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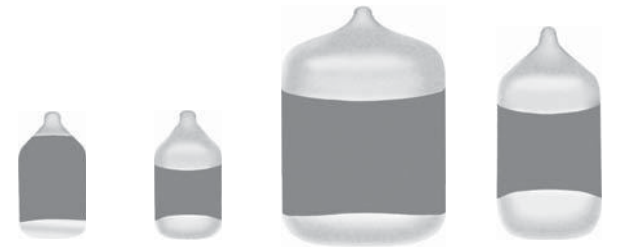
Solid Tantalum Chip Capacitors
TANTAMOUNT®, Low Profile, Conformal Coated, Maximum CV



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
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

Pb-free

RoHS COMPLIANT

PERFORMANCE CHARACTERISTICS

www.vishay.com/doc?40088

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

Capacitance Range: 2.2 µF to 220 µF
Capacitance Tolerance: ± 10 %, ± 20 % standard
Voltage Rating: 4 V_{DC} to 35 V_{DC}

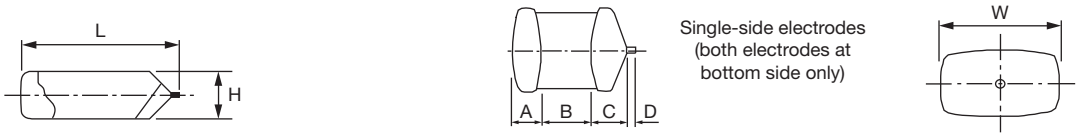
ORDERING INFORMATION

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.	**X0 = ± 20 %** 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	**2 = 100 % tin** 4 = Gold plated	**T = Tape and reel 7" [178 mm] reel** W = 13" [330 mm] reel

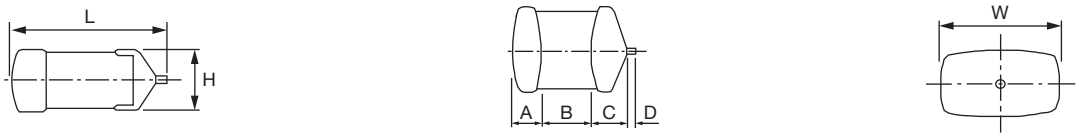
Notes

- 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]



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]

DIMENSIONS in inches [millimeters]							
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_{RMS} (A)
4 V_{DC} AT+ 85 °C, 2.7 V_{DC} AT + 125 °C						
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
6.3 V_{DC} AT+ 85 °C, 4 V_{DC} AT + 125 °C						
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
10 V_{DC} AT+ 85 °C, 7 V_{DC} AT + 125 °C						
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
16 V_{DC} AT + 85 °C, 10 V_{DC} AT + 125 °C						
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
25 V_{DC} AT + 85 °C, 17 V_{DC} AT + 125 °C						
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

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”
  (3) Packaging code: For 7" reels specify “T”, for 13" reel specify “W”

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_{RMS} (A)
10	A	572D106(1)025A(2)(3)	2.5	10	3.5	0.15
35 V_{DC} AT + 85 °C, 23 V_{DC} AT + 125 °C						
2.2	A	572D225(1)035A(2)(3)	0.8	6	3.0	0.12

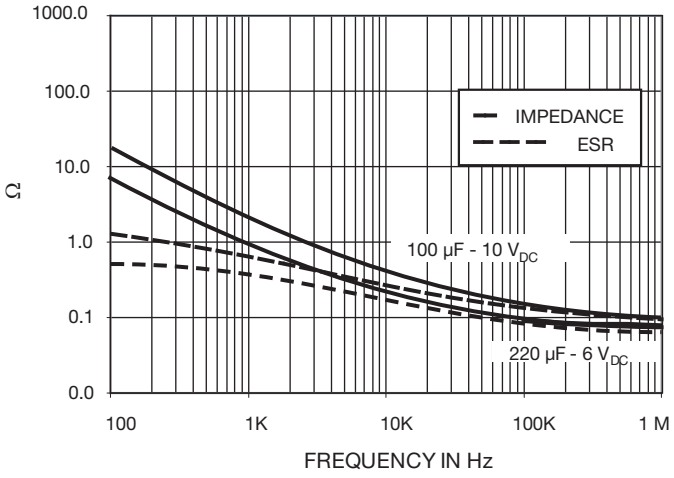
Note

- 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”
  (3) Packaging code: For 7" reels specify “T”, for 13" reel specify “W”

