Wet Tantalum Capacitors with Epoxy End-Fill, Sintered Anode, TANTALEX® Capacitors, CECC 30202-013 Approved

FEATURES

- Terminations: standard tin/lead (SnPb), 100 % Tin (RoHS compliant) available
- For 125 °C operation
- Very high CV per unit volume
- Long shelf life in excess of ten years
- Extremely low leakage current
- Epoxy end-filled for better shock and vibration performance
- Compliant to RoHS directive 2002/95/EC

Pb-free Available

RoHS* COMPLIANT

APPROVALS

- CECC 30202-013 (6-125 V)

PERFORMANCE CHARACTERISTICS

Operating Temperature: - 55 °C to + 125 °C

Capacitance Tolerance: ± 20 % is standard; ± 10 % and ± 5 % available as specials.

Capacitance Range: 3.6 µF to 2200 µF

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.

APPLICATIONS

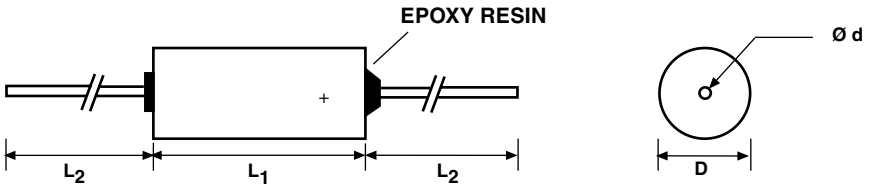
Designed for industrial and telecommunications applications, offers higher microfarad value per unit volume than any other type. The epoxy resin end-fill construction also offers improved mechanical strength, outstanding resistance to temperature cycling, and trouble-free application when flow-soldering capacitors to printed circuit board.

ORDERING INFORMATION

769D	306	X0	006	A	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	See Ratings and Case Codes Table	0 = Bare case. 2 = Outer plastic-film insulation	E3 = 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 recommended due to the unit weight.

DIMENSIONS in inches [millimeters]



CASE CODE	WITH OUTER PLASTIC-FILM INSULATION			
	L_1 + 031 - 0.078 [+ 0.8 - 2.0]	D ± 0.015 [± 0.4]	L_2	Ø d + 10 % ± 0.002
A	0.535 [13.6]	0.192 [4.9]	0.984 [25]	0.023 [0.6]
B	0.724 [18.4]	0.283 [7.2]	0.984 [25]	0.023 [0.6]
C	0.846 [21.5]	0.377 [9.6]	0.984 [25]	0.023 [0.6]
D	1.129 [28.7]	0.377 [9.6]	0.984 [25]	0.023 [0.6]

