

Series CB



CB

Tantalum Electrolytic Capacitors Resin Dipped Type

FEATURES:

- Lead-Free
- Specially designed of general purpose.
- Highly reliable resin dipped type.
- Excellent frequency and temperature characteristics.
- Non-flammable epoxy resin.(UL-94-V-0)



SPECIFICATIONS:

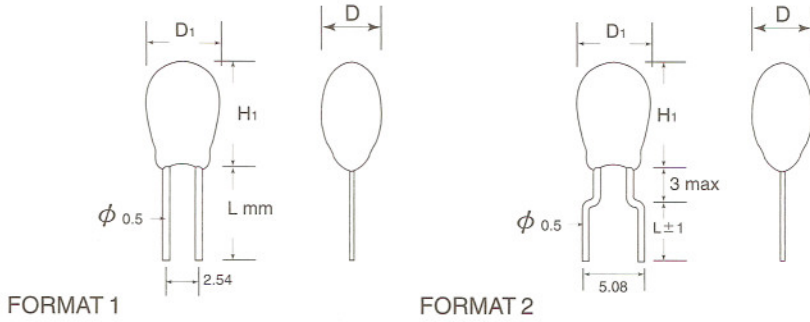
Item	Performance Characteristics						
Operating Temperature Range	-55 to + 125°C (>85°C with rated voltage derating)						
Rated Working Voltage Range	6.3 to 50 V DC						
Nominal Capacitance Range	0.1 to 330 μF						
Capacitance Tolerance	±20% (±10% is available) (120Hz, +20°C)						
Leakage Current	Not more than 0.008CV [μA] or 0.5μA whichever is greater						
tan δ (120Hz, +20°C)	Working voltage	6.3 to 50 V					
	Capacitance	≤ 1.0μF	1.5 to 6.8 μF	10 to 68μF	≥100μF		
	tan δ max.	0.04	0.06	0.08	0.1		
Characteristics at High and Low Temperature	-55°C	Capacitance change	±12% of initial measured value at +20°C				
	+105°C	Leakage current	≤10% of initial measured value				
		Capacitance change	±12% of initial measured value at +20°C				
Moisture Resistance	Test conditions						
	Relative humidity : 90 to 95% without load Ambient temperature : +40°C Duration : 500 hours Post test requirements at + 20°C Leakage current : ≤ 0.012CV or 0.75 [μF], whichever is greater Capacitance change : ± 10% of initial measured value tan δ : ≤ 150% of Initial specified value						
Endurance	Test conditions						
	Conditions		Derating (for 10 to 50V only)		Rating		
	Item						
	Duration		1000 hours		1000 hours		
	Ambient temperature		+ 105°C		+ 85°C		
	Applied voltage		Derated working voltage		Rated working voltage		
	Source impedance		1Ω/V		1Ω/V		
	Derating voltage + 105°C for 10~50V working						
	Working voltage [V] DC		10	16	25	35	50
	Derating voltage [V] DC		6.3	10	16	23	33
Post test requirements at +20°C							
Leakage current : ≤ 0.01% CV or 00625[μA], whichever is greater							
Capacitance change : ± 10% of initial measured value							
tan δ : ≤ Initial specified value							
Shelf Life	Test conditions						
	Duration		: 1000 hours		Post test requirements at +20°C		
	Ambient temperature		: +85°C		Same limits for "Endurance".		
	Applied voltage		: (none)				

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TanTalum Capacitor Dipped Type outline Drawings



Dimensions Millimeters

Case Size	A	B	C	D	E	F
Formats 1/2						
H1 max	7.0	8.0	9.5	11.0	13.0	16.5
D1 max	4.5	5.0	5.5	6.5	8.5	9.5
D max	4.2	4.7	5.5	6.5	8.5	9.5

Wire Length (L)	5,7±1	12,14±1	18, 20±1
Code	A	B	C

Rated Voltage, Capacitance of Capacitors.

VR (V)	6.3	10	16	25	35	50
Code	0J	1A	1C	1E	1V	1H
Capacitance (µF)	Case Size					
0.10 (104)					A	A
0.15 (154)					A	A
0.22 (224)					A	A
0.33 (334)					A	A
0.47 (474)					A	A
0.68 (684)					A	A
1.0 (105)				A	A	B
1.5 (155)			A	A	A	C
2.2 (225)		A	A	A	B	C
3.3 (335)	A	A	A	B	B	D
4.7 (475)	A	A	B	B	C	D
6.8 (685)	A	B	B	C	D	E
10 (106)	B	B	B	C	D	E
15 (156)	B	C	C	D	E	F
22 (226)	C	C	C	D	E	F
33 (336)	C	D	D	E	F	
47 (476)	D	D	D	E	F	
68 (686)	D	D	E	F		
100 (107)	E	E	E	F		
150 (157)	E	E	F			
220 (227)	E	F				
330 (337)	F					

Leads & Solderability
Tinned radial leads, $\phi: 0.5 \text{ mm}$.
Standard lead spacing: $2.54 \pm 0.5, 5.08 \pm 0.5 \text{ mm}$
Solderability:
- Recommended soldering bath

temperature: 260°C
- Time of immersion: 3s
The tin should cover 95% of wire surface.
Permissible pull test: 10 N.

