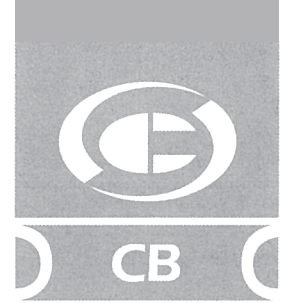


# Series CB



## Epoxy-Coated Solid Electrolytic Tantalum Capacitors Resin Dipped Type

### FEATURES:

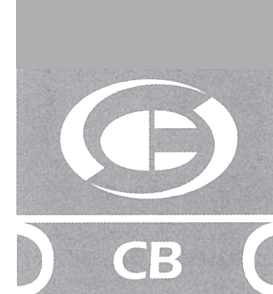
- Lead-Free. (ROHS. REACH)
- Specially designed of general purpose.
- Highly reliable resin dipped type.
- Excellent frequency and temperature characteristics.
- Non-flammable epoxy resin.(UL-94-V-O)



### SPECIFICATIONS:

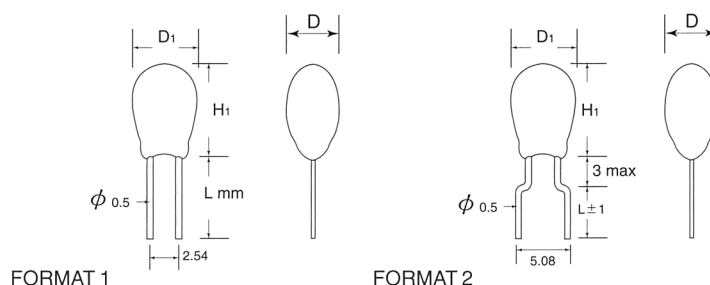
Item	Performance Characteristics						
Operating Temperature Range	-55 to + 125°C (>85°C with rated voltage derating)						
Rated Working Voltage Range	6.3 to 50 V DC						
Nominal Capacitance Range	0.1 to 330 μF						
Capacitance Tolerance	±20% (±10% is available) (120Hz, +20°C)						
Leakage Current	Not more than 0.01CV [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			
	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)						

# Series CB



## Epoxy-Coated Solid Electrolytic Tantalum Capacitors Resin Dipped Type

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
Code	A	B

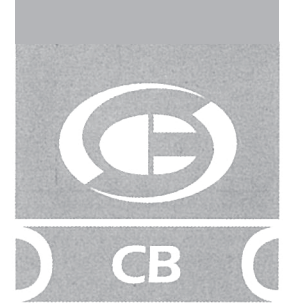
### Rated Voltage, Capacitance of Capacitors.

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	F
47 (476)	D	D	D	E	F	
68 (686)	D	D	E	F	F	
100 (107)	E	E	E	F		
150 (157)	E	E	F			
220 (227)	E	F	F			
330 (337)	F	F				
470 (477)	F	F				
680 (687)	F					

Leads & Solderability  
Tinned radial leads,  $\phi$ :0.5mm.

temperature: 260°C  
-Time of immersion: 3s

# Series CB



## Epoxy-Coated Solid Tantalum Capacitors Resin Dipped Type

### Ratings and Part Number Reference

Part No.	Case Size	Capacitance $\mu\text{F}$	DCL ( $\mu\text{A}$ ) Max.	DF % Max.	ESR max. ( $\Omega$ ) @ 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	0.6	8	6.0
CB 0J156##B##	B	15	0.9	8	5.0
CB 0J226##C##	C	22	1.4	8	3.7
CB 0J336##C##	C	33	2.1	8	3.0
CB 0J476##D##	D	47	3.0	8	2.0
CB 0J686##D##	D	68	4.3	8	1.8
CB 0J107##E##	E	100	6.3	10	1.6
CB 0J157##E##	E	150	9.5	10	0.9
CB 0J227##E##	E	220	13.9	10	0.9
CB 0J337##F##	F	330	20.8	10	0.7
CB 0J477##F##	F	470	29.6	10	0.6
CB 0J687##F##	F	680	42.8	12	0.5
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	0.7	6	6.0
CB 1A106##B##	B	10	1.0	8	5.0
CB 1A156##C##	C	15	1.5	8	3.7
CB 1A226##C##	C	22	2.2	8	2.7
CB 1A336##D##	D	33	3.3	8	2.1
CB 1A476##D##	D	47	4.7	8	1.7
CB 1A686##D##	D	68	6.8	8	1.3
CB 1A107##E##	E	100	10.0	10	1.0
CB 1A157##E##	E	150	15.0	10	0.8
CB 1A227##F##	F	220	22	10	0.8
CB 1A337##F##	F	330	33	10	0.6
CB 1A477##F##	F	470	47	10	0.5
16 volt @ 85°C (10 volt, @ 125°C)					
CB 1C155##A##	A	1.5	0.5	6	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	0.8	6	5.0
CB 1C685##B##	B	6.8	1.1	6	4.0
CB 1C106##B##	B	10	1.6	8	3.2
CB 1C156##C##	C	15	2.4	8	2.5
CB 1C226##C##	C	22	3.5	8	2.0
CB 1C336##D##	D	33	5.3	8	1.6
CB 1C476##D##	D	47	7.5	8	1.3
CB 1C686##E##	E	68	10.9	8	1.0
CB 1C107##E##	E	100	16	10	0.8
CB 1C157##F##	F	150	24	10	0.6
CB 1C227##F##	F	220	35.2	10	0.5

