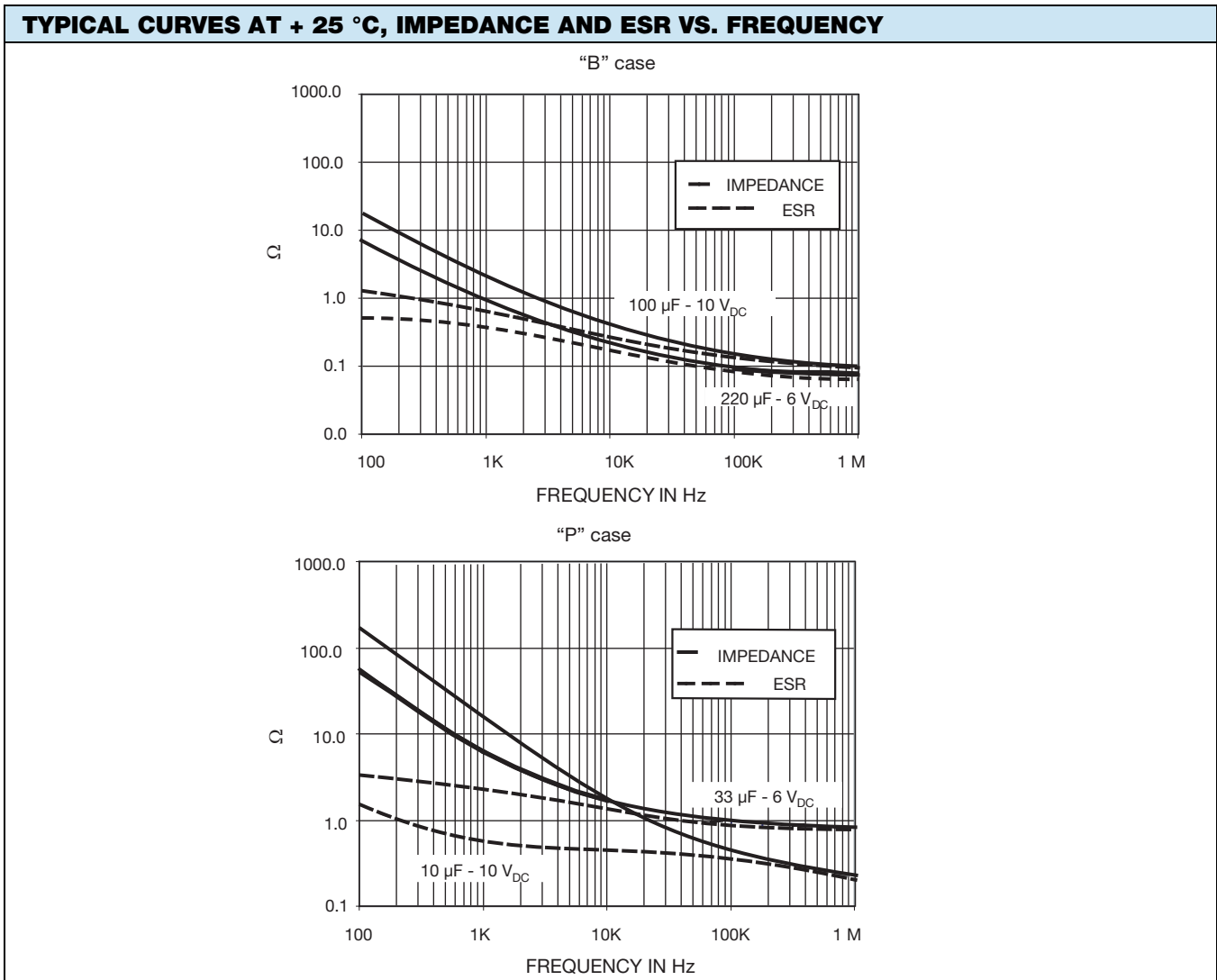
STANDARD RATINGS						
CAPACITANCE (μF)	CASE CODE	PART NUMBER	MAX. DCL AT + 25 °C (μA)	MAX. DF AT + 25 °C 120 Hz (%)	MAX. ESR AT + 25 °C 100 kHz (Ω)	MAX. RIPPLE 100 kHz I <sub>RMS</sub> (A)
<b>4 V<sub>DC</sub> AT+ 85 °C, 2.7 V<sub>DC</sub> AT + 125 °C</b>						
220	B	572D227(1)004B(2)(3)	8.8	16	0.2	0.63
220	S	572D227X0004S(2)(3)	8.8	25	0.8	0.26
220	T	572D227X0004T(2)(3)	8.8	26	0.6	0.37
<b>6.3 V<sub>DC</sub> AT+ 85 °C, 4 V<sub>DC</sub> AT + 125 °C</b>						
33	A	572D336(1)6R3A(2)(3)	2.1	8	0.8	0.29
33	P	572D336X06R3P(2)(3)	2.1	14	1.5	0.13
33	Q	572D336(1)6R3Q(2)(3)	2.1	10	2.0	0.17
33	S	572D336(1)6R3S(2)(3)	2.1	10	1.4	0.24
47	Q	572D476X06R3Q(2)(3)	3.0	10	1.1	0.22
47	S	572D476(1)6R3S(2)(3)	3.0	10	0.9	0.25
68	S	572D686(1)6R3S(2)(3)	4.3	12	0.9	0.26
100	A	572D107(1)6R3A(2)(3)	6.3	14	0.8	0.36
100	B	572D107(1)6R3B(2)(3)	6.3	14	0.4	0.45
100	S	572D107X06R3S(2)(3)	6.3	20	1.0	0.24
100	T	572D107(1)6R3T(2)(3)	6.3	14	0.6	0.36
220	B	572D227(1)6R3B(2)(3)	13.9	16	0.2	0.63