* Pb containing terminations are not RoHS compliant, exemptions may apply

STANDARD RATINGS

CAPACITANCE (µF)	CASE CODE	PART NUMBER	MAX. DF AT + 25 °C (%)	MAX. IMP. AT - 55 °C (Ω)	MAX. DCL (µA) AT		MAX. CAPACITANCE CHANGE (%) AT			MAX. RMS RIPPLE 120 Hz (mA)
					+ 25 °C	+ 85 °C + 125 °C	- 55 °C	+ 85 °C	+ 125 °C	
6 VDC AT + 85 °C, 4 VDC AT + 125 °C										
30	A	769D306X0006A2	8	100	1	2	- 40	+ 12	+ 12	70
68	A	769D686X0006A2	18	59	1	2	- 40	+ 16	+ 16	80
140	B	769D147X0006B2	18	40	1	3	- 40	+ 16	+ 16	300
220	A	769D227X0006A2	40	22	2	9	- 65	+ 16	+ 16	90
270	B	769D277X0006B2	70	22	1	7	- 44	+ 20	+ 20	270
330	C	769D337X0006C2	43	25	2	8	- 44	+ 16	+ 16	500
560	C	769D567X0006C2	110	20	2	13	- 64	+ 20	+ 20	500
820	B	769D827X0006B2	68	20	3	14	- 80	+ 20	+ 20	280
1200	D	769D128X0006D2	60	20	3	12	- 80	+ 25	+ 25	800
1500	C	769D158X0006C2	82	10	5	20	- 85	+ 25	+ 25	540
2200	D	769D228X0006D2	80	15	9	30	- 80	+ 25	+ 25	800
8 VDC AT + 85 °C, 5 VDC AT + 125 °C										
25	A	769D256X0008A2	7	100	1	2	- 40	+ 12	+ 12	70
56	A	769D566X0008A2	15	60	1	2	- 40	+ 12	+ 12	80
180	A	769D187X0008A2	36	28	2	9	- 60	+ 16	+ 16	90
220	B	769D227X0008B2	57	30	1	7	- 44	+ 20	+ 20	250
430	B	769D437X0008B2	42	25	3	14	- 80	+ 20	+ 20	270
430	C	769D437X0008C2	84	25	2	14	- 64	+ 20	+ 20	500
620	B	769D627X0008B2	53	20	3	14	- 80	+ 20	+ 20	280
680	B	769D687X0008B2	55	20	3	14	- 80	+ 20	+ 20	280
850	C	769D857X0008C2	65	20	4	16	- 80	+ 25	+ 25	500
850	D	769D857X0008D2	50	22	4	16	- 80	+ 25	+ 25	850
1200	C	769D128X0008C2	82	15	5	20	- 80	+ 25	+ 25	520
1600	D	769D168X0008D2	68	18	7	25	- 80	+ 25	+ 25	800
1800	D	769D188X0008D2	70	18	8	28	- 80	+ 25	+ 25	800
10 VDC AT + 85 °C, 7 VDC AT + 125 °C										
20	A	769D206X0010A2	5	120	1	2	- 32	+ 12	+ 12	70
47	A	769D476X0010A2	15	90	1	2	- 36	+ 16	+ 16	80
100	A	769D107X0010A2	13	60	1	4	- 36	+ 16	+ 16	80
120	A	769D127X0010A2	32	50	2	9	- 50	+ 16	+ 16	80
140	A	769D147X0010A2	32	46	2	9	- 50	+ 16	+ 16	90
150	A	769D157X0010A2	32	40	2	9	- 50	+ 16	+ 16	90
180	B	769D187X0010B2	46	40	1	7	- 36	+ 16	+ 16	250
250	C	769D257X0010C2	32	35	2	10	- 40	+ 16	+ 16	500
390	C	769D397X0010C2	75	25	2	16	- 64	+ 20	+ 20	500
470	B	769D477X0010B2	35	21	3	16	- 70	+ 20	+ 20	280
510	B	769D517X0010B2	45	21	3	16	- 70	+ 20	+ 20	280
560	B	769D567X0010B2	50	21	3	16	- 70	+ 20	+ 20	280
750	D	769D757X0010D2	44	22	4	16	- 80	+ 25	+ 25	850
1000	C	769D108X0010C2	67	12	5	20	- 75	+ 25	+ 25	540
1300	D	769D138X0010D2	63	18	7	25	- 75	+ 25	+ 25	800
1500	D	769D158X0010D2	66	17	8	28	- 75	+ 25	+ 25	800

