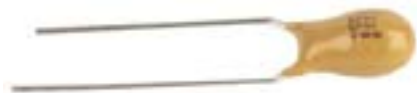


CB Series

Tantalum Capacitors



Lead diameter = 0.5, Lead pitch = 5.0

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°C to +85°C for 6.3V)															
Rated Working Voltage Range	6.3 to 35V dc															
Nominal Capacitance Range	0.1 to 100µF															
Capacitance Tolerance	±20%															
Leakage Current	$I \leq 0.008CV$ or $0.5\mu A$ Whichever is greater measured after 2 minutes application of rated working voltage at +20°C															
$\tan\delta$ (120Hz, +20°C)	<table border="1"> <thead> <tr> <th>Working Voltage (V)</th> <th colspan="4">6.3 to 35V</th> </tr> </thead> <tbody> <tr> <td>Capacitance</td> <td>0.1 to 1µF</td> <td>2.2 to 6.8µF</td> <td>10 to 68µF</td> <td>≥100µF</td> </tr> <tr> <td>$\tan\delta$ (maximum)</td> <td>0.04</td> <td>0.06</td> <td>0.08</td> <td>0.1</td> </tr> </tbody> </table>	Working Voltage (V)	6.3 to 35V				Capacitance	0.1 to 1µF	2.2 to 6.8µF	10 to 68µF	≥100µF	$\tan\delta$ (maximum)	0.04	0.06	0.08	0.1
Working Voltage (V)	6.3 to 35V															
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$\tan\delta$ (maximum)	0.04	0.06	0.08	0.1												
Characteristics at High and Low Temperature	<table border="1"> <tbody> <tr> <td rowspan="2">-55°C</td> <td>Capacitance change</td> <td>±12% of initial measured value at +20°C</td> </tr> <tr> <td>Leakage current</td> <td>≤10% of initial measured value</td> </tr> <tr> <td rowspan="2">+125°C</td> <td>Capacitance change</td> <td>±12% of initial measured value at +20°C</td> </tr> </tbody> </table>	-55°C	Capacitance change	±12% of initial measured value at +20°C	Leakage current	≤10% of initial measured value	+125°C	Capacitance change	±12% of initial measured value at +20°C							
-55°C	Capacitance change		±12% of initial measured value at +20°C													
	Leakage current	≤10% of initial measured value														
+125°C	Capacitance change	±12% of initial measured value at +20°C														
	Moisture Resistance	<p>Test Conditions</p> <table border="1"> <tbody> <tr> <td>Relative humidity</td> <td>90 to 95% without load</td> </tr> <tr> <td>Ambient temperature</td> <td>+40°C</td> </tr> <tr> <td>Duration</td> <td>500 hours</td> </tr> </tbody> </table> <p>Post test requirements at +20°C</p> <table border="1"> <tbody> <tr> <td>Leakage current</td> <td>≤0.012CV or 0.75µF, whichever is greater</td> </tr> <tr> <td>Capacitance change</td> <td>10% of initial measured value</td> </tr> <tr> <td>$\tan\delta$</td> <td>≤150% of initial specified value</td> </tr> </tbody> </table>	Relative humidity	90 to 95% without load	Ambient temperature	+40°C	Duration	500 hours	Leakage current	≤0.012CV or 0.75µF, whichever is greater	Capacitance change	10% of initial measured value	$\tan\delta$	≤150% of initial specified value		
Relative humidity	90 to 95% without load															
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$\tan\delta$	≤150% of initial specified value															

