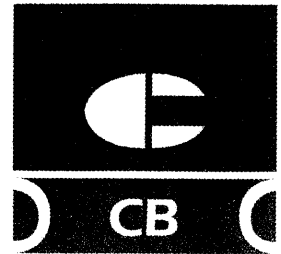


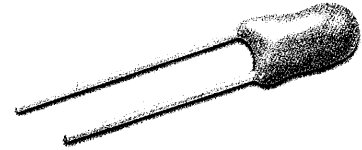
Series CB



Tantalum Electrolytic Capacitors Resin Dipped Type

FEATURES:

- Specially designed of general purpose.
- Highly reliable resin dipped type.
- Excellent frequency and temperature characteristics.
- Non-flammable epoxy resin.

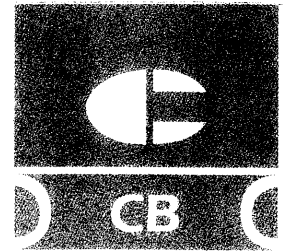


SPECIFICATIONS:

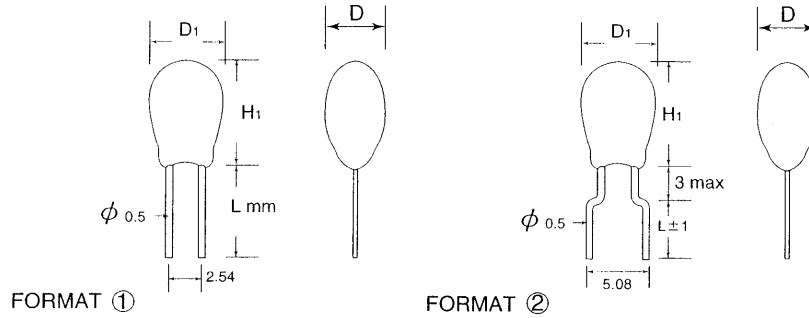
Item	Performance Characteristics				
Operating Temperature Range	-55 to + 125°C (-55 to + 85 °C for 4 & 6.3V)				
Rated Working Voltage Range	6.3 to 50 V DC				
Nominal Capacitance Range	0.1 to 330 μ F				
Capacitance Tolerance	\pm 20% (\pm 10% is available) (120Hz, +20°C)				
Leakage Current	\leq 0.008CV or 0.5 [μ A] Whichever is greater measured after 2 minutes application of rated working voltage at +20°C				
tan δ (120Hz, +20°C)	Working voltage	6.3 to 50 V			
	Capacitance	\leq 1.5 μ F	2.2 to 6.8 μ F	10 to 68 μ F	\geq 100 μ F
	tan δ max.	0.04	0.06	0.08	0.1
Characteristics at High and Low Temperature	-55°C	Capacitance change	\pm 12% of initial measured value at +20°C		
	+125°C	Leakage current	\leq 10% of initial measured value		
		Capacitance change	\pm 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 : \leq 0.012CV or 0.75 [μ F], whichever is greater Capacitance change : \pm 10% of initial measured value tan δ : \leq 150% of Initial specified value				
Endurance	Test conditions				
	Item	Conditions	Derating (for 10 to 50V only)		Rating
	Duration		1000 hours		2000 hours
	Ambient temperature		+ 105°C		+ 85°C
	Applied voltage		Derated working voltage		Rated working voltage
	Source impedance		1 Ω /V		1 Ω /V
	Derating voltage + 125°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 : \leq 0.01% CV or 00625[μ A], whichever is greater					
Capacitance change : \pm 10% of initial measured value					
tan δ : \leq Initial specified value					
Shelf Life	Test conditions				
	Duration	: 2000 hours			Post test requirements at +20°C
	Ambient temperature	: +85°C			Same limits for "Endurance".
	Applied voltage	: (none)			

Series CB

Tantalum Electrolytic Capacitors Resin Dipped Type



TanTalum Capacitor Dipped Type outline Dpawings



Dimensions Millimeters

Case Size	A	B	C	D	E	F	G	H	I	J	K	L	M	N
Formats 1/2														
H1 max	6	6.5	7	7	7.5	8	8.5	9	10	11	12	14	14	15
D1 max	4	4.5	4.5	5	5	5	5.5	6	6.5	7.5	8	9.0	10	10.5
D max	3.8	4.3	4.3	4.8	4.8	4.8	5.3	6	6.5	7.5	8	9.0	10	10.5

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

Rated Voltage, Capacitance of Capacitors.