STANDARD RATINGS

CAPACITANCE (µF)	CASE CODE	PART NUMBER	MAX. DF AT + 25 °C (%)	MAX. IMP. AT - 55 °C (Ω)	MAX. DCL (µA) AT		MAX. CAPACITANCE. CHANGE (%) AT			MAX. RMS RIPPLE 120 Hz (mA)
					+ 25 °C	+ 85 °C + 125 °C	- 55 °C	+ 85 °C	+ 125 °C	
15 VDC AT + 85 °C, 10 VDC AT + 125 °C										
15	A	769D156X0015A2	5	145	1	2	- 24	+ 12	+ 12	70
33	A	769D336X0015A2	10	100	1	2	- 28	+ 16	+ 16	80
70	B	769D706X0015B2	11	63	1	4	- 28	+ 16	+ 16	250
100	A	769D107X0015A2	28	40	2	9	- 40	+ 16	+ 16	80
120	B	769D127X0015B2	27	50	1	7	- 28	+ 20	+ 20	250
170	C	769D177X0015C2	22	38	2	10	- 32	+ 16	+ 16	500
270	C	769D277X0015C2	50	30	2	16	- 56	+ 20	+ 20	500
360	B	769D367X0015B2	38	22	3	16	- 60	+ 20	+ 20	280
390	B	769D397X0015B2	38	21	3	16	- 60	+ 20	+ 20	280
540	C	769D547X0015C2	45	25	5	20	- 70	+ 25	+ 25	500
540	D	769D547X0015D2	15	23	3	24	- 80	+ 25	+ 25	850
680	C	769D687X0015C2	50	13	5	20	- 70	+ 25	+ 25	510
750	C	769D757X0015C2	52	13	6	24	- 70	+ 25	+ 25	510
820	C	769D827X0015C2	60	13	6	24	- 70	+ 25	+ 25	510
1100	D	769D118X0015D2	53	18	8	25	- 70	+ 25	+ 25	750
1200	D	769D128X0015D2	55	17	8	28	- 70	+ 25	+ 25	750
20 VDC AT + 85 °C, 13 VDC AT + 125 °C										
82	A	769D826X0020A2	25	50	2	9	- 40	+ 16	+ 16	70
330	B	769D337X0020B2	30	21	3	16	- 60	+ 20	+ 20	280
560	C	769D567X0020C2	40	20	5	20	- 70	+ 25	+ 25	510
1000	D	769D108X0020D2	40	21	8	28	- 70	+ 25	+ 25	750
25 VDC AT + 85 °C, 15 VDC AT + 125 °C										
10	A	769D106X0025A2	4	190	1	2	- 16	+ 9	+ 9	70
22	A	769D226X0025A2	7	140	1	2	- 20	+ 12	+ 12	80
50	A	769D506X0025A2	18	80	2	9	- 35	+ 15	+ 15	80
68	A	769D686X0025A2	22	50	2	9	- 35	+ 15	+ 15	80
100	B	769D107X0025B2	15	50	1	10	- 28	+ 15	+ 15	250
180	C	769D187X0025C2	46	32	2	18	- 48	+ 15	+ 15	500
270	B	769D277X0025B2	24	22	3	16	- 45	+ 16	+ 16	280
350	C	769D357X0025C2	27	26	7	28	- 60	+ 25	+ 25	500
350	D	769D357X0025D2	25	24	7	28	- 80	+ 25	+ 25	850
470	C	769D477X0025C2	33	18	6	24	- 60	+ 25	+ 25	510
510	C	769D517X0025C2	33	16	7	28	- 60	+ 25	+ 25	510
750	D	769D757X0025D2	36	18	8	29	- 60	+ 25	+ 25	750
820	D	769D827X0025D2	40	17	9	30	- 60	+ 25	+ 25	750
30 VDC AT + 85 °C, 20 VDC AT + 125 °C										
8	A	769D805X0030A2	4	235	1	2	- 16	+ 12	+ 12	60
15	A	769D156X0030A2	8	175	1	2	- 20	+ 12	+ 12	80
40	B	769D406X0030B2	10	80	1	5	- 24	+ 12	+ 12	250
56	A	769D566X0030A2	20	55	2	9	- 32	+ 15	+ 15	70
68	B	769D686X0030B2	26	60	1	8	- 24	+ 15	+ 15	250
100	C	769D107X0030C2	16	45	2	12	- 28	+ 12	+ 12	500
150	C	769D157X0030C2	38	35	2	18	- 48	+ 15	+ 15	500
180	B	769D187X0030B2	21	27	3	16	- 40	+ 16	+ 16	280
200	B	769D207X0030B2	21	25	3	16	- 40	+ 16	+ 16	280
220	B	769D227X0030B2	23	25	3	16	- 40	+ 16	+ 16	280
300	C	769D307X0030C2	25	18	7	28	- 55	+ 25	+ 25	500
300	D	769D307X0030D2	27	25	4	31	- 60	+ 25	+ 25	820
390	C	769D397X0030C2	27	15	6	24	- 55	+ 20	+ 25	510
430	C	769D437X0030C2	27	15	7	28	- 55	+ 25	+ 25	510
620	D	769D627X0030D2	32	22	8	29	- 60	+ 20	+ 25	750
680	D	769D687X0030D2	36	20	7	25	- 60	+ 25	+ 25	750

