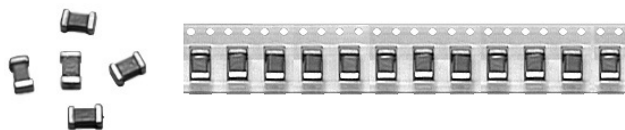


Solid Tantalum Chip Capacitors

TANTAMOUNT® Military, Surface Mount

MIL-PRF-55365/4 Qualified



FEATURES

- Weibull Failure Rates B, C, D
Exponential M, P, R, S
- Tape and Reel available per EIA 481-1 and -2
- Termination finishes available; Gold Plate, 50 μ inch minimum (standard), Solder Plated Hot Solder Dipped



RoHS*
COMPLIANT

PERFORMANCE CHARACTERISTICS

Operating Temperature: - 55 °C to + 85 °C
(To + 125 °C with voltage derating)

Note: Refer to Doc. 40088

Capacitance Range: 0.10 μ F - 100 μ F

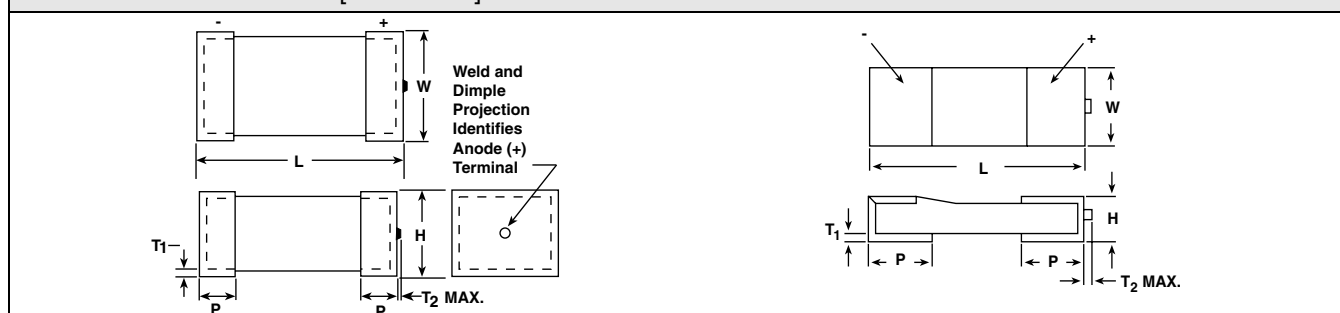
Capacitance Tolerance: $\pm 10\%$, $\pm 20\%$ standard $\pm 5\%$ available as special

Voltage Rating: 4 WVDC to 50 WVDC

ORDERING INFORMATION

CWR06 TYPE	D VOLTAGE	B TERMINATION FINISH	155 CAPACITANCE	K CAPACITANCE TOLERANCE	B FAILURE RATE %/1000 HOURS	OPTIONAL SURGE CURRENT OPTIONS
	C = 4 V D = 6 V F = 10 V H = 15 V J = 20 V K = 25 V M = 35 V N = 50 V	B = Gold - Standard (RoHS compliant) H = Solder Plate C = Solder Dipped	This is expressed in picofarads. The first two digits are the significant figures. The third is the number of zeros to follow.	K = $\pm 10\%$ M = $\pm 20\%$ J = $\pm 5\%$	A = Commercial M = 1.0 P = 0.1 R = 0.01 S = 0.001 B = 0.1 C = 0.01 D = 0.001**	A = 10 Cycles at + 25 °C B = 10 Cycles at - 55 °C and + 85 °C C = 10 Cycles at - 55 °C and + 85 °C (Before Weibull Grading)

DIMENSIONS in inches [millimeters]