<b>10 V<sub>DC</sub> AT+ 85 °C, 7 V<sub>DC</sub> AT + 125 °C</b>						
10	P	572D106(1)010P(2)(3)	1.0	8	3.0	0.09
33	A	572D336(1)010A(2)(3)	3.3	10	0.8	0.29
33	P	572D336X0010P(2)(3)	3.3	25	4.0	0.08
33	S	572D336X0010S(2)(3)	3.3	10	1.1	0.23
47	S	572D476X0010S(2)(3)	4.7	14	1.1	0.23
68	B	572D686(1)010B(2)(3)	6.8	6	0.45	0.42
100	B	572D107(1)010B(2)(3)	10	14	0.4	0.45
100	T	572D107X0010T(2)(3)	10	18	0.5	0.40
<b>16 V<sub>DC</sub> AT + 85 °C, 10 V<sub>DC</sub> AT + 125 °C</b>						
10	P	572D106(1)016P(2)(3)	1.6	10	4.0	0.08
22	A	572D226(1)016A(2)(3)	3.5	8	1.4	0.22
22	B	572D226(1)016B(2)(3)	3.5	6	0.5	0.45
22	T	572D226(1)016T(2)(3)	3.5	8	1.1	0.27
<b>25 V<sub>DC</sub> AT + 85 °C, 17 V<sub>DC</sub> AT + 125 °C</b>						
2.2	Q	572D225(1)025Q(2)(3)	0.65	6	5.0	0.10
4.7	A	572D475(1)025A(2)(3)	1.2	8	2.8	0.15
4.7	S	572D475(1)025S(2)(3)	1.2	8	4.0	0.12
10	A	572D106(1)025A(2)(3)	2.5	10	3.5	0.15
<b>35 V<sub>DC</sub> AT + 85 °C, 23 V<sub>DC</sub> AT + 125 °C</b>						
2.2	A	572D225(1)035A(2)(3)	0.8	6	3.0	0.12