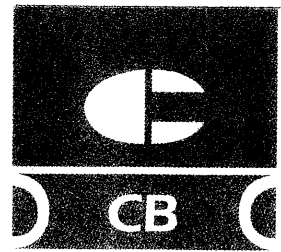
VR (V)	6.3	10	16	20	25	35	50
Code	0J	1A	1C	1D	1E	1V	1H
Capacitance (µF)	Case Size						
0.10 (104)						A	A
0.15 (154)						A	A
0.22 (224)						A	A
0.33 (334)						A	A
0.47 (474)						A	B
0.68 (684)						A	C
1.0 (105)				A	A	B	E
1.5 (155)			A	A	B	C	F
2.2 (225)		A	A	B	C	E	G
3.3 (335)	A	A	B	C	E	F	I
4.7 (475)	A	B	C	E	F	G	J
6.8 (685)	B	C	D	F	G	I	K
10 (106)	C	D	F	G	I	J	L
15 (156)	D	F	G	I	J	K	M
22 (226)	F	G	H	J	K	L	N
33 (336)	G	H	J	K	L	M	
47 (476)	H	J	K	L	M	N	
68 (686)	J	K	L	M	N		
100 (107)	K	L	M	N			
150 (157)	L	M	N				
220 (227)	M	N					
330 (337)	N						

Leads & Solderability
Tinned radial leads, ϕ :0.5mm.
Standard lead spacing: 2.54 ± 0.5 , 5.08 ± 0.5 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.

Series CB

Packaging of bead tantalum capacitors



Ratings and Part Number Reference

Carey 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##B##	B	6.8	0.5	6	8.0
CB 0J106##C##	C	10	0.5	8	6.0
CB 0J156##D##	D	15	0.8	8	5.0
CB 0J226##F##	F	22	1.1	8	3.7
CB 0J336##G##	G	33	1.7	8	3.0
CB 0J476##H##	H	47	2.4	8	2.0
CB 0J686##J##	J	68	3.4	8	1.8
CB 0J107##K##	K	100	5.0	10	1.6
CB 0J157##L##	L	150	7.6	10	0.9
CB 0J227##M##	M	220	11.0	10	0.9
CB 0J337##N##	N	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##B##	B	4.7	0.5	6	8.0
CB 1A685##C##	C	6.8	0.5	6	6.0
CB 1A106##D##	D	10	0.8	8	5.0
CB 1A156##F##	F	15	1.2	8	3.7
CB 1A226##G##	G	22	1.7	8	2.7
CB 1A336##H##	H	33	2.6	8	2.1
CB 1A476##J##	J	47	3.7	8	1.7
CB 1A686##K##	K	68	5.4	8	1.8
CB 1A107##L##	L	100	8.0	10	1.0
CB 1A157##M##	M	150	12.0	10	0.8
CB 1A227##N##	N	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##B##	B	3.3	0.5	6	6.0
CB 1C475##C##	C	4.7	0.6	6	5.0
CB 1C685##D##	D	6.8	0.8	8	4.0
CB 1C106##F##	F	10	1.2	8	3.2
CB 1C156##G##	G	15	1.9	8	2.5
CB 1C226##H##	H	22	2.8	8	2.0
CB 1C336##J##	J	33	4.2	8	1.6
CB 1C476##K##	K	47	6.0	8	1.3
CB 1C686##L##	L	68	8.7	8	1.0
CB 1C107##M##	M	100	12.8	10	0.8
CB 1C157##N##	N	150	19.2	10	0.6