CASE CODE	L	W	H	P	T ₁	T ₂ (MAX.)
A	0.100 $\pm$ 0.015 [2.54 $\pm$ 0.38]	0.050 $\pm$ 0.015 [1.27 $\pm$ 0.38]	0.050 $\pm$ 0.015 [1.27 $\pm$ 0.38]	0.030 $\pm$ 0.005 [0.76 $\pm$ 0.13]	0.005 [0.13]	0.015 [0.38]
B	0.150 $\pm$ 0.015 [3.81 $\pm$ 0.38]	0.050 $\pm$ 0.015 [1.27 $\pm$ 0.38]	0.050 $\pm$ 0.015 [1.27 $\pm$ 0.38]	0.030 $\pm$ 0.005 [0.76 $\pm$ 0.13]	0.005 [0.13]	0.015 [0.38]
C	0.200 $\pm$ 0.015 [5.08 $\pm$ 0.38]	0.050 $\pm$ 0.015 [1.27 $\pm$ 0.38]	0.050 $\pm$ 0.015 [1.27 $\pm$ 0.38]	0.030 $\pm$ 0.005 [0.76 $\pm$ 0.13]	0.005 [0.13]	0.015 [0.38]
D	0.150 $\pm$ 0.015 [3.81 $\pm$ 0.38]	0.100 $\pm$ 0.015 [2.54 $\pm$ 0.38]	0.050 $\pm$ 0.015 [1.27 $\pm$ 0.38]	0.030 $\pm$ 0.005 [0.76 $\pm$ 0.13]	0.005 [0.13]	0.015 [0.38]
E	0.200 $\pm$ 0.015 [5.08 $\pm$ 0.38]	0.100 $\pm$ 0.015 [2.54 $\pm$ 0.38]	0.050 $\pm$ 0.015 [1.27 $\pm$ 0.38]	0.030 $\pm$ 0.005 [0.76 $\pm$ 0.13]	0.005 [0.13]	0.015 [0.38]
F	0.220 $\pm$ 0.015 [5.59 $\pm$ 0.38]	0.135 $\pm$ 0.015 [3.43 $\pm$ 0.38]	0.070 $\pm$ 0.015 [1.78 $\pm$ 0.38]	0.030 $\pm$ 0.005 [0.76 $\pm$ 0.13]	0.005 [0.13]	0.015 [0.38]
G	0.265 $\pm$ 0.015 [6.73 $\pm$ 0.38]	0.110 $\pm$ 0.015 [2.79 $\pm$ 0.38]	0.110 $\pm$ 0.015 [2.79 $\pm$ 0.38]	0.050 $\pm$ 0.005 [1.27 $\pm$ 0.13]	0.005 [0.13]	0.015 [0.38]
H	0.285 $\pm$ 0.015 [7.24 $\pm$ 0.38]	0.150 $\pm$ 0.015 [3.81 $\pm$ 0.38]	0.110 $\pm$ 0.015 [2.79 $\pm$ 0.38]	0.050 $\pm$ 0.005 [1.27 $\pm$ 0.13]	0.005 [0.13]	0.015 [0.38]

Notes

When solder coated terminations are required, add 0.015" [0.38mm] to termination dimension tolerances.

** Contact marketing for availability of Weibull D FR on 50 V ratings

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



Solid Tantalum Chip Capacitors
TANTAMOUNT® Military, Surface Mount
MIL-PRF-55365/4 Qualified

Vishay Sprague

RATINGS AND CASE CODES								
μF	4 V	6 V *	10 V	15 V	20 V	25 V	35 V	50 V
0.10								A
0.15								A
0.22							A	B
0.33						A		B
0.47					A		B	C
0.68				A	B	B	C	D
1.0			A		B	C	D	E
1.5		A		B	C	D	E	F
2.2	A		B	C	D	E		F
3.3		B	C	D	E		F	G
4.7	B	C	D	E		F	G	H
6.8	C	D	E		F	G	H	
10	D	E		F		G		
15	E		F		G	H		
22		F		G	H			
33	F		G	H				
47		G	H					
68	G	H						
100	H							

