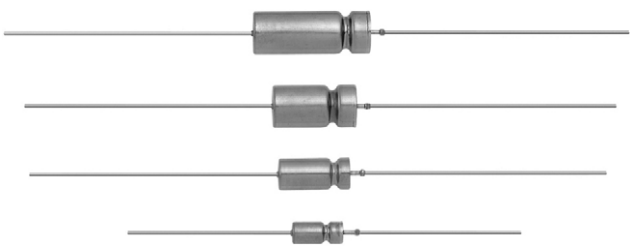
Wet Tantalum Capacitors Silver Case With Glass-to-Metal Hermetic Seal, TANTALEX™



FEATURES

- Terminations: axial, standard tin / lead (SnPb), 100 % tin (RoHS-compliant) available
- High CV per unit volume
- Extremely low leakage current
- Improved reliability through the use of a glass-to-metal true hermetic anode seal is the prime feature of the 738D TANTALEX capacitors
- The construction offers outstanding resistance to thermal shock
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Pb-free Available

RoHS* Available

HALOGEN FREE GREEN (5-2008) Available

Note

* This datasheet provides information about parts that are RoHS-compliant and / or parts that are non RoHS-compliant. For example, parts with lead (Pb) terminations are not RoHS-compliant. Please see the information / tables in this datasheet for details

LINKS TO ADDITIONAL RESOURCES

3D Models

PERFORMANCE CHARACTERISTICS

Operating Temperature: -55 °C to +85 °C (+125 °C with voltage derating)

Capacitance Range: 3.3 µF to 1200 µF

Capacitance Tolerance: ± 10 %, ± 20 %, ± 5 % (special order)

Voltage Rating: 6 V_{DC} to 125 V_{DC}

DC Leakage Current (DCL Max.): at +25 °C, +85 °C, and +125 °C: leakage current shall not exceed the values listed in the Standard Ratings tables.

Life Test: capacitors are capable of withstanding a 2000 h life test at a temperature of +85 °C or +125 °C at the applicable rated DC working voltage.

ORDERING INFORMATION

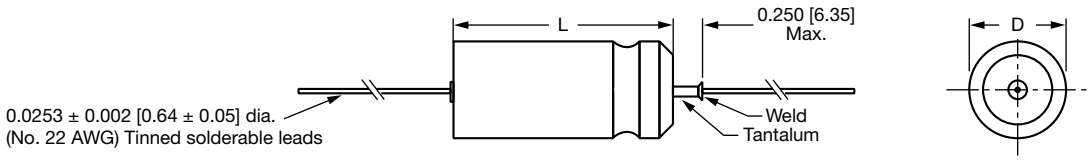
738D	226	X0	100	B	2	E3
MODEL	CAPACITANCE	CAPACITANCE TOLERANCE	DC VOLTAGE RATING AT +85 °C	CASE CODE	STYLE NUMBER	RoHS-COMPLIANT
	This is expressed in picofarads. The first two digits are the significant figures. The third is the number of zeros to follow	X0 = ± 20 % X9 = ± 10 % X5 = ± 5 % special order	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	0 = bare case 2 = outer polyester film insulation 6 = high temperature film insulation	E3 = 100 % tin termination (RoHS-compliant design) Blank = SnPb termination (standard design)

Note

- Packaging: the use of formed plastic trays for packaging these axial lead components is standard. Tape and reel is not available due to the unit weight

For technical questions, contact: tantalum@vishay.com

DIMENSIONS in inches [millimeters]