CB Series

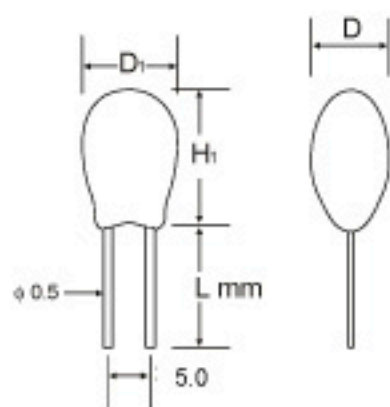
Tantalum Capacitors



Specifications

Item	Performance Characteristics				
Endurance	Test Conditions				
	Item \ Conditions	Derating (for 10 to 35V only)		Rating	
	Duration	1000 hours		2000 hours	
	Ambient temperature	+105°C		+85°C	
	Applied Voltage	Derated working voltage		Rated working voltage	
	Source impedance	1Ω/V		1Ω/V	
	Derating voltage +125°C for 10 to 35V working				
	Working Voltage (V) DC	10	16	25	35
	Derating voltage (V) DC	6.3	10	16	23
	Post test requirements at +20°C				
Leakage current	≤ 0.01% CV or 00625μA, whichever is greater				
Capacitance change	±10% of initial measured value				
tanδ	≤ Initial specified value				
Shelf Life	Test Conditions		Post test requirements at +20°C		
	Duration	2000 hours	Same limits for "Endurance".		
	Ambient temperature	+85°C			
	Applied Voltage	(none)			

Tantalum Capacitor Dipped Type Outline Drawings



Wire Length (L)	18.20 ±1
Code	C

Case Size	A	B	C	D	E	F	G	H	I	J	K	L	M	N
H ₁ maximum	6.0	6.5	7.0		7.5	8.0	8.5	9.0	10.0	11.0	12.0	14.0	15.0	
D ₁ maximum	4.0	4.5		5.0			5.5	6.0	6.5	7.5	8.0	9.0	10.0	10.5
D maximum	3.8	4.3		4.8			5.3							

Dimensions : Millimetres



CB Series

Tantalum Capacitors



Rated Voltage, Capacitance of Capacitors

VR (V)	6.3	10	16	25	35
Code	0J	1A	1C	1E	1V
Capacitance (µF)	Case Size				
0.10 (104)	-	-	-	-	A
0.15 (154)	-	-	-	-	
0.22 (224)	-	-	-	-	
0.33 (334)	-	-	-	-	
0.47 (474)	-	-	-	-	
0.68 (684)	-	-	-	-	
1.0 (105)	-	-	-	A	B
2.2 (225)	-	-	A	C	E
3.3 (335)	-	-	-	-	F
4.7 (475)	-	B	C	F	G
6.8 (685)	B	-	D	G	I
10.0 (106)	C	D	F	I	J
15.0 (156)	-	-	-	J	K
22.0 (226)	F	G	H	K	L
33.0 (336)	G	H	J	L	-
47.0 (476)	H	J	K	-	N
68.0 (686)	J	-	L	-	-
100.0 (107)	K	L	M	-	-

Leads and Solderability

Tinned radial leads, ϕ : 0.5.mim.

Lead pitch: 5.0mm

Solderability:

- Recommended soldering bath temperature: 260°C

-Time of immersion: 3S

The tin should cover 95% of wire surface.

Permissible pull test: 10N.