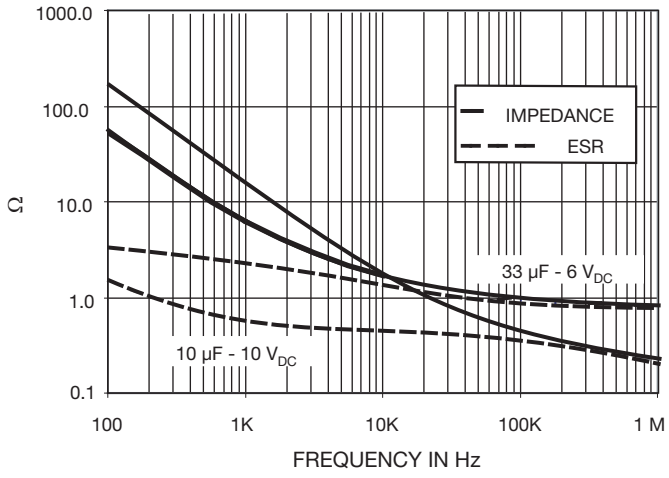
RECOMMENDED VOLTAGE DERATING GUIDELINES (for temperatures below + 85 °C)	
STANDARD CONDITIONS. FOR EXAMPLE: OUTPUT FILTERS	
Capacitor Voltage Rating	**Operating Voltage**
4.0	2.5
6.3	3.6
10	6.0
16	10
25	15
35	24
SEVERE CONDITIONS. FOR EXAMPLE: INPUT FILTERS	
Capacitor Voltage Rating	**Operating Voltage**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

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

"B" case

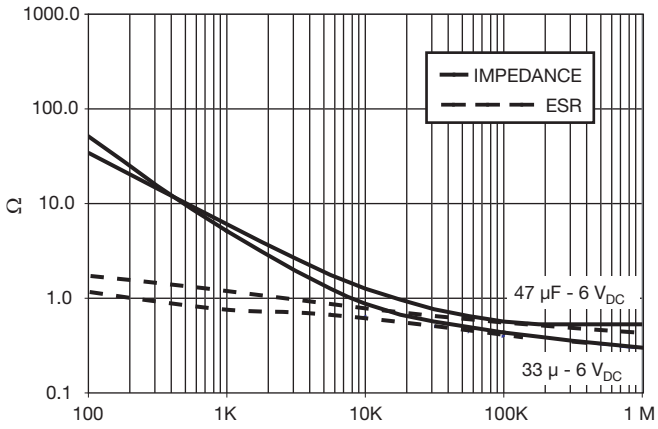


"P" case

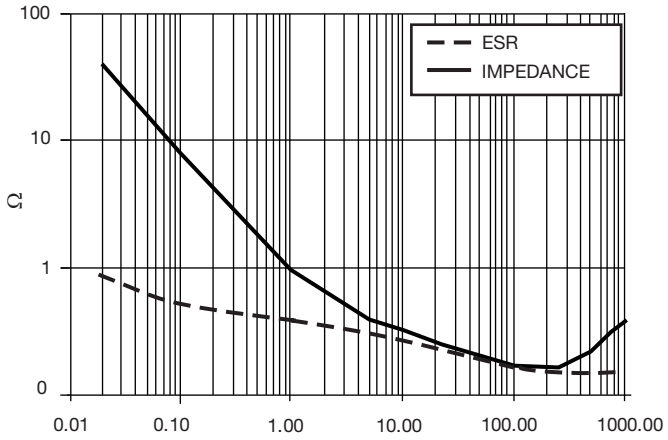


TYPICAL CURVES AT + 25 °C, IMPEDANCE AND ESR VS. FREQUENCY

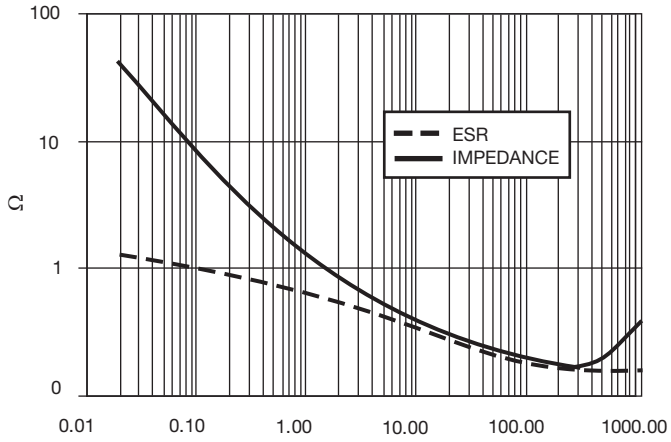
"Q" case



220 µF - 4 V T-Case
ESR/Z vs. Freq.



220 µF - 4 V S-Case
ESR/Z vs. Freq.



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 • Recommended Pad Layouts • Carrier Tape Information • Reflow Profiles	www.vishay.com/doc?40150
Moisture Sensitivity	www.vishay.com/doc?40135
SELECTOR GUIDES	
Solid Tantalum Selector Guide	www.vishay.com/doc?49053
Solid Tantalum Chip Capacitors	www.vishay.com/doc?40091
FAQ	
Frequently Asked Questions	www.vishay.com/doc?40110

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