

CBEO series Low DF



High Energy Tantalum Hybrid Capacitor

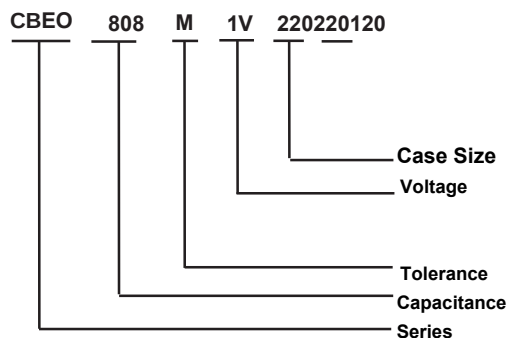
Hermetic sealed & Military standard



❖ Characteristics and application

- All tantalum case, hermetic sealed, square, small size, radial leads, Polarized
- This product is made up of tantalum capacitor and electrochemical capacitor
- Stable electric performance, high reliability, long life, large energy density per unit volume, store much energy.
- Used as battery in Energy conversion circuit and power pulse circuit, Perform Energy storage, filter, power-off delay in circuit. Widely use in aircraft, radar, ship, tank, satellite, aerospace equipment etc.
- Standard: GJB733B-2011 & Q/RT0.464.222-2015

PART NUMBER EXAMPLE



❖ Technical Performance

Temperature range: -55°C~+125°C (+125°C use derated

voltage) Store environment temperature: -62°C~+130°C

Capacitance tolerance: K=±10%; M=±20%; Q=-10%~+30%

Table 1 CBEO High Energy Tantalum Hybrid Capacitor characteristics and size: $\phi 22 \times 22 \times 12 \text{mm}$

Rated Voltage (V)	Derated Voltage (V)	Surge Voltage (V)	Cap. (μF)	tg δ (%) 100Hz	ESR (Ω) 1KHz	Max.DCL. (μA)		IMP. (Ω) 100Hz -55°C	Cap. change (%)		Max. Weight (g)
						25°C	85°C 125°C		-55°C	+85°C	
10	6	11	24000	90	0.25	350	2100	6	-75	140	45
16	9	17.6	16000	80	0.25	400	2400	6	-75	140	45
25	15	27.5	11500	70	0.25	500	3000	6	-70	130	45
35	20	38.5	8000	60	0.25	500	3000	6	-65	120	45
50	30	55	5400	55	0.3	500	3000	7.5	-55	110	45
63	38	70	3000	45	0.3	300	1800	9	-50	70	50
80	48	88	1960	40	0.3	300	1800	10	-45	70	50
85	51	93.5	1720	40	0.3	300	1800	10	-45	70	50
100	60	110	1000	35	0.4	150	900	12	-35	65	55
110	66	121	540	25	0.4	150	900	14	-30	45	55
125	75	138	360	25	0.5	150	900	16	-25	45	55

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Dimension drawing 1 $\phi 22 \times 22 \times 12 \text{mm}$

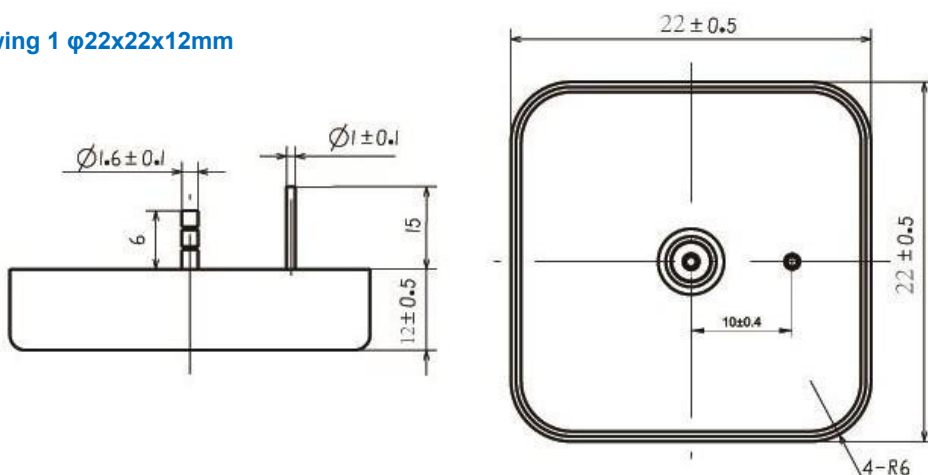
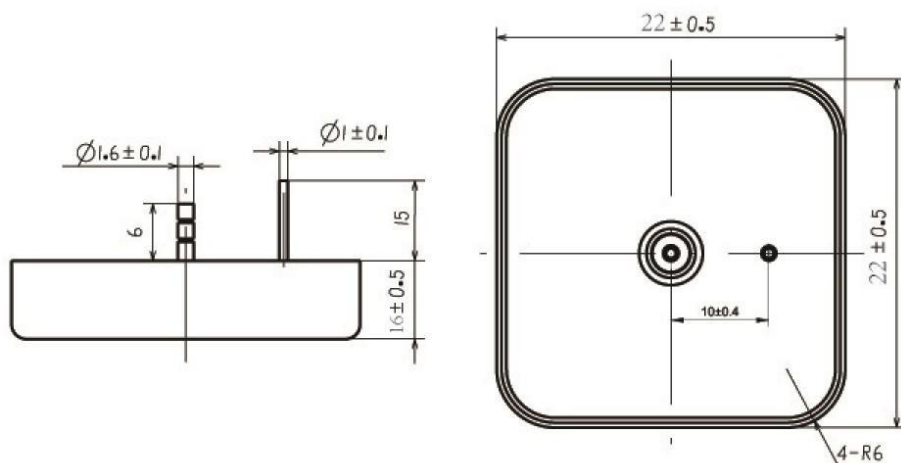