CB Series

Tantalum Capacitors



Ratings and Part Number Reference

Case Size	Capacitance (μF)	DCL (μA) Maximum	DF % Maximum	ESR Maximum (Ω) at 100KHz	Part Number
6.3V at 85°C (4V at 125°C)					
B	6.8	0.5	6	8.0	CB0J685M2BCB
C	10.0			6.0	CB0J106M2CCB
F	22.0			3.7	CB0J226M2FCB
G	33.0			3.0	CB0J336M2GCB
H	47.0	2.4	8	2.0	CB0J476M2HCB
J	68.0	3.4		1.8	CB0J686M2JCB
K	100.0	5.0		1.6	CB0J107M2KCB
10V at 85°C (6.3V at 125°C)					
B	4.7	0.5	6	8.0	CB1A475M2BCB
D	10.0	0.8	8	5.0	CB1A106M2DCB
G	22.0	1.7		2.7	CB1A226M2GCB
H	33.0	2.6		2.1	CB1A336M2HCB
J	47.0	3.7		1.7	CB1A476M2JCB
L	100.0	8.0	10	1.0	CB1A107M2LCB
16V at 85°C (10V at 125°C)					
A	2.2	0.5	6	8.0	CB1C225M2ACB
C	4.7	0.6		5.0	CB1C475M2CCB
D	6.8	0.8		4.0	CB1C685M2DCB
F	10.0	1.2		3.2	CB1C106M2FCB
H	22.0	2.8	8	2.0	CB1C226M2HCB
J	33.0	4.2		1.6	CB1C336M2JCB
K	47.0	6.0		1.3	CB1C476M2KCB
L	68.0	8.7		1.0	CB1C686M2LCB
M	100.0	12.8	10	0.8	CB1C107M2MCB
25V at 85°C (16V at 125°C)					
A	1.0	0.5	4	10.0	CB1E105M2ACB
C	2.2		6	6.0	CB1E225M2CCB
F	4.7			4.0	CB1E475M2FCB
G	6.8	3.1		CB1E685M2GCB	
I	10.0	2.0		8	2.5
J	15.0	3.0	2.0		CB1E156M2JCB
K	22.0	4.4	1.5		CB1E226M2KCB
L	33.0	6.6	1.2		CB1E336M2LCB



CB Series

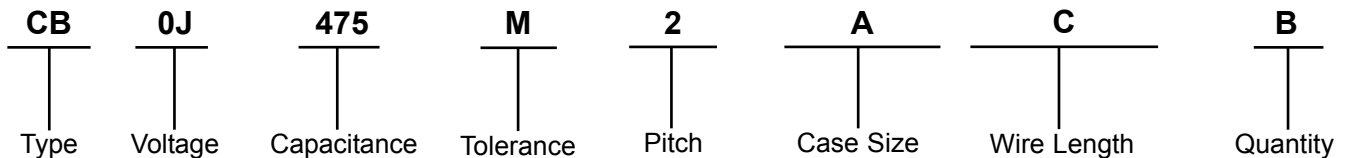
Tantalum Capacitors



Ratings and Part Number Reference

Case Size	Capacitance (μF)	DCL (μA) Maximum	DF % Maximum	ESR Maximum (Ω) at 100KHz	Part Number
35V at 85°C (23V at 125°C)					
A	0.1	0.5	4	26.0	CB1V104M2ACB
	0.22			17.0	CB1V224M2ACB
	0.33			15.0	CB1V334M2ACB
	0.47			13.0	CB1V474M2ACB
	0.68			10.0	CB1V684M2ACB
B	1.0			8.0	CB1V105M2BCB
E	2.2	0.6	6	5.0	CB1V225M2ECB
F	3.3	0.9		4.0	CB1V335M2FCB
G	4.7	4.7		3.0	CB1V475M2GCB
I	6.8	1.9		2.5	CB1V685M2ICB
J	10.0	2.8	8	2.0	CB1V106M2JCB
K	15.0	4.2		1.6	CB1V156M2KCB
L	22.0	6.1		1.3	CB1V226M2LCB
N	47.0	10.0		0.8	CB1V476M2NCB

Part Number Explanation:



- Voltage** : 0J, 1A, 1C, 1E and 1V.
- Capacitance** : First two digits are the base value and last digit represents the conversion factor.
 Last digit 5 represents decimal point in base value,
 in code 335, Capacitance value is 3.3, Similarly for 475, Capacitance is 4.7.
 Last digit 4 represents two decimal point in base value,
 in code 104, Capacitance value is 0.10, Similarly for 684, Capacitance is 0.68.
 Last digit 6 represents no change in base value,
 in code 336, Capacitance value is 33. Similarly for 476, Capacitance value is 47
 Last digit 7 represents one zero is added to the base value,
 in code 107, Capacitance value is 100.
- Tolerance** : M = ±20%.
- Pitch** : 2 (2 = 5mm).
- Case Size** : A, B, C, D, E, F, G, H, I, J, K, L, M and N.
- Wire Length** : C = 18.20 ±1.
- Quantity** : B = Bulk.



CB Series

Tantalum Capacitors



Notes:

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