STANDARD RATINGS

CAPACITANCE (µF)	CASE CODE	PART NUMBER	MAX. DF AT + 25 °C (%)	MAX. IMP. AT - 55 °C (Ω)	MAX. DCL (µA) AT		MAX. CAPACITANCE. CHANGE (%) AT			MAX. RMS RIPPLE 120 Hz (mA)
					+ 25 °C	+ 85 °C + 125 °C	- 55 °C	+ 85 °C	+ 125 °C	
35 VDC AT + 85 °C, 23 VDC AT + 125 °C										
39	A	769D396X0035A2	18	80	2	9	- 32	+ 15	+ 15	70
47	A	769D476X0035A2	18	60	2	9	- 32	+ 15	+ 15	70
150	B	769D157X0035B2	20	30	3	16	- 40	+ 16	+ 16	270
330	C	769D337X0035C2	26	20	6	24	- 55	+ 25	+ 25	500
470	D	769D477X0035D2	28	25	7	25	- 60	+ 25	+ 25	750
480	D	769D487X0035D2	28	25	8	29	- 60	+ 25	+ 25	750
560	D	769D567X0035D2	29	24	8	32	- 60	+ 25	+ 25	750
50 VDC AT + 85 °C, 30 VDC AT + 125 °C										
5	A	769D505X0050A2	3	355	1	2	- 16	+ 6	+ 6	60
10	A	769D106X0050A2	5	250	1	2	- 24	+ 9	+ 9	80
25	A	769D256X0050A2	14	135	3	12	- 24	+ 12	+ 12	70
25	B	769D256X0050B2	10	90	1	5	- 20	+ 12	+ 12	250
33	A	769D336X0050A2	16	120	2	9	- 24	+ 12	+ 12	70
47	B	769D476X0050B2	18	70	1	9	- 28	+ 15	+ 15	250
60	C	769D606X0050C2	12	50	2	12	- 16	+ 12	+ 12	500
82	B	769D826X0050B2	21	45	2	16	- 32	+ 15	+ 15	270
120	B	769D127X0050B2	18	26	3	18	- 35	+ 15	+ 15	280
160	C	769D167X0050C2	30	35	12	48	- 40	+ 25	+ 25	500
160	D	769D167X0050D2	15	27	5	40	- 50	+ 20	+ 20	750
270	C	769D277X0050C2	24	16	7	28	- 40	+ 25	+ 25	510
360	D	769D367X0050D2	24	22	8	32	- 45	+ 25	+ 25	750
390	D	769D397X0050D2	25	20	8	32	- 45	+ 25	+ 25	750
60 VDC AT + 85 °C, 40 VDC AT + 125 °C										
4	A	769D405X0060A2	3	405	1	2	- 16	+ 6	+ 6	50
8.2	A	769D825X0060A2	4	275	1	2	- 24	+ 9	+ 9	60
20	A	769D206X0060A2	7	120	1	5	- 20	+ 12	+ 12	70
20	B	769D206X0060B2	6	105	1	5	- 16	+ 12	+ 12	250
27	A	769D276X0060A2	14	90	3	12	- 20	+ 12	+ 12	70
39	B	769D396X0060B2	18	90	1	9	- 28	+ 12	+ 12	250
50	B	769D506X0060B2	9	75	2	12	- 30	+ 15	+ 15	250
50	C	769D506X0060C2	9	55	2	12	- 16	+ 12	+ 12	500
68	C	769D686X0060C2	27	50	2	16	- 32	+ 12	+ 12	500
100	B	769D107X0060B2	15	28	4	20	- 30	+ 15	+ 15	280
140	C	769D147X0060C2	18	32	7	28	- 35	+ 20	+ 20	500
140	D	769D147X0060D2	21	28	8	32	- 40	+ 20	+ 20	750
220	C	769D227X0060C2	18	17	7	28	- 35	+ 20	+ 20	510
300	D	769D307X0060D2	21	21	8	32	- 45	+ 20	+ 20	750
330	D	769D337X0060D2	23	23	9	36	- 45	+ 20	+ 20	750