CASE CODE	D	L	D (MAX.)	L (1)	LEAD LENGTH	MAX. WEIGHT (oz. / g)
	BARE TUBE		WITH OUTER PLASTIC-FILM INSULATION			
A	0.188 ± 0.016 [4.78 ± 0.41]	0.453 + 0.031 / - 0.016 [11.51 + 0.79 / - 0.41]	0.219 [5.56]	0.608 [15.45]	1.500 ± 0.250 [38.10 ± 6.35]	0.07 [2.0]
B	0.281 ± 0.016 [7.14 ± 0.41]	0.641 + 0.031 / - 0.016 [16.28 + 0.79 / - 0.41]	0.312 [7.92]	0.796 [20.22]	2.250 ± 0.250 [57.15 ± 6.35]	0.18 [5.1]
C	0.375 ± 0.016 [9.53 ± 0.41]	0.766 + 0.031 / - 0.016 [19.46 + 0.79 / - 0.41]	0.406 [10.31]	0.921 [23.40]	2.250 ± 0.250 [57.15 ± 6.35]	0.36 [10.2]
D	0.375 ± 0.016 [9.53 ± 0.41]	1.062 + 0.031 / - 0.023 [26.97 + 0.79 / - 0.58]	0.406 [10.31]	1.127 [30.91]	2.250 ± 0.250 [57.15 ± 6.35]	0.49 [13.9]

Note

(1) For reference only

RATINGS AND CASE CODES

µF	6.3	8	10	16	25	30	40	50	63	75	100	125
3.3												A
3.9											A	A
4.7											A	
5.6										A		
6.8										A		
8.2									A			
10								A				B
12							A					B
15						A						B
18					A						B	C
22					A						B	C
27				A					A	B		C
33				A						B	C	
39			A						B		C	D
47			A					B			C	D
50					B							
56		A					B			C		D
68	A					B			C		D	
82					B			C			D	
100				A	B		C			D		
120				B		C				D		
150			B			C			D			
180			B		C			D				
220		B		C			D					
270	B			C		D						
300						C						
330			C		D							
390			C		D							
470		C		D								
560	C			D								
680			D									
820		D										
1000	D											
1200	D											

