

## MIL 39006/22

MIL Qualified - CLR79



Wet tantalum capacitors  
**Hermetically sealed tantalum case**  
 Axial leads  
 Polarized type

## ELECTRICAL AND CLIMATIC CHARACTERISTICS

	MIL 39006/22
Detail specification	MIL-PRF-39006/22 Failure rate level M
Operating temperature	-55°C +125°C
Capacitance range	1,7µF ⇔ 1200µF
Tolerance	± 10% - ± 20%
Voltage range	6V ⇔ 125V
Max. capacitance change -55°C	see table
Max. capacitance change +85°C	see table
Max. capacitance change +125°C	see table
Maximum DF at +25°C	see table
Max. impedance at 120Hz -55°C	see table
Max. leakage current at +25°C	see table
Max. leakage current at +85°C / +125°C	see table
Max. ripple current at 40kHz +85°C	see table
Max. reverse voltage at +85°C	3 volts
Max. reverse voltage at +125°C	2 volts
Max. surge voltage at +85°C	1,15 x U <sub>R</sub>

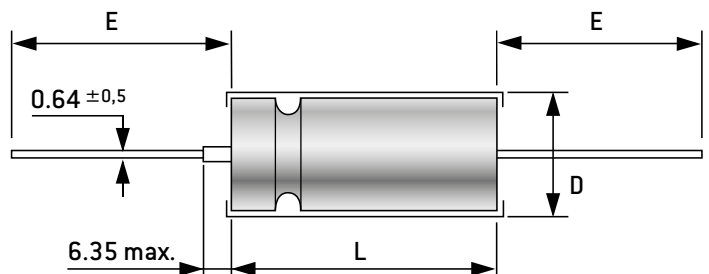
## DIMENSIONS (mm)

Case code	Without insulating sleeve		With insulating sleeve	Lead length E ± 6,35
	D ± 0,41	L <sup>+0,79</sup> <sub>-0,41</sub>	D max.	
T1	4,78	11,51	5,56	38,10
T2	7,14	16,28	7,92	57,15
T3	9,52	19,46	10,31	57,15
T4	9,52	26,97	10,31	57,15

**MARKING, PACKAGING, CONSTRUCTION:**  
 see general characteristics

## HOW TO ORDER

EXXELIA PN	Model code	Dash Number	Vibration and shock (optional)
	M39006/22	-0220	H
		See Ratings and Case code table	- = Without H = With