STANDARD RATINGS									
CAPACITANCE (μF)	CASE CODE	PART NUMBER*	MAX. DCL (μA) AT			MAX. DF (%) AT			MAX. ESR AT + 25 °C 100 kHz (Ohms)
			+ 25 °C	+ 85 °C	+ 125 °C	+ 25 °C	+ 85 °C + 125 °C	- 55 °C	
4 WVDC AT + 85 °C, SURGE = 5 V . . . 2.7 WVDC AT + 125 °C, SURGE = 3.4 V									
2.2	A	CWR06C at 225#*	1.0	10	12	6	8	8	8.0
4.7	B	CWR06C at 475#*	1.0	10	12	6	8	8	8.0
6.8	C	CWR06C at 685#*	1.0	10	12	6	8	8	5.5
10	D	CWR06C at 106#*	1.0	10	12	8	8	10	4.0
15	E	CWR06C at 156#*	1.0	10	12	8	10	12	3.5
33	F	CWR06C at 336#*	2.0	20	24	8	10	12	2.2
68	G	CWR06C at 686#*	3.0	30	36	10	12	12	1.1
100	H	CWR06C at 107#*	4.0	40	48	10	12	12	0.9
6 WVDC AT + 85 °C, SURGE = 8 V . . . 4 WVDC AT + 125 °C, SURGE = 5 V									
1.5	A	CWR06D at 155#*	1.0	10	12	6	8	8	8.0
3.3	B	CWR06D at 335#*	1.0	10	12	6	8	8	8.0
4.7	C	CWR06D at 475#*	1.0	10	12	6	8	8	5.5
6.8	D	CWR06D at 685#*	1.0	10	12	6	8	8	4.5
10	E	CWR06D at 106#*	1.0	10	12	8	10	12	3.5
22	F	CWR06D at 226#*	2.0	20	24	8	10	12	2.2
47	G	CWR06D at 476#*	3.0	30	36	10	12	12	1.1
68	H	CWR06D at 686#*	4.0	40	48	10	12	12	0.9
10 WVDC AT + 85 °C, SURGE = 13 V . . . 7 WVDC AT + 125 °C, SURGE = 9 V									
1.0	A	CWR06F at 105#*	1.0	10	12	6	8	8	12.0
2.2	B	CWR06F at 225#*	1.0	10	12	6	8	8	8.0
3.3	C	CWR06F at 335#*	1.0	10	12	6	8	8	5.5
4.7	D	CWR06F at 475#*	1.0	10	12	6	8	8	4.5
6.8	E	CWR06F at 685#*	1.0	10	12	6	8	8	3.5
15	F	CWR06F at 156#*	2.0	20	24	8	8	10	2.5
33	G	CWR06F at 336#*	3.0	30	36	10	12	12	1.1
47	H	CWR06F at 476#*	5.0	50	60	10	12	12	0.9

at = Termination Finish: B = Gold (standard), H = solder Plated, C = Hot solder dipped

= Cap.Tolerance: J = 5 %, K = 10 %, M = 20 %.