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Packaging of bead tantalum capacitors

Ratings and Part Number Reference

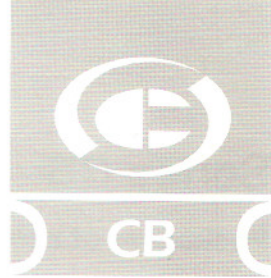
Part No.	Case Size	Capacitance μF	DCL (μA) Max.	DF % Max.	ESR max. (Ω) @ 100kHz
6.3 volt @ 85°C (4 volt, @ 125°C)					
CB 0J335##A##	A	3.3	0.5	6	13.0
CB 0J475##A##	A	4.7	0.5	6	10.0
CB 0J685##A##	A	6.8	0.5	6	8.0
CB 0J106##B##	B	10	0.5	8	6.0
CB 0J156##B##	B	15	0.8	8	5.0
CB 0J226##C##	C	22	1.1	8	3.7
CB 0J336##C##	C	33	1.7	8	3.0
CB 0J476##D##	D	47	2.4	8	2.0
CB 0J686##D##	D	68	3.4	8	1.8
CB 0J107##E##	E	100	5.0	10	1.6
CB 0J157##E##	E	150	7.6	10	0.9
CB 0J227##E##	E	220	11.0	10	0.9
CB 0J337##F##	F	330	16.6	10	0.7
10 volt @ 85°C (6.3 volt, @ 125°C)					
CB 1A225##A##	A	2.2	0.5	6	13.0
CB 1A335##A##	A	3.3	0.5	6	10.0
CB 1A475##A##	A	4.7	0.5	6	8.0
CB 1A685##B##	B	6.8	0.5	6	6.0
CB 1A106##B##	B	10	0.8	8	5.0
CB 1A156##C##	C	15	1.2	8	3.7
CB 1A226##C##	C	22	1.7	8	2.7
CB 1A336##D##	D	33	2.6	8	2.1
CB 1A476##D##	D	47	3.7	8	1.7
CB 1A686##D##	D	68	5.4	8	1.3
CB 1A107##E##	E	100	8.0	10	1.0
CB 1A157##E##	E	150	12.0	10	0.8
CB 1A227##F##	F	220	17.6	10	0.8
16 volt @ 85°C (10 volt, @ 125°C)					
CB 1C155##A##	A	1.5	0.5	4	10.0
CB 1C225##A##	A	2.2	0.5	6	8.0
CB 1C335##A##	A	3.3	0.5	6	6.0
CB 1C475##B##	B	4.7	0.6	6	5.0
CB 1C685##B##	B	6.8	0.8	8	4.0
CB 1C106##B##	B	10	1.2	8	3.2
CB 1C156##C##	C	15	1.9	8	2.5
CB 1C226##C##	C	22	2.8	8	2.0
CB 1C336##D##	D	33	4.2	8	1.6
CB 1C476##D##	D	47	6.0	8	1.3
CB 1C686##E##	E	68	8.7	8	1.0
CB 1C107##E##	E	100	12.8	10	0.8
CB 1C157##F##	F	150	19.2	10	0.6

Part No.	Case Size	Capacitance μF	DCL (μF) Max.	DF % Max.	ESR max. (Ω) @ 100kHz
25 volt @ 85°C (16 volt, @ 125°C)					
CB 1E105##A##	A	1.0	0.5	4	10.0
CB 1E155##A##	A	1.5	0.5	4	8.0
CB 1E225##A##	A	2.2	0.5	6	6.0
CB 1E335##B##	B	3.3	0.6	6	5.0
CB 1E475##B##	B	4.7	0.9	6	4.0
CB 1E685##C##	C	6.8	1.3	6	3.1
CB 1E106##C##	C	10	2.0	8	2.5
CB 1E156##D##	D	15	3.0	8	2.0
CB 1E226##D##	D	22	4.4	8	1.5
CB 1E336##E##	E	33	6.6	8	1.2
CB 1E476##E##	E	47	9.4	8	1.0
CB 1E686##F##	F	68	13.6	8	0.8
CB 1E107##F##	F	100	20	10	0.8
35 volt @ 85°C (23 volt, @ 125°C)					
CB 1V104##A##	A	0.1	0.5	4	26.0
CB 1V154##A##	A	0.15	0.5	4	21.0
CB 1V224##A##	A	0.22	0.5	4	17.0
CB 1V334##A##	A	0.33	0.5	4	15.0
CB 1V474##A##	A	0.47	0.5	4	13.0
CB 1V684##A##	A	0.68	0.5	4	10.0
CB 1V105##A##	A	1.0	0.5	4	8.0
CB 1V155##A##	A	1.5	0.5	4	6.0
CB 1V225##B##	B	2.2	0.6	6	5.0
CB 1V335##B##	B	3.3	0.9	6	4.0
CB 1V475##C##	C	4.7	1.3	6	3.0
CB 1V685##D##	D	6.8	1.9	6	2.5
CB 1V106##D##	D	10	2.8	8	2.0
CB 1V156##E##	E	15	4.2	8	1.6
CB 1V226##E##	E	22	6.1	8	1.3
CB 1V336##F##	F	33	9.2	8	1.0
CB 1V476##F##	F	47	10.0	8	0.8
50 volt @ 85°C (33 volt, @ 125°C)					
CB 1H104##A##	A	0.1	0.5	4	26.0
CB 1H154##A##	A	0.15	0.5	4	21.0
CB 1H224##A##	A	0.22	0.5	4	17.0
CB 1H334##A##	A	0.33	0.5	4	15.0
CB 1H474##A##	A	0.47	0.5	4	13.0
CB 1H684##A##	A	0.68	0.5	4	10.0
CB 1H105##B##	B	1.0	0.5	4	8.0
CB 1H155##C##	C	1.5	0.6	4	6.0
CB 1H225##C##	C	2.2	0.8	6	3.5
CB 1H335##D##	D	3.3	1.3	6	3.0
CB 1H475##D##	D	4.7	1.8	6	2.5
CB 1H685##E##	E	6.8	2.7	6	2.0
CB 1H106##E##	E	10	4.0	8	1.6
CB 1H156##F##	F	15	6.0	8	1.2
CB 1H226##F##	F	22	8.8	8	1.0

