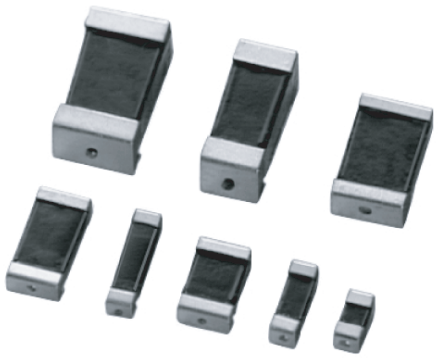
Solid Tantalum Chip Capacitors
Conformal Coated



FEATURES

- Eight standard case codes, "pad compatible" with MIL-PRF-55365/4 (CWR06).
- High volumetric efficiency (Up to 200,000 CV per cubic inch).
- Low profile, conformal-coated construction.
- 100 % low impedance power burn-in at + 85 °C.
- Low ESR in high frequency applications.
- Packaging in 50 unit 'Blister-Pack' trays or 8 mm or 12 mm tape and reel.
- Gold plated or solder dipped terminations.
- Type CC/EC capacitors are commercial equivalents of 49BC/EC.

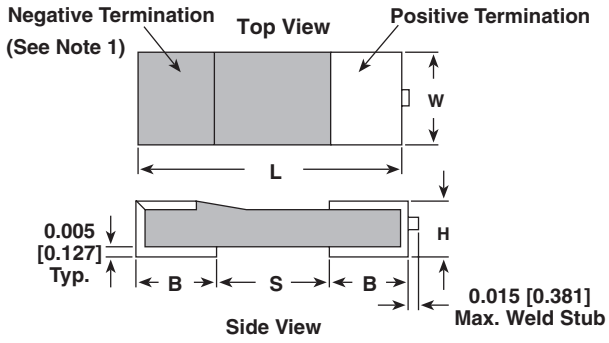
Pb-free

RoHS*
COMPLIANT

APPLICATIONS

- Medical
- Aerospace
- Military Hybrids

DIMENSIONS in inches [millimeters]



CASE CODE	LENGTH L	WIDTH W	HEIGHT H	SPACING TYPICAL S	PAD WIDTH B	TYPICAL WEIGHT (Grams)
A	0.100 ± 0.015 [2.54 ± 0.381]	0.050 ± 0.015 [1.27 ± 0.381]	0.050 ± 0.015 [1.27 ± 0.381]	0.040 [1.02]	0.030 ± 0.005 [0.76 ± 0.127]	0.02
B	0.150 ± 0.015 [3.81 ± 0.381]	0.050 ± 0.015 [1.27 ± 0.381]	0.050 ± 0.015 [1.27 ± 0.381]	0.090 [2.29]	0.030 ± 0.005 [0.76 ± 0.127]	0.03
C	0.200 ± 0.015 [5.08 ± 0.381]	0.050 ± 0.015 [1.27 ± 0.381]	0.050 ± 0.015 [1.27 ± 0.381]	0.140 [3.55]	0.030 ± 0.005 [0.76 ± 0.127]	0.04
D	0.150 ± 0.015 [3.81 ± 0.381]	0.100 ± 0.015 [2.54 ± 0.381]	0.050 ± 0.015 [1.27 ± 0.381]	0.090 [2.29]	0.030 ± 0.005 [0.76 ± 0.127]	0.07
E	0.200 ± 0.015 [5.08 ± 0.381]	0.100 ± 0.015 [2.54 ± 0.381]	0.050 ± 0.015 [1.27 ± 0.381]	0.140 [3.55]	0.030 ± 0.005 [0.76 ± 0.127]	0.09
F	0.220 ± 0.015 [5.59 ± 0.381]	0.135 ± 0.015 [3.43 ± 0.381]	0.070 ± 0.015 [1.78 ± 0.381]	0.160 [4.06]	0.030 ± 0.005 [0.76 ± 0.127]	0.21
G	0.265 ± 0.015 [6.73 ± 0.381]	0.110 ± 0.015 [2.79 ± 0.381]	0.110 ± 0.015 [2.79 ± 0.381]	0.165 [4.19]	0.050 ± 0.005 [1.27 ± 0.127]	0.33
H	0.285 ± 0.015 [7.25 ± 0.381]	0.150 ± 0.015 [3.81 ± 0.381]	0.110 ± 0.015 [2.79 ± 0.381]	0.185 [4.70]	0.050 ± 0.005 [1.27 ± 0.127]	0.50

Notes:
1. For polarity identification, when chip is in mounting position, bare metal clip and weld stub are positive. Top surface of the negative terminal is blue.
2. Anode Riser (weld stub) may extend case size length dimension by 0.015" [0.381] maximum.
3. Dimensions given are for gold plated terminations. For solder dipped terminations, add 0.015" [0.381] to dimension tolerances.
4. Spacing dimension is average distance between chip mounting terminations and therefore maximum distance between mounting pads on substrate..