STANDARD RATINGS

CAPACITANCE (µF)	CASE CODE	PART NUMBER	MAX. DF AT +20 °C (%)	MAX. IMP. AT -55 °C 100 kHz (Ω)	MAX. IMP. AT +20°C 100 kHz (Ω)	MAX. DCL (µA) AT +20 °C	MAX. DCL (µA) AT +85 °C +125 °C	MAX. CAPACITANCE CHANGE (%) AT -55 °C	MAX. CAPACITANCE CHANGE (%) AT +85 °C	MAX. CAPACITANCE CHANGE (%) AT +125 °C	MAX. IMPEDANCE (1) AT -55 °C 100 Hz (Ω)
6.3 V_{DC} AT +85 °C; 4 V_{DC} AT +125 °C; 3 V_{DC} AT +175 °C											
68	A	738D686X06R3A2	17.1	10	1.0	1	2	-40	+10.5	+17.5	72
270	B	738D277X06R3B2	67.8	10	1.0	1	7	-44	+17.5	+20	30
560	C	738D567X06R3C2	151.9	10	1.0	2	13	-64	+17.5	+20	30
1000	D	738D108X06R3D2	100.5	10	1.0	3	14	-80	+25	+25	-
1200	D	738D128X06R3D2	120.6	10	1.0	3	14	-80	+25	+25	24
8 V_{DC} AT +85 °C; 5 V_{DC} AT +125 °C; 4 V_{DC} AT +175 °C											
56	A	738D566X0008A2	14.1	10	1.0	1	2	-40	+10.5	+16	-
220	B	738D227X0008B2	55.2	10	1.0	1	7	-44	+17.5	+20	-
470	C	738D477X0008C2	82.6	10	1.0	2	14	-64	+17.5	+20	-
820	D	738D827X0008D2	51.5	10	1.0	4	16	-80	+25	+25	-
10 V_{DC} AT +85 °C; 6.3 V_{DC} AT +125 °C; 5 V_{DC} AT +175 °C											
39	A	738D396X0010A2	15.1	10	1.0	1	2	-36	+12	+16	-
47	A	738D476X0010A2	15.1	10	1.0	1	2	-36	+14	+16	120
150	B	738D157X0010B2	28.2	10	1.0	1	6	-36	+14	+16	-
180	B	738D187X0010B2	45.2	10	1.0	1	7	-36	+14	+16	48
330	C	738D337X0010C2	51.9	10	1.0	2	16	-60	+17.5	+20	-
390	C	738D397X0010C2	73.5	10	1.0	2	16	-64	+17.5	+20	30
680	D	738D687X0010D2	42.7	10	1.0	4	16	-80	+25	+25	-
16 V_{DC} AT +85 °C; 10 V_{DC} AT +125 °C; 8 V_{DC} AT +175 °C											
27	A	738D276X0016A2	10.3	10	1.0	1	2	-28	+10.5	+16	-
33	A	738D336X0016A2	10.3	10	1.0	1	2	-28	+14	+16	108
100	A	738D107X9016A2	25.0	10	1.0	1	10	-44	+13	+16	88
120	B	738D127X0016B2	30.2	10	1.0	1	7	-28	+17.5	+20	60
220	C	738D227X0016C2	34.5	10	1.0	2	16	-50	+17.5	+18	-
270	C	738D277X0016C2	50.8	10	1.0	2	16	-56	+17.5	+20	36
470	D	738D477X0016D2	35.4	10	1.0	6	24	-80	+25	+25	-
560	D	738D567X0016D2	42.2	10	1.0	6	24	-80	+25	+25	28
25 V_{DC} AT +85 °C; 16 V_{DC} AT +125 °C; 13 V_{DC} AT +175 °C											
18	A	738D186X0025A2	6.9	10	1.0	1	2	-20	+10.5	+12	-
22	A	738D226X0025A2	6.9	10	1.0	1	2	-20	+10.5	+12	168
50	B	738D506X0025B2	15.0	10	1.0	1	5	-28	+13	+15	-
82	B	738D826X0025B2	20.6	10	1.0	1	10	-28	+13	+15	-
100	B	738D107X0025B2	25.1	10	1.0	1	10	-28	+13	+15	60
180	C	738D187X0025C2	42.2	10	1.0	2	18	-48	+13	+15	39
330	D	738D337X0025D2	27.2	10	1.0	7	28	-70	+25	+25	-
390	D	738D397X0025D2	31.8	10	1.0	7	28	-70	+25	+25	29
30 V_{DC} AT +85 °C; 19 V_{DC} AT +125 °C; 15 V_{DC} AT +175 °C											
15	A	738D156X0030A2	7.5	10	1.0	1	2	-20	+10.5	+12	-
68	B	738D686X0030B2	25.6	10	1.0	1	8	-24	+13	+15	-
120	C	738D127X0030C2	24.4	10	1.0	2	17	-44	+13	+15	-
150	C	738D157X0030C2	37.7	10	1.0	2	18	-48	+13	+15	-
270	D	738D277X0030D2	27.2	10	1.0	8	32	-60	+25	+25	-
300	C	738D307X0030C2	40.7	10	1.0	8	32	-60	+20	+25	-
40 V_{DC} AT +85 °C; 25 V_{DC} AT +125 °C; 20 V_{DC} AT +175 °C											
12	A	738D126X0040A2	6.7	10	1.0	1	2	-24	+8	+10	234
56	B	738D566X0040B2	21.1	10	1.0	1	9	-28	+13	+15	78
100	C	738D107X0040C2	15.7	10	1.0	2	17	-40	+13	+15	48
220	D	738D227X0040D2	25.0	10	1.0	8	32	-55	+25	+25	31