## STANDARD RATINGS - ELECTRICAL CHARACTERISTICS

Capacitance 120Hz +25°C ( $\mu$ F)	Case (code)	Dash Number		Capacitance maximum change			Max. DF +25°C (%)	Max. Impedance 120Hz -55°C ( $\Omega$ )	Max. I leak		Irms Max. 40kHz +85°C (mA)	Max. ESR 120Hz +25°C ( $\Omega$ )
		$\pm 10\%$	$\pm 20\%$	-55°C (%)	+85°C (%)	+125°C (%)			+25°C ( $\mu$ A)	+85°C +125°C ( $\mu$ A)		
<b>Rated voltage (+85°C) 6 V - Derated voltage (+125°C) 4 V</b>												
30	T1	0002	0001	-40	+10,5	+12	9	100	1	2	820	3,98
68	T1	0005	0004	-40	+14	+16	15	60	1	2	960	3,16
140	T2	0008	0007	-40	+14	+16	21	40	1	3	1200	1,99
270	T2	0011	0010	-44	+17,5	+20	45	25	1	6,5	1375	2,21
330	T3	0014	0013	-44	+14	+16	36	20	2	7,9	1800	1,45
560	T3	0017	0016	-64	+17,5	+20	55	25	2	13	1900	1,30
1200	T4	0020	0019	-80	+25	+25	90	20	3	14	2265	1,00
<b>Rated voltage (+85°C) 8 V - Derated voltage (+125°C) 5 V</b>												
25	T1	0022	0021	-40	+10,5	+12	7,5	100	1	2	820	3,98
56	T1	0025	0024	-40	+14	+16	14	59	1	2	900	3,32
120	T2	0028	0027	-44	+17,5	+20	20	50	1	2	1220	2,21
220	T2	0031	0030	-44	+17,5	+20	37	30	1	7	1370	2,23
290	T3	0034	0033	-64	+17,5	+20	34	25	2	6	1770	1,56
430	T3	0037	0036	-64	+17,5	+20	46	25	2	14	1825	1,42
850	T4	0040	0039	-80	+25	+25	60	22	4	16	2330	0,94
<b>Rated voltage (+85°C) 10 V - Derated voltage (+125°C) 7 V</b>												
20	T1	0042	0041	-32	+10,5	+12	6	175	1	2	820	3,98
47	T1	0045	0044	-36	+14	+16	13	100	1	2	855	3,67
100	T2	0048	0047	-36	+14	+16	15	60	1	4	1200	1,99
180	T2	0051	0050	-36	+14	+16	30	40	1	7	1365	2,21
250	T3	0054	0053	-40	+14	+16	30	30	2	10	1720	1,59
390	T3	0057	0056	-64	+17,5	+20	44	25	2	16	1800	1,50
750	T4	0060	0059	-80	+25	+25	50	23	4	16	2360	0,88
<b>Rated voltage (+85°C) 15 V - Derated voltage (+125°C) 10 V</b>												
15	T1	0062	0061	-24	+10,5	+12	5	155	1	2	780	4,42
33	T1	0065	0064	-28	+14	+16	10	90	1	2	820	4,02
70	T2	0068	0067	-28	+14	+16	13	75	1	4	1150	2,46
120	T2	0071	0070	-28	+17,5	+20	18	50	1	7	1450	1,99
170	T3	0074	0073	-32	+14	+16	25	35	2	10	1480	1,95
270	T3	0077	0076	-56	+17,5	+20	32	30	2	16	1740	1,57
540	T4	0080	0079	-80	+25	+25	40	23	6	24	2330	0,98
<b>Rated voltage (+85°C) 25 V - Derated voltage (+125°C) 15 V</b>												
10	T1	0082	0081	-16	+8	+9	4	220	1	2	715	5,31
22	T1	0085	0084	-20	+10,5	+12	6,6	140	1	2	825	3,98
50	T2	0088	0087	-28	+13	+15	11	70	1	2	1130	2,92
100	T2	0091	0090	-28	+13	+15	15	50	1	10	1435	1,99
120	T3	0094	0093	-32	+13	+15	21	38	2	6	1450	2,32
180	T3	0097	0096	-48	+13	+15	26	32	2	18	1525	1,92
350	T4	0100	0099	-70	+25	+25	35	24	7	28	1970	1,33
<b>Rated voltage (+85°C) 30 V - Derated voltage (+125°C) 20 V</b>												
8	T1	0102	0101	-16	+8	+12	4	275	1	2	640	6,64
15	T1	0105	0104	-20	+10,5	+12	5	175	1	2	780	4,42
40	T2	0108	0107	-24	+10,5	+12	10	65	1	5	1120	3,32
68	T2	0111	0110	-24	+13	+15	13	60	1	8	1285	2,54
100	T3	0114	0113	-28	+10,5	+12	17	40	2	12	1450	2,26
150	T3	0117	0116	-48	+13	+15	23	35	2	18	1525	2,03
300	T4	0120	0119	-60	+25	+25	31	25	8	32	1950	1,37