* Pb containing terminations that are not RoHS compliant, exemptions may apply.

RATINGS AND CASE CODES

µF	Picofarad Code	4 V		6 V		10 V		15 V		20 V		25 V*		35 V*		50 V *	
		Std.	Ext.	Std.	Ext.	Std.	Ext.	Std.	Ext.	Std.	Ext.	Std.	Ext.	Std.	Ext.	Std.	Ext.
0.10	104	A	-	A	-	A	-	A	-	A	-	A	-	A	-	A	-
0.15	154	A	-	A	-	A	-	A	-	A	-	A	-	A	-	A	-
0.22	224	A	-	A	-	A	-	A	-	A	-	A	-	A	-	B	-
0.33	334	A	-	A	-	A	-	A	-	A	-	A	-	B	-	B	-
0.47	474	A	-	A	-	A	-	A	-	A	-	B	A	B	A	C	-
0.68	684	A	-	A	-	A	-	A	-	B	-	B	-	C	-	D	-
1.0	105	A	-	A	-	A	-	B	A	B	A	C	A	D	B	E	-
1.5	155	A	-	A	-	B	A	B	A	C	A	D	B	E	C	F	-
2.2	225	A	-	B	A	B	A	C	A	D	B	E	C	F	D	F	-
3.3	335	B	A	B	A	C	A	D	B	E	C	F	D	F	E	G	-
4.7	475	B	A	C	A	D	B	E	C	F	D	F	E	G	F	H	-
6.8	685	C	A	D	B	E	C	F	D	F	E	G	F	H	F	-	-
10	106	D	B	E	C	F	D	F	E	G	F	G	F	-	G	-	-
15	156	E	C	F	D	F	E	G	F	G	F	H	F	-	H	-	-
22	226	F	D	F	E	G	F	G	F	H	F	-	G	-	-	-	-
33	336	F	E	G	F	G	F	H	F	-	G	-	H	-	-	-	-
47	476	G	F	G	F	H	F	-	G	-	H	-	-	-	-	-	-
68	686	G	F	H	F	-	G	-	H	-	-	-	-	-	-	-	-
100	107	H	F	-	G	-	H	-	-	-	-	-	-	-	-	-	-
120	127	-	G	-	G	-	-	-	-	-	-	-	-	-	-	-	-
150	157	-	G	-	H	-	-	-	-	-	-	-	-	-	-	-	-
220	227	-	H	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Preliminary values, contact factory for availability.

STANDARD RATINGS - TYPE CC

CAP (µF)	CASE CODE	25 °C DCL µA	85 °C DCL µA	125 °C DCL µA	DF (%)	ESR Ω
4 WVDC @ - 55 °C to + 85 °C, Surge = 5 V				**2.7 WVDC @ + 125 °C, Surge = 3.4 V**		
2.2	A	0.5	5.0	7.0	6.0	8.0
4.7	B	0.5	5.0	7.0	6.0	5.5
6.8	C	0.5	5.0	7.0	6.0	3.5
10	D	0.5	5.0	7.0	8.0	2.0
15	E	0.6	6.0	8.0	8.0	1.5
33	F	1.4	14.0	18.0	8.0	1.0
68	G	2.8	28.0	35.0	10.0	0.8
100	H	4.0	40.0	48.0	10.0	0.5
6 WVDC @ - 55 °C to + 85 °C, Surge = 8 V				**4 WVDC @ + 125 °C, Surge = 5 V**		
1.5	A	0.5	5.0	7.0	6.0	8.0
3.3	B	0.5	5.0	7.0	6.0	5.5
4.7	C	0.5	5.0	7.0	6.0	3.5
6.8	D	0.5	5.0	7.0	6.0	2.0
10	E	0.6	6.0	8.0	8.0	1.5
22	F	1.4	14.0	18.0	8.0	1.0
47	G	2.9	29.0	36.0	10.0	0.8
68	H	4.0	40.0	48.0	10.0	0.7
10 WVDC @ - 55 °C to + 85 °C, Surge = 13 V				**7 WVDC @ + 125 °C, Surge = 9 V**		
1.0	A	0.5	5.0	7.0	6.0	9.0
2.2	B	0.5	5.0	7.0	6.0	5.5
3.3	C	0.5	5.0	7.0	6.0	3.5
4.7	D	0.5	5.0	7.0	6.0	2.0
6.8	E	0.7	7.0	9.0	6.0	2.0
15	F	1.5	15.0	19.0	8.0	1.0
33	G	3.0	30.0	36.0	10.0	0.8
47	H	4.7	47.0	59.0	10.0	0.7