**Note**

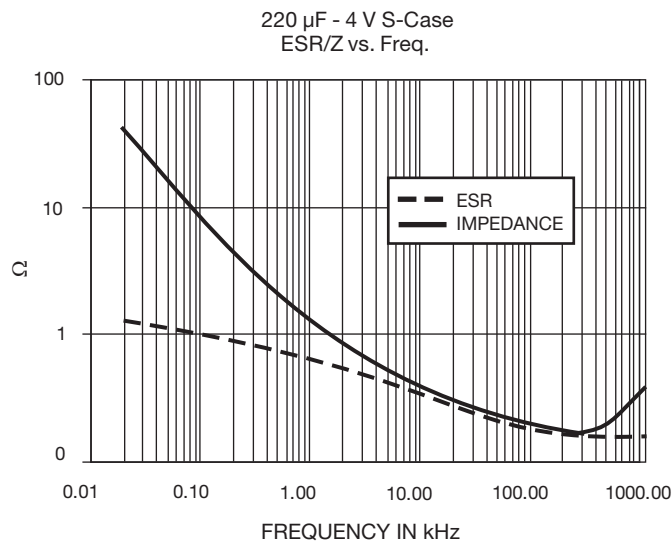
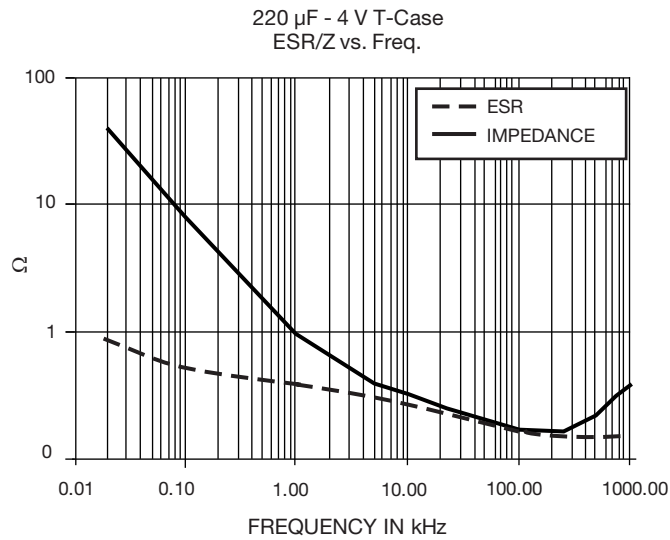
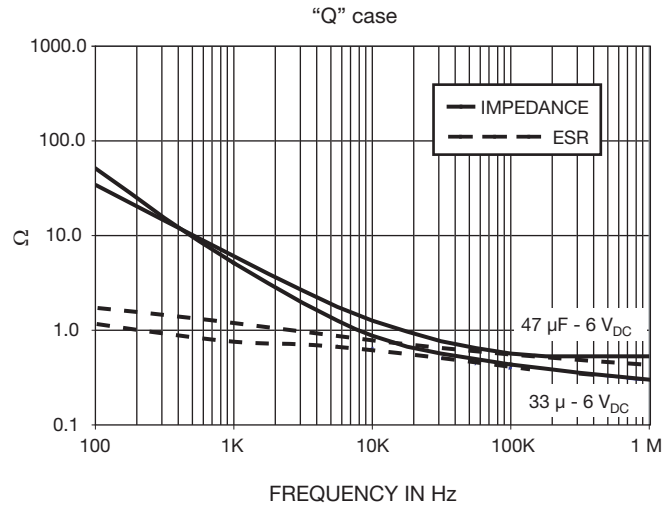
- Part number definitions:
  - Tolerance: For 10 % tolerance, specify "X9"; for 20 % tolerance, change to "X0"
  - Termination: For 100 % tin specify "2", for gold plated specify "4"
  - Packaging code: For 7" reels specify "T", for 13" reel specify "W"



<b>RECOMMENDED VOLTAGE DERATING GUIDELINES</b> (for temperatures below + 85 °C)	
<b>STANDARD CONDITIONS. FOR EXAMPLE: OUTPUT FILTERS</b>	
Capacitor Voltage Rating	Operating Voltage
4.0	2.5
6.3	3.6
10	6.0
16	10
25	15
35	24
<b>SEVERE CONDITIONS. FOR EXAMPLE: INPUT FILTERS</b>	
Capacitor Voltage Rating	Operating Voltage
4.0	2.5
6.3	3.3
10	5.0
16	8.0
25	12
35	15



**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
P	0.025
Q	0.055
S	0.060
A	0.065
B/T	0.080

STANDARD PACKAGING QUANTITY		
CASE CODE	UNITS PER REEL	
	7" REEL	13" REEL
A	2500	10 000
B	2000	10 000
P	3000	10 000
Q	2500	10 000
S	2500	10 000
T	1500	8000

PRODUCT INFORMATION	
Conformal Coated Guide <ul style="list-style-type: none"> <li>• Recommended Pad Layouts</li> <li>• Carrier Tape Information</li> <li>• Reflow Profiles</li> </ul>	<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>



## 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.

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 and agree to fully indemnify and hold Vishay and its distributors harmless from and against any and all claims, liabilities, expenses and damages arising or resulting in connection with such use or sale, including attorneys fees, even if such claim alleges that Vishay or its distributor was negligent regarding the design or manufacture of the part. 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.