Table 2 CBEO High Energy Tantalum Hybrid Capacitor Characteristics and Size: $\phi 22 \times 22 \times 16 \text{mm}$

Rated Voltage (V)	Derated Voltage (V)	Surge Voltage (V)	Cap. (μF)	$\text{tg}\delta(\%)$ 100Hz	ESR (Ω) 1KHz	Max.DCL. (μA)		IMP. (Ω) 100Hz -55℃	Cap. change (%)		Max. Weight (g)
						25℃	85℃ 125℃		-55℃	+85℃	
10	6	11	36000	90	0.25	350	2100	5	-75	140	55
16	9	17.6	24500	80	0.25	400	2400	5	-75	140	55
25	15	27.5	17000	70	0.25	500	3000	5	-70	130	55
35	20	38.5	12000	60	0.25	500	3000	5	-65	120	55
50	30	55	8200	55	0.3	500	3000	6.5	-55	110	55
63	38	70	4500	45	0.3	300	1800	8	-50	70	60
80	48	88	3000	40	0.3	300	1800	9	-45	70	60
85	51	93.5	2600	40	0.3	300	1800	9	-45	70	60
100	60	110	1500	35	0.4	150	900	11	-35	65	65
110	66	121	820	25	0.4	150	900	13	-30	45	65
125	75	138	540	25	0.5	150	900	15	-25	45	65

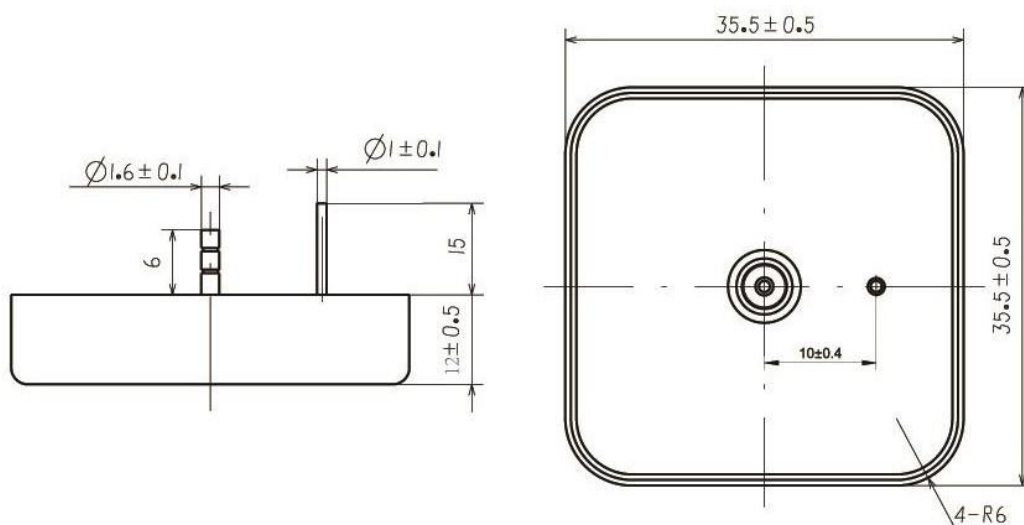
Dimension drawing 2 $\phi 22 \times 22 \times 16 \text{mm}$



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Table 3 CBEO High Energy Tantalum Hybrid Capacitor Characteristics and Size: $\phi 35.5 \times 35.5 \times 12\text{mm}$