STANDARD RATINGS - TYPE CC						
CAP (µF)	CASE CODE	25 °C DCL µA	85 °C DCL µA	125 °C DCL µA	DF (%)	ESR Ω
15 WVDC @ - 55 °C to + 85 °C, Surge = 20 V				10 WVDC @ + 125 °C, Surge = 12 V		
0.68	A	0.5	5.0	7.0	6.0	10.0
1.5	B	0.5	5.0	7.0	6.0	6.0
2.2	C	0.5	5.0	7.0	6.0	4.0
3.3	D	0.5	5.0	7.0	6.0	2.5
4.7	E	0.8	8.0	10.0	6.0	2.5
10	F	1.5	15.0	19.0	6.0	1.5
22	G	3.3	33.0	42.0	8.0	1.0
33	H	5.0	50.0	60.0	8.0	0.8
20 WVDC @ - 55 °C to + 85 °C, Surge = 26 V				13 WVDC @ + 125 °C, Surge = 16 V		
0.47	A	0.5	5.0	7.0	6.0	12.0
0.68	B	0.5	5.0	7.0	6.0	8.0
1.0	B	0.5	5.0	7.0	6.0	8.0
1.5	C	0.5	5.0	7.0	6.0	6.0
2.2	D	0.5	5.0	7.0	6.0	3.5
3.3	E	0.7	7.0	9.0	6.0	3.0
6.8	F	1.4	14.0	18.0	6.0	2.5
15	G	3.0	30.0	36.0	6.0	1.0
22	H	4.0	40.0	48.0	6.0	1.0
25 WVDC @ - 55 °C to + 85 °C, Surge = 32 V				17 WVDC @ + 125 °C, Surge = 22 V		
0.33	A	0.5	5.0	7.0	6.0	15.0
0.68	B	0.5	5.0	7.0	6.0	10.0
1.0	C	0.5	5.0	7.0	6.0	6.5
1.5	D	0.5	5.0	7.0	6.0	5.0
2.2	E	0.6	6.0	8.0	6.0	3.5
4.7	F	1.2	12.0	15.0	6.0	2.5
6.8	G	1.7	17.0	22.0	6.0	1.2
10	G	2.5	25.0	32.0	6.0	1.4
15	H	3.8	38.0	48.0	6.0	1.0
35 WVDC @ - 55 °C to + 85 °C, Surge = 46 V				23 WVDC @ + 125 °C, Surge = 28 V		
0.22	A	0.5	5.0	7.0	6.0	18.0
0.47	B	0.5	5.0	7.0	6.0	12.0
0.68	C	0.5	5.0	7.0	6.0	9.0
1.0	D	0.5	5.0	7.0	6.0	6.0
1.5	E	0.6	6.0	8.0	6.0	4.5
3.3	F	1.0	10.0	12.0	6.0	2.5
4.7	G	1.7	17.0	22.0	6.0	1.5
6.8	H	2.4	24.0	30.0	6.0	1.3
50 WVDC @ - 55 °C to + 85 °C, Surge = 65 V				33 WVDC @ + 125 °C, Surge = 40 V		
0.10	A	0.5	5.0	7.0	6.0	20.0
0.15	A	0.5	5.0	7.0	6.0	20.0
0.22	B	0.5	5.0	7.0	6.0	15.0
0.33	B	0.5	5.0	7.0	6.0	12.0
0.47	C	0.5	5.0	7.0	6.0	8.0
0.68	D	0.5	5.0	7.0	6.0	7.0
1.0	E	0.5	5.0	7.0	6.0	6.0
1.5	F	0.8	8.0	10.0	6.0	4.0
2.2	F	1.1	11.0	14.0	6.0	2.5
3.3	G	1.7	17.0	22.0	6.0	2.0
4.7	H	2.4	24.0	30.0	6.0	2.0