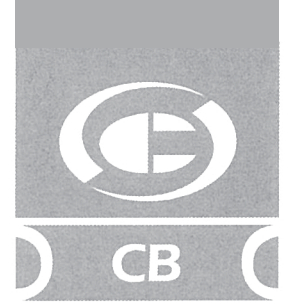
Part No.	Case Size	Capacitance $\mu\text{F}$	DCL ( $\mu\text{F}$ ) Max.	DF % Max.	ESR max. ( $\Omega$ ) @ 100kHz
25 volt @ 85°C (16 volt, @ 125°C)					
CB 1E105##A##	A	1.0	0.5	4	10.0
CB 1E155##A##	A	1.5	0.5	6	8.0
CB 1E225##A##	A	2.2	0.6	6	6.0
CB 1E335##B##	B	3.3	0.8	6	5.0
CB 1E475##B##	B	4.7	1.2	6	4.0
CB 1E685##C##	C	6.8	1.7	6	3.1
CB 1E106##C##	C	10	2.5	8	2.5
CB 1E156##D##	D	15	3.8	8	2.0
CB 1E226##D##	D	22	5.5	8	1.5
CB 1E336##E##	E	33	8.3	8	1.2
CB 1E476##E##	E	47	11.8	8	1.0
CB 1E686##F##	F	68	17.0	8	0.8
CB 1E107##F##	F	100	25	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	6	6.0
CB 1V225##B##	B	2.2	0.8	6	5.0
CB 1V335##B##	B	3.3	1.2	6	4.0
CB 1V475##C##	C	4.7	1.6	6	3.0
CB 1V685##D##	D	6.8	2.4	6	2.5
CB 1V106##D##	D	10	3.5	8	2.0
CB 1V156##E##	E	15	5.3	8	1.6
CB 1V226##E##	E	22	7.7	8	1.3
CB 1V336##F##	F	33	11.6	8	1.0
CB 1V476##F##	F	47	16.5	8	0.8
CB 1V686##F##	F	68	23.8	8	0.7
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	0.8	6	6.0
CB 1H225##C##	C	2.2	1.1	6	3.5
CB 1H335##D##	D	3.3	1.7	6	3.0
CB 1H475##D##	D	4.7	2.4	6	2.5
CB 1H685##E##	E	6.8	3.4	6	2.0
CB 1H106##E##	E	10	5.0	8	1.6
CB 1H156##F##	F	15	7.5	8	1.2
CB 1H226##F##	F	22	11	8	1.0
CB 1H336##F##	F	33	16.5	8	0.9

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



## Epoxy-Coated Solid Tantalum Capacitors Resin Dipped Type

### Packaging of bead tantalum capacitors Explanation Of Part Numbers

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

Quantity per bag: Code B

The capacity of the plastic bags depends on

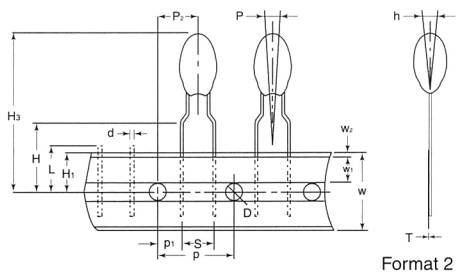
CASE SIZE FORMAT ①	Qty per bag (cut ≤ 7mm)
From A to B	1000
From C to D	1000
From E to F	500

CASE SIZE FORMAT ①	Qty per bag (cut ≥ 14mm)
From A to B	1000
From C to D	500
From E to F	250

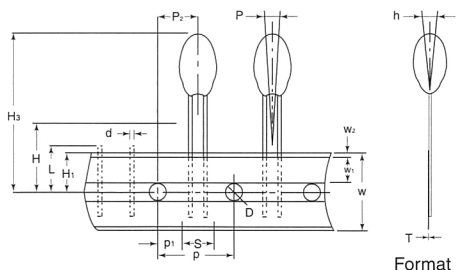
CASE SIZE FORMAT ②	Qty per bag (cut ≥ 7mm)
From A to B	1000
From C to D	500
From E to F	250

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

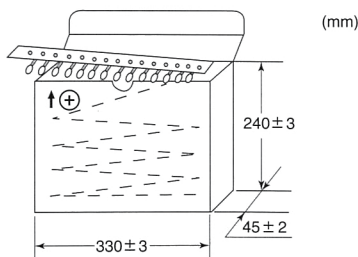
Tape & Ammo Packing (conform to: IEC286 - 2)



Format 2



Format 1



(mm)

Item	Code	Dimension (mm)
Carrier tape width	W	18.0 <sup>+1.0</sup> <sub>-0.5</sub>
Hold down tape width	W <sub>1</sub>	6.0 ± 0.5
Hold down tape position	W <sub>2</sub>	1.0max
Feed hole diameter	D	4.0 ± 0.2
Feed hole pitch	P	12.7 ± 0.3
Hole center to lead	P <sub>1</sub>	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 <sub>1</sub>	9.0 ± 0.5
Base of component height	H <sub>2</sub>	0.8min
Component height	H <sub>3</sub>	32.2max
Component alignment	ΔP	0 ± 1.3
	Δh	0 ± 2.0
Lead spacing	S	'S' wires: 2.5 <sup>+0.6</sup> <sub>-0.1</sub>
		'B' wires: 5.0 <sup>+0.6</sup> <sub>-0.5</sub>
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~F
QTY. (PCS/box)	2500	2000	1000