* = Failure Rate B, C, D Weibull
 M, P, R, S Exponential

STANDARD RATINGS

CAPACITANCE (μF)	CASE CODE	PART NUMBER*	MAX. DCL (μA) AT			MAX. DF (%) AT			MAX. ESR AT + 25 °C 100 kHz (Ohms)
			+ 25 °C	+ 85 °C	+ 125 °C	+ 25 °C	+ 85 °C + 125 °C	- 55 °C	
15 WVDC AT + 85 °C, SURGE = 20 V . . . 10 WVDC AT + 125 °C, SURGE = 12 V									
0.68	A	CWR06H at 684#*	1.0	10	12	6	8	8	12.0
1.5	B	CWR06H at 155#*	1.0	10	12	6	8	8	8.0
2.2	C	CWR06H at 225#*	1.0	10	12	6	8	8	5.5
3.3	D	CWR06H at 335#*	1.0	10	12	6	8	8	5.0
4.7	E	CWR06H at 475#*	1.0	10	12	6	8	8	4.0
10	F	CWR06H at 106#*	2.0	20	24	6	8	8	2.5
22	G	CWR06H at 226#*	4.0	40	48	8	8	10	1.1
33	H	CWR06H at 336#*	5.0	50	60	8	8	10	0.9
20 WVDC AT + 85 °C, SURGE = 26 V . . . 13 WVDC AT + 125 °C, SURGE = 16 V									
0.47	A	CWR06J at 474#*	1.0	10	12	6	8	8	16.0
0.68	B	CWR06J at 684#*	1.0	10	12	6	8	8	14.0
1.0	B	CWR06J at 105#*	1.0	10	12	6	8	8	12.0
1.5	C	CWR06J at 155#*	1.0	10	12	6	8	8	6.0
2.2	D	CWR06J at 225#*	1.0	10	12	6	8	8	5.0
3.3	E	CWR06J at 335#*	1.0	10	12	6	8	8	4.0
6.8	F	CWR06J at 685#*	2.0	20	24	6	8	8	2.4
15	G	CWR06J at 156#*	3.0	30	36	6	8	8	1.1
22	H	CWR06J at 226#*	4.0	40	48	6	8	8	0.9
25 WVDC AT + 85 °C, SURGE = 32 V . . . 17 WVDC AT + 125 °C, SURGE = 20 V									
0.33	A	CWR06K at 334#*	1.0	10	12	6	8	8	15.0
0.68	B	CWR06K at 684#*	1.0	10	12	6	8	8	10.0
1.0	C	CWR06K at 105#*	1.0	10	12	6	8	8	6.5
1.5	D	CWR06K at 155#*	1.0	10	12	6	8	8	6.5
2.2	E	CWR06K at 225#*	1.0	10	12	6	8	8	3.5
4.7	F	CWR06K at 475#*	2.0	20	24	6	8	8	2.5
6.8	G	CWR06K at 685#*	2.0	20	24	6	8	8	1.2
10	G	CWR06K at 106#*	3.0	30	36	6	8	8	1.4
15	H	CWR06K at 156#*	4.0	40	48	6	8	8	1.0
35 WVDC AT + 85 °C, SURGE = 46 V . . . 23 WVDC AT + 125 °C, SURGE = 28 V									
0.22	A	CWR06M at 224#*	1.0	10	12	6	8	8	24.0
0.47	B	CWR06M at 474#*	1.0	10	12	6	8	8	17.0
0.68	C	CWR06M at 684#*	1.0	10	12	6	8	8	10.0
1.0	D	CWR06M at 105#*	1.0	10	12	6	8	8	6.5
1.5	E	CWR06M at 155#*	1.0	10	12	6	8	8	4.5
3.3	F	CWR06M at 335#*	1.0	10	12	6	8	8	2.5
4.7	G	CWR06M at 475#*	2.0	20	24	6	8	8	1.5
6.8	H	CWR06M at 685#*	3.0	30	36	6	8	8	1.3
50 WVDC AT + 85 °C, SURGE = 65 V . . . 33 WVDC AT + 125 °C, SURGE = 38 V									
0.10	A	CWR06N at 104#*	1.0	10	12	6	8	8	75.0
0.15	A	CWR06N at 154#*	1.0	10	12	6	8	8	25.0
0.22	B	CWR06N at 224#*	1.0	10	12	6	8	8	17.0
0.33	B	CWR06N at 334#*	1.0	10	12	6	8	8	12.0
0.47	C	CWR06N at 474#*	1.0	10	12	6	8	8	8.0
0.68	D	CWR06N at 684#*	1.0	10	12	6	8	8	7.0
1.0	E	CWR06N at 105#*	1.0	10	12	6	8	8	6.0
1.5	F	CWR06N at 155#*	1.0	10	12	6	8	8	4.0
2.2	F	CWR06N at 225#*	2.0	20	24	6	8	8	2.5
3.3	G	CWR06N at 335#*	2.0	20	24	6	8	8	2.0
4.7	H	CWR06N at 475#*	3.0	30	36	6	8	8	1.5

at = Termination Finish: B = Gold (standard), H = solder Plated, C = Hot solder dipped

= Cap.Tolerance: J = 5 %, K = 10 %, M = 20 %

* = Failure Rate B, C, D Weibull
M, P, R, S Exponential



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