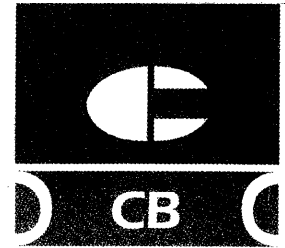
Carey Part No.	Case Size	Capacitance μF	DCL (μF) Max.	DF % Max.	ESR max. (Ω) @ 100kHz
25 volt @ 85°C (16 volt, @125°C)					
CB 1E105##A##	A	1.0	0.5	4	10.0
CB 1E155##B##	B	1.5	0.5	4	8.0
CB 1E225##C##	C	2.2	0.5	6	6.0
CB 1E335##E##	E	3.3	0.6	6	5.0
CB 1E475##F##	F	4.7	0.9	6	4.0
CB 1E685##G##	G	6.8	1.3	6	3.1
CB 1E106##I##	I	10	2.0	8	2.5
CB 1E156##J##	J	15	3.0	8	2.0
CB 1E226##K##	K	22	4.4	8	1.5
CB 1E336##L##	L	33	6.6	8	1.2
CB 1E475##M##	M	47	9.4	8	1.0
CB 1E686##N##	N	68	13.6	8	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##B##	B	1.0	0.5	4	8.0
CB 1V155##C##	C	1.5	0.5	4	6.0
CB 1V225##E##	E	2.2	0.6	6	5.0
CB 1V335##F##	F	3.3	0.9	6	4.0
CB 1V475##G##	G	4.7	1.3	6	3.0
CB 1V685##I##	I	6.8	1.9	6	2.5
CB 1V106##K##	J	10	2.8	8	2.0
CB 1V156##K##	K	15	4.2	8	1.6
CB 1V226##L##	L	22	6.1	8	1.3
CB 1V336##N##	M	33	9.2	8	1.0
CB 1V476##N##	N	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##B##	B	0.47	0.5	4	13.0
CB 1H684##C##	C	0.68	0.5	4	10.0
CB 1H105##E##	E	1.0	0.5	4	8.0
CB 1H155##F##	F	1.5	0.6	4	6.0
CB 1H225##G##	G	2.2	0.8	6	3.5
CB 1H335##I##	I	3.3	1.3	6	3.0
CB 1H475##J##	J	4.7	1.8	6	2.5
CB 1H685##K##	K	6.8	2.7	6	2.0
CB 1H106##L##	L	10	4.0	8	1.6
CB 1H156##M##	M	15	6.0	8	1.2
CB 1H226##N##	N	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
Series Code
O J
Rated Voltage
4 7 5
Nominal Capacitance
M
Capacitance Tolerance
I
Format & lead space
A
Size Code
B
Wire Length
T
Bulk & Ammo pack

Quantity per bag: Code B

The capacity of the plastic bags depends on

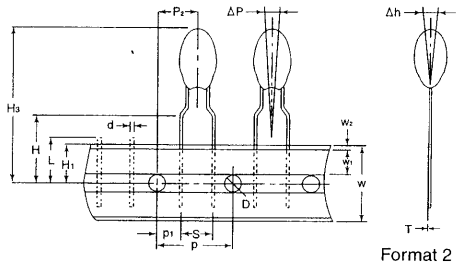
CASE SIZE FORMAT ①	Qty per bag (cut ≤ 7mm)
From A to D	1000
From E to K	1000
From L to N	500

CASE SIZE FORMAT ②	Qty per bag (cut ≥ 14mm)
From A to D	1000
From E to K	500
From L to N	250

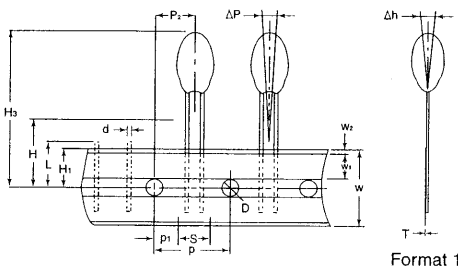
CASE SIZE FORMAT ②	Qty per bag
From A to D	1000
From E to K	500
From L to N	250

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

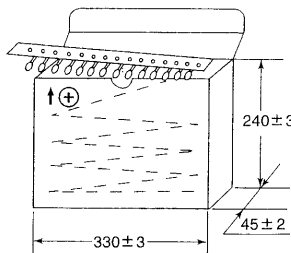
Tape & Ammo Packing (conform to: IEC286 - 2)



Format 2



Format 1



(mm)

Item	Code	Dimension (mm)
Carrier tape width	W	18.0 ^{+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 clenched 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
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~E	F~J	K~N
QTY. (PCS/box)	2500	2000	1000