NOTE: All ## A ## to ambient temperature of + 20°C measured at 120Hz, 0.5V rms unless otherwise stated

- insert capacitance tolerance; K for $\pm 10\%$ and M for $\pm 20\%$
- insert format 1. for pitch 2.54mm; format 2. for pitch 5.08mm
- insert wire length see page 8
- insert Bulk: Code B or Ammo pack: Code T

Series CB



Packaging of bead tantalum capacitors Explanation of Part Numbers

C B **O J** **4 7 5** **M** **I** **A** **B** **B&T**
 Series Code Rated Voltage Nominal Capacitance Capacitance Tolerance Format & lead space Size Code Wire Length Bulk & Ammo pack

Quantity per bag: Code B
The capacity of the plastic bags depends on

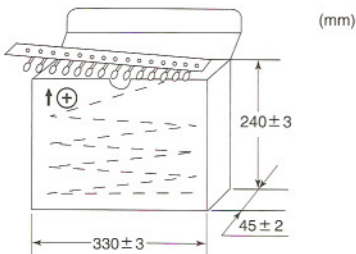
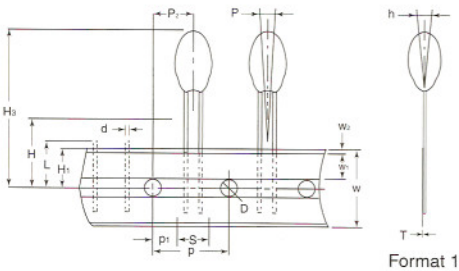
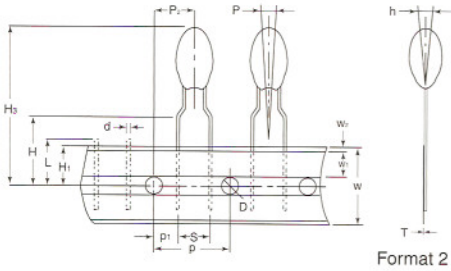
CASE SIZE FORMAT ①	Qty per bag (cut ≤ 7mm)
From A to B	1000
From C to D	1000
From E to F	500

CASE SIZE FORMAT ①	Qty per bag (cut ≥ 14mm)
From A to B	1000
From C to D	500
From E to F	500

CASE SIZE FORMAT ②	Qty per bag (cut ≤ 7mm)
From A to B	1000
From C to D	500
From E to F	500

TAPE & AMMO PACKING (conform to: IEC286-2) Code T.

Tape & Ammo Packing (conform to: IEC286 - 2)



Item	Code	Dimension (mm)
Carrier tape width	W	18.0 ^{+1.0} _{-0.5}
Hold down tape width	W ₁	6.0 ± 0.5
Hold down tape position	W ₂	1.0max
Feed hole diameter	D	4.0 ± 0.2
Feed hole pitch	P	12.7 ± 0.3
Hole center to lead	P ₁	Format 1: 5.05 ± 0.7
		Format 2: 3.85 ± 0.7
Hole center to component center	P	6.35 ± 1.0
Lead wire clench height	H	16 ± 0.5
Hole position	H ₁	9.0 ± 0.5
Base of component height	H ₂	0.8min
Component height	H ₃	32.2max
Component alignment	ΔP	0 ± 1.3
	Δh	0 ± 2.0
Lead spacing	S	'S' wires: 2.5 ^{+0.6} _{-0.1}
		'B' wires: 5.0 ^{+0.6} _{-0.5}
Lead diameter	d	0.5 ± 0.05
length of snipped lead	L	11.0max
Carrier tape thickness	T	0.5 ± 0.1

Case Code	A~B	C~D	E~F
QTY. (PCS/box)	2500	2000	1000