STANDARD RATINGS

CAPACITANCE (µF)	CASE CODE	PART NUMBER	MAX. DF AT + 25 °C (%)	MAX. IMP. AT - 55 °C (Ω)	MAX. DCL (µA) AT		MAX. CAPACITANCE. CHANGE (%) AT			MAX. RMS RIPPLE 120 Hz (mA)
					+ 25 °C	+ 85 °C + 125 °C	- 55 °C	+ 85 °C	+ 125 °C	
75 VDC AT + 85 °C, 50 VDC AT + 125 °C										
6.8	A	769D685X0075A2	4	300	1	2	- 20	+ 9	+ 9	60
8.2	A	769D825X0075A2	12	200	1.5	7	- 16	+ 12	+ 12	60
12	A	769D126X0075A2	12	155	2	9	- 16	+ 12	+ 12	70
15	A	769D156X0075A2	12	130	3	12	- 16	+ 12	+ 12	70
15	B	769D156X0075B2	6	135	1	5	- 16	+ 9	+ 9	250
18	A	769D186X0075A2	12	100	3	12	- 16	+ 12	+ 12	70
22	A	769D226X0075A2	12	80	3	12	- 16	+ 12	+ 12	70
33	B	769D336X0075B2	15	90	1	10	- 24	+ 15	+ 15	250
40	C	769D406X0075C2	13	60	2	12	- 16	+ 12	+ 12	500
47	B	769D476X0075B2	20	75	3.5	20	- 25	+ 15	+ 15	260
56	B	769D566X0075B2	20	70	2	16	- 25	+ 15	+ 15	260
56	C	769D566X0075C2	22	60	2	17	- 28	+ 15	+ 15	500
68	B	769D686X0075B2	12	42	4	24	- 25	+ 15	+ 15	280
82	B	769D826X0075B2	12	30	4	24	- 25	+ 15	+ 15	280
100	C	769D107X0075C2	18	33	8	32	- 30	+ 20	+ 20	500
110	C	769D117X0075C2	18	33	8	32	- 30	+ 20	+ 20	500
110	D	769D117X0075D2	15	29	5	36	- 35	+ 20	+ 20	750
120	C	769D127X0075C2	18	28	6	26	- 30	+ 20	+ 20	500
150	C	769D157X0075C2	18	24	7	28	- 30	+ 20	+ 20	500
180	C	769D187X0075C2	18	17	8	32	- 30	+ 20	+ 20	510
220	D	769D227X0075D2	16	24	9	36	- 40	+ 20	+ 20	750
240	D	769D247X0075D2	17	24	9	36	- 40	+ 20	+ 20	750
270	D	769D277X0075D2	18	22	10	40	- 30	+ 20	+ 20	750
100 VDC AT + 85 °C, 70 VDC AT + 125 °C										
4.7	A	769D475X0100A2	3	500	1	2	- 16	+ 6	+ 6	60
10	A	769D106X0100A2	12	200	3	12	- 16	+ 12	+ 12	60
11	B	769D116X0100B2	4	200	1	4	- 16	+ 6	+ 6	250
22	B	769D226X0100B2	10	100	1	9	- 16	+ 6	+ 6	250
30	C	769D306X0100C2	8	85	2	12	- 16	+ 8	+ 8	500
39	B	769D396X0100B2	20	80	5	24	- 25	+ 15	+ 15	250
43	C	769D436X0100C2	16	70	2	17	- 20	+ 8	+ 8	500
68	C	769D686X0100C2	18	40	10	40	- 30	+ 20	+ 20	500
86	D	769D866X0100D2	15	30	5	35	- 25	+ 20	+ 20	750
120	D	769D127X0100D2	25	36	12	48	- 40	+ 20	+ 20	750
125 VDC AT + 85 °C, 85 VDC AT + 125 °C										
3.6	A	769D365X0125A2	4	615	1	2	- 16	+ 8	+ 8	50
6.8	A	769D685X0125A2	12	300	3	12	- 16	+ 12	+ 12	50
9	A	769D905X0125A2	12	240	4	15	- 16	+ 12	+ 12	50
9	B	769D905X0125B2	9	220	1	5	- 16	+ 6	+ 6	250
14	B	769D146X0125B2	10	160	1	7	- 16	+ 7	+ 7	250
25	C	769D256X0125C2	16	120	2	13	- 16	+ 10	+ 10	500
27	B	769D276X0125B2	20	90	5	24	- 25	+ 15	+ 15	250
47	C	769D476X0125C2	18	50	10	40	- 30	+ 20	+ 20	500
80	D	769D806X0125D2	20	34	9	50	- 20	+ 20	+ 20	750
82	D	769D826X0125D2	25	40	12	48	- 40	+ 20	+ 20	750

Disclaimer

All product specifications and data are subject to change without notice.

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