STANDARD RATINGS

CAPACITANCE (µF)	CASE CODE	PART NUMBER	MAX. DF AT +20 °C (%)	MAX. IMP. AT -55 °C 100 kHz (Ω)	MAX. IMP. AT +20°C 100 kHz (Ω)	MAX. DCL (µA) AT		MAX. CAPACITANCE CHANGE (%) AT			MAX. IMPEDANCE [1] AT -55 °C 100 Hz (Ω)
						+20 °C	+85 °C +125 °C	-55 °C	+85 °C	+125 °C	
50 V_{DC} AT +85 °C; 32 V_{DC} AT +125 °C; 25 V_{DC} AT +175 °C											
10	A	738D106X0050A2	5.7	10	1.0	1	2	-24	+8	+9	-
47	B	738D476X0050B2	17.7	10	1.0	1	9	-28	+12	+15	-
82	C	738D826X0050C2	20.6	10	1.0	2	16	-32	+12	+15	-
180	D	738D187X0050D2	23.7	10	1.0	8	32	-50	+25	+25	-
63 V_{DC} AT +85 °C; 40 V_{DC} AT +125 °C; 32 V_{DC} AT +175 °C											
8.2	A	738D825X0063A2	4.1	10	1.0	1	2	-24	+8	+9	330
27	A	738D276X9063A2	8.0	10	1.0	2	15	-24	+10	+12	180
39	B	738D396X0063B2	17.2	10	1.0	1	9	-28	+10.5	+12	108
68	C	738D686X0063C2	25.6	10	1.0	2	16	-32	+10.5	+12	60
150	D	738D157X0063D2	23.6	10	1.0	8	32	-40	+20	+20	34
75 V_{DC} AT +85 °C; 50 V_{DC} AT +125 °C; 38 V_{DC} AT +175 °C											
5.6	A	738D565X0075A2	3.4	10	1.0	1	2	-20	+8	+9	-
6.8	A	738D685X0075A2	3.4	10	1.0	1	2	-20	+8	+9	-
27	B	738D276X0075B2	11.8	10	1.0	1	9	-22	+11	+13	-
33	B	738D336X0075B2	14.5	10	1.0	1	10	-24	+15	+15	-
56	C	738D566X0075C2	21.8	10	1.0	2	17	-28	+15	+15	-
100	D	738D107X0075D2	19.5	10	1.0	9	36	-35	+20	+20	-
120	D	738D127X0075D2	23.3	10	1.0	9	36	-35	+20	+20	-
100 V_{DC} AT +85 °C; 63 V_{DC} AT +125 °C; 50 V_{DC} AT +175 °C											
3.9	A	738D395X0100A2	2.0	30	3.0	1	2	-16	+7	+8	-
4.7	A	738D475X0100A2	2.9	30	3.0	1	2	-16	+7	+8	600
18	B	738D186X0100B2	7.8	15	1.5	1	8	-16	+7	+8	-
22	B	738D226X0100B2	9.7	15	1.5	1	9	-16	+7	+8	132
33	C	738D336X0100C2	9.3	15	1.0	2	15	-16	+7	+8	-
39	C	738D396X0100C2	14.7	15	1.0	2	17	-20	+7	+8	-
47	C	738D476X0100C2	17.7	15	1.0	2	17	-20	+7	+8	84
68	D	738D686X0100D2	13.7	15	1.5	9	36	-25	+15	+15	-
82	D	738D826X0100D2	16.4	15	1.5	9	36	-25	+15	+15	40
125 V_{DC} AT +85 °C; 80 V_{DC} AT +125 °C; 63 V_{DC} AT +175 °C											
3.3	A	738D335X0125A2	3.4	30	3.0	1	2	-10	+7	+8	-
3.9	A	738D395X0125A2	3.4	30	3.0	1	2	-16	+7	+8	720
10	B	738D106X0125B2	9.4	15	1.5	1	5	-16	+7	+8	-
12	B	738D126X0125B2	8.3	15	1.5	1	6	-16	+7	+8	-
15	B	738D156X0125B2	11.2	15	1.5	1	7	-16	+7	+8	200
18	C	738D186X0125C2	10	15	1.0	2	9	-16	+7	+8	-
22	C	738D226X0125C2	12.1	15	1.0	2	11	-16	+7	+8	-
27	C	738D276X0125C2	16.7	15	1.0	2	13	-16	+7	+8	106
39	D	738D396X0125D2	7.5	15	1.5	10	40	-25	+15	+15	-
47	D	738D476X0125D2	9.2	15	1.5	10	40	-25	+15	+15	-
56	D	738D566X0125D2	14.2	15	1.5	10	40	-25	+15	+15	58

Note

[1] Data only applies to the former CT9 ratings

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