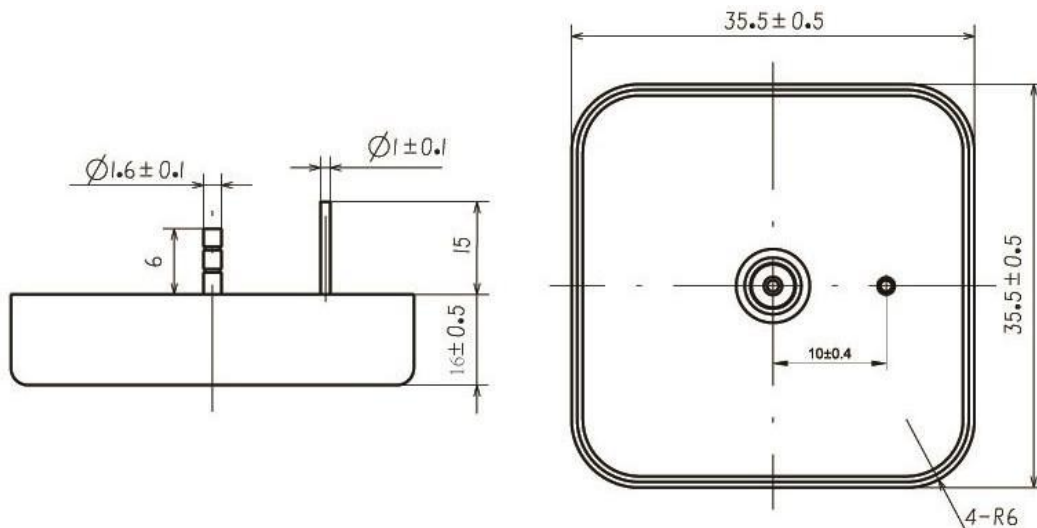
Rated Voltage (V)	Derated Voltage (V)	Surge Voltage (V)	Cap. (μF)	tgδ(%) 100Hz	ESR (Ω) 1KHz	Max.DCL. (μA)		IMP. (Ω) 100Hz -55℃	Cap. change (%)		Max. Weight (g)
						25℃	85℃		-55℃	+85℃	
							125℃				
10	6	11	120000	160	0.04	400	2400	0.5	-60	100	90
16	9	17.6	82000	150	0.04	400	2400	0.5	-60	100	90
25	15	27.5	50000	110	0.045	400	2400	0.5	-60	100	90
35	20	38.5	33000	65	0.05	400	2400	0.5	-50	95	90
50	30	55	20000	55	0.05	500	3000	0.6	-40	85	90
63	38	70	10000	40	0.05	500	3000	0.8	-30	60	95
80	48	88	6800	30	0.06	600	3600	1.2	-28	50	95
85	51	93.5	6000	20	0.07	600	3600	1.4	-28	45	95
100	60	110	3600	20	0.07	600	3600	1.6	-20	35	100
110	66	121	3000	15	0.08	600	3600	1.8	-20	30	100
125	75	138	2000	15	0.08	600	3600	2.0	-20	30	100

Dimension drawing 3 $\phi 35.5 \times 35.5 \times 12\text{mm}$ 

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Table 4 CBEK High Energy Tantalum Hybrid Capacitor Characteristics and Size: $\phi 35.5 \times 35.5 \times 16 \text{mm}$

Rated Voltage (V)	Derated Voltage (V)	Surge Voltage (V)	Cap. (μF)	tg δ (%) 100Hz	ESR (Ω) 1KHz	Max.DCL. (μA)		IMP. (Ω) 100Hz -55℃	Cap. change (%)		Max. Weight (g)
						25℃	85℃		-55℃	+85℃	
							125℃				
10	6	11	200000	160	0.025	400	2400	0.5	-60	100	123
16	9	17.6	120000	150	0.025	400	2400	0.5	-60	100	123
25	15	27.5	75000	110	0.035	400	2400	0.5	-60	100	123
35	20	38.5	50000	65	0.035	400	2400	0.5	-50	95	123
50	30	55	30000	55	0.035	500	3000	0.6	-40	85	123
63	38	70	16000	40	0.035	500	3000	0.8	-30	60	125
80	48	88	10000	30	0.04	600	3600	1.2	-28	50	125
85	51	93.5	9000	20	0.05	600	3600	1.4	-28	45	125
100	60	110	5400	20	0.05	600	3600	1.6	-20	35	130
110	66	121	4500	15	0.065	600	3600	1.8	-20	30	130
125	75	138	3000	15	0.065	600	3600	2.0	-20	30	130

Dimension drawing 4 $\phi 35.5 \times 35.5 \times 16 \text{mm}$ 

Notes:

- Tantalum capacitors can't been measured by multimeter.(Easily cause irreversible damage and lead to reject when reversed polarity);
- Capacitance, DF measure frequency: 100Hz,DC offset voltage $U=2.2^{+1.0}_{-0.5}\text{V}$,Exchange offset voltage $U=-1.0^{+0.5}_{-0.5}\text{V}$ (effective value), measure method is by series equivalent circuit.
- Measure the leakage current at 125℃,please use derated voltage. DCL. value read at 5 minute.
- Special size and big capacitance products, please consult with us.