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## STANDARD RATINGS - ELECTRICAL CHARACTERISTICS

Capacitance 120Hz +25°C ( $\mu$ F)	Case (code)	Dash Number		Capacitance maximum change			Max. DF +25°C (%)	Max. Impedance 120 Hz -55°C ( $\Omega$ )	Max. I leak		Irms Max. 40kHz +85°C (mA)	Max. ESR 120Hz +25°C ( $\Omega$ )
		$\pm 10\%$	$\pm 20\%$	-55°C (%)	+85°C (%)	+125°C (%)			+25°C ( $\mu$ A)	+85°C +125°C ( $\mu$ A)		
<b>Rated voltage (+85°C) 50 V - Derated voltage (+125°C) 30 V</b>												
5	T1	0122	0121	-16	+5	+6	3	400	1	2	580	7,96
10	T1	0125	0124	-24	+8	+9	4	250	1	2	715	5,31
25	T2	0128	0127	-20	+10,5	+12	8	95	1	5	1005	4,25
47	T2	0131	0130	-28	+13	+15	11	70	1	9	1155	3,11
60	T3	0134	0133	-16	+10,5	+12	12	45	2	12	1335	2,65
82	T3	0137	0136	-32	+13	+15	15	45	2	16	1400	2,43
160	T4	0140	0139	-50	+25	+25	17	27	8	32	1900	1,41
<b>Rated voltage (+85°C) 60 V - Derated voltage (+125°C) 40 V</b>												
4	T1	0142	0141	-16	+5	+6	2,8	550	1	2	525	9,29
8,2	T1	0145	0144	-24	+8	+9	4	275	1	2	625	6,47
20	T2	0148	0147	-16	+10,5	+12	7	105	1	5	930	4,64
39	T2	0151	0150	-28	+10,5	+12	10	90	1	9	1110	3,40
50	T3	0154	0153	-16	+10,5	+12	10	50	2	12	1330	2,65
68	T3	0157	0156	-32	+10,5	+12	13	50	2	16	1365	2,54
140	T4	0160	0159	-40	+20	+20	16	28	8	32	1850	1,52
<b>Rated voltage (+85°C) 75 V - Derated voltage (+125°C) 50 V</b>												
3,5	T1	0162	0161	-16	+5	+6	2,5	650	1	2	525	9,48
6,8	T1	0165	0164	-20	+8	+9	3,5	300	1	2	610	6,83
15	T2	0168	0167	-16	+8	+9	6	150	1	5	890	5,31
33	T2	0171	0170	-24	+10,5	+15	10	90	1	10	1000	4,02
40	T3	0174	0173	-16	+10,5	+12	9	60	2	12	1250	2,99
56	T3	0177	0176	-28	+10,5	+15	11	60	2	17	1335	2,61
110	T4	0180	0179	-35	+20	+20	12	29	9	36	1850	1,45
<b>Rated voltage (+85°C) 100 V - Derated voltage (+125°C) 65 V</b>												
2,5	T1	0182	0181	-16	+7	+8	2	950	1	2	505	10,62
4,7	T1	0185	0184	-16	+7	+8	3	500	1	2	565	8,47
11	T2	0188	0187	-16	+8	+8	5	200	1	4	835	6,03
22	T2	0191	0190	-16	+8	+8	7,5	100	1	9	965	4,52
30	T3	0194	0193	-16	+8	+8	7	80	2	12	1240	3,10
43	T3	0197	0196	-20	+8	+8	8,5	70	2	17	1335	2,62
86	T4	0200	0199	-25	+15	+15	10	30	9	36	1800	1,54
<b>Rated voltage (+85°C) 125 V - Derated voltage (+125°C) 85 V</b>												
1,7	T1	0202	0201	-16	+7	+8	2	1250	1	2	415	15,61
3,6	T1	0205	0204	-16	+7	+8	2,7	600	1	2	520	9,95
9	T2	0208	0207	-16	+7	+8	5	240	1	5	755	7,37
14	T2	0211	0210	-16	+7	+8	6	167	1	7	860	5,69
18	T3	0214	0213	-16	+7	+8	5	129	2	9	1130	3,69
25	T3	0217	0216	-16	+7	+8	6	93	2	13	1200	3,18
56	T4	0220	0219	-25	+15	+15	6,5	32	10	40	1800	1,54