STANDARD RATINGS - TYPE EC						
CAP (µF)	CASE CODE	25 °C DCL µA	85 °C DCL µA	125 °C DCL µA	DF (%)	ESR Ω
4 WVDC @ - 55 °C to + 85 °C, Surge = 5 V				2.7 WVDC @ + 125 °C, Surge = 3.4 V		
6.8	A	0.5	5.0	6.0	6.0	3.5
10	B	0.5	5.0	6.0	8.0	2.0
15	C	0.6	6.0	8.0	8.0	1.5
22	D	0.9	9.0	11.0	8.0	1.0
33	E	1.4	14.0	17.0	8.0	1.0
100	F	4.0	40.0	48.0	10.0	0.5
150	G	6.0	60.0	72.0	10.0	0.5
220	H	9.0	90.0	108.0	10.0	0.5
6 WVDC @ - 55 °C to + 85 °C, Surge = 8 V				4 WVDC @ + 125 °C, Surge = 5 V		
4.7	A	0.5	5.0	6.0	6.0	3.5
6.8	B	0.5	5.0	6.0	6.0	2.0
10	C	0.6	6.0	8.0	8.0	1.5
15	D	0.9	9.0	11.0	8.0	1.0
22	E	1.4	14.0	17.0	8.0	1.0
68	F	4.0	40.0	48.0	10.0	0.7
120	G	8.0	80.0	96.0	10.0	0.5
150	H	9.0	90.0	108.0	10.0	0.5
10 WVDC @ - 55 °C to + 85 °C, Surge = 13 V				7 WVDC @ + 125 °C, Surge = 9 V		
3.3	A	0.5	5.0	6.0	6.0	3.5
4.7	B	0.5	5.0	6.0	6.0	2.0
6.8	C	0.7	7.0	9.0	6.0	2.0
10	D	1.0	10.0	12.0	8.0	1.5
15	E	1.5	15.0	18.0	8.0	1.0
47	F	4.7	47.0	57.0	10.0	0.7
68	G	7.0	70.0	84.0	10.0	0.7
100	H	10.0	100.0	120.0	10.0	0.5
15 WVDC @ - 55 °C to + 85 °C, Surge = 20 V				10 WVDC @ + 125 °C, Surge = 12 V		
2.2	A	0.5	5.0	6.0	6.0	4.0
3.3	B	0.5	5.0	6.0	6.0	2.5
4.7	C	0.8	8.0	10.0	6.0	2.5
6.8	D	1.0	10.0	12.0	6.0	2.0
10	E	1.5	15.0	18.0	6.0	1.5
33	F	5.0	50.0	60.0	8.0	0.8
47	G	8.0	80.0	96.0	8.0	0.8
68	H	11.0	110.0	132.0	8.0	0.8
20 WVDC @ - 55 °C to + 85°C, Surge = 26 V				13 WVDC @ + 125 °C, Surge = 16 V		
1.5	A	0.5	5.0	6.0	6.0	6.0
2.2	B	0.5	5.0	6.0	6.0	3.5
3.3	C	0.7	7.0	9.0	6.0	3.0
4.7	D	1.0	10.0	12.0	6.0	2.5
6.8	E	1.4	14.0	17.0	6.0	2.0
22	F	4.0	40.0	48.0	6.0	1.0
33	G	7.0	70.0	84.0	6.0	1.0
47	H	10.0	100.0	120.0	6.0	1.0

STANDARD RATINGS - TYPE EC

CAP (µF)	CASE CODE	25 °C DCL µA	85 °C DCL µA	125 °C DCL µA	DF (%)	ESR Ω
	***25 WVDC @ - 55 °C to + 85 °C,Surge = 32 V**			**17 WVDC @ + 125 °C, Surge = 22 V**		
1.0	A	0.5	5.0	6.0	6.0	8.0
1.5	B	0.5	5.0	6.0	6.0	5.0
2.2	C	0.6	6.0	8.0	6.0	3.5
3.3	D	0.9	9.0	11.0	6.0	3.5
4.7	E	1.2	12.0	15.0	6.0	2.5
10	F	2.5	25.0	30.0	6.0	2.0
15	F	3.8	38.0	46.0	6.0	1.0
22	G	6.0	60.0	72.0	6.0	1.0
33	H	9.0	90.0	108.0	6.0	1.0
	***35 WVDC @ - 55 °C to + 85 °C, Surge = 46 V**			**23 WVDC @ + 125 °C, Surge = 28 V**		
0.47	A	0.5	5.0	6.0	6.0	12.0
1.0	B	0.5	5.0	6.0	6.0	6.0
1.5	C	0.6	6.0	8.0	6.0	5.0
2.2	D	0.8	8.0	10.0	6.0	3.5
3.3	E	1.0	10.0	12.0	6.0	2.5
4.7	F	1.7	17.0	20.0	6.0	2.5
6.8	F	2.4	24.0	29.0	6.0	2.0
10	G	4.0	40.0	48.0	6.0	2.0
15	H	6.0	60.0	72.0	6.0	2.0

*Preliminary values, contact factory for availability

ORDERING INFORMATION

CC	685	H	035	K	X	S
SERIES	CAPACITANCE	CASE CODE	RATED VOLTAGE AT 85 °C	CAPACITANCE TOLERANCE	GRADE	TERMINATION FINISH
CC = Standard Range. EC = Extended Range.	This is expressed in picofarads. The first two digits are the significant figures. The third is the number of zeros to follow.	See Table.		J = ± 5 % K = ± 10 % M = ± 20 %	A = Industrial grade. X = Requires internal spec.	G = Gold plated. S = Solder dipped

Example: CC685H035KXS

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