

Solid Tantalum Surface Mount Capacitors TANTAMOUNT® Molded Case, Military



FEATURES

- MIL-PRF-55365/8 qualified
- Molded case available in four case codes
- Compatible with “High Volume” automatic pick and place equipment
- Weibull failure rate codes B, C and D
- Termination: (H) solder plate
- Surge current options A, B and C

PERFORMANCE/ELECTRICAL CHARACTERISTICS

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

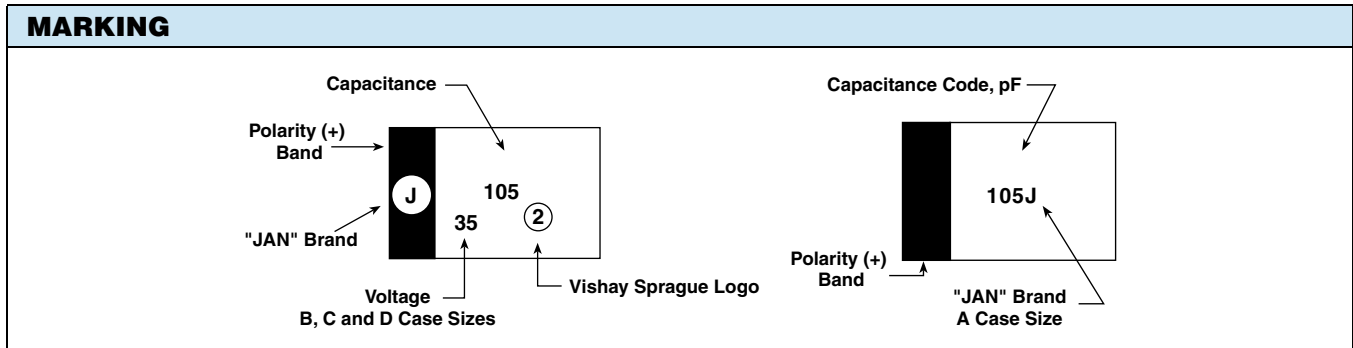
Note: Refer to Doc. 40088

Capacitance Range: 0.10 µF to 100 µF
Capacitance Tolerance: ± 5 %, ± 10 %, ± 20 %
Voltage Rating: 4 VDC to 50 VDC

ORDERING INFORMATION							
CWR11	D	H	155	K	B	A	/HR
TYPE	VOLTAGE	TERMINATION FINISH	CAPACITANCE	CAPACITANCE TOLERANCE	WEIBULL FAILURE RATE %/1000 h	SURGE CURRENT OPTION (OPTIONAL)	PACKAGING OPTION
	C = 4 V D = 6 V F = 10 V H = 15 V J = 20 V K = 25 V M = 35 V N = 50 V	H = Solder plate	This is expressed in picofarads. The first two digits are the significant figures. The third is the number of zeros to follow.	M = ± 20 % K = ± 10 % J = ± 5 %	B = 0.1 C = 0.01 D = 0.001	A = + 25 °C after Weibull B = - 55 °C/+ 85 °C after Weibull C = - 55 °C/+ 85 °C before Weibull	Blank = standard 7" (178 mm) reel /HR = Half reel, 7" (178 mm) reel /PT = Bulk, plastic tray

DIMENSIONS in inches [millimeters]							
CASE CODE	EIA SIZE	L	W	H	P	T _w	T _H MIN.
A	3216-18	0.126 ± 0.008 [3.2 ± 0.20]	0.063 ± 0.008 [1.6 ± 0.20]	0.063 ± 0.008 [1.6 ± 0.20]	0.031 ± 0.012 [0.80 ± 0.30]	0.047 ± 0.004 [1.2 ± 0.10]	0.028 [0.70]
B	3528-21	0.138 ± 0.008 [3.5 ± 0.20]	0.110 ± 0.008 [2.8 ± 0.20]	0.075 ± 0.008 [1.9 ± 0.20]	0.031 ± 0.012 [0.80 ± 0.30]	0.087 ± 0.004 [2.2 ± 0.10]	0.028 [0.70]
C	6032-28	0.236 ± 0.012 [6.0 ± 0.30]	0.126 ± 0.012 [3.2 ± 0.30]	0.098 ± 0.012 [2.5 ± 0.30]	0.051 ± 0.012 [1.3 ± 0.30]	0.087 ± 0.004 [2.2 ± 0.10]	0.039 [1.0]
D	7343-31	0.287 ± 0.012 [7.3 ± 0.30]	0.170 ± 0.012 [4.3 ± 0.30]	0.110 ± 0.012 [2.8 ± 0.30]	0.051 ± 0.012 [1.3 ± 0.30]	0.095 ± 0.004 [2.4 ± 0.10]	0.039 [1.0]

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



RATINGS AND PART NUMBER REFERENCE									
CAPACITANCE (µF)	CASE CODE	PART NUMBER	MAX. DC LEAKAGE (µA) AT			MAX. DF 120 Hz (%) AT			MAX. ESR AT + 25 °C 100 kHz (Ω)
			+ 25 °C	+ 85 °C	+ 125 °C	+ 25 °C	+ 85 °C + 125 °C	- 55 °C	
4 VDC AT + 85 °C, 2.7 VDC AT + 125 °C									
2.2	A	CWR11CH225(1)(2)(3)(4)	0.5	5	6	6	9	9	8
4.7	A	CWR11CH475(1)(2)(3)(4)	0.5	5	6	6	9	9	8
6.8	B	CWR11CH685(1)(2)(3)(4)	0.5	5	6	6	9	9	5.5
10	B	CWR11CH106(1)(2)(3)(4)	0.5	5	6	6	9	9	4
15	B	CWR11CH156(1)(2)(3)(4)	0.6	6	7.2	6	6	9	3.5
33	C	CWR11CH336(1)(2)(3)(4)	1.3	13.0	15.6	6	9	9	2.2
68	D	CWR11CH686(1)(2)(3)(4)	2.7	27	32.4	6	9	9	1.1
100	D	CWR11CH107(1)(2)(3)(4)	4	40	48	8	12	12	0.9

Notes

- (1) = Capacitance tolerance: J, K, M
- (2) = Weibull failure rate: B, C, D
- (3) = Surge current (optional): A, B, C
- (4) = Packaging, optional - blank, /HP, /PT



**Solid Tantalum Surface Mount Capacitors
TANTAMOUNT® Molded Case, Military**

Vishay Sprague

RATINGS AND PART NUMBER REFERENCE									
CAPACITANCE (μ F)	CASE CODE	PART NUMBER	MAX. DC LEAKAGE (μ A) AT			MAX. DF 120 Hz (%) AT			MAX. ESR AT + 25 °C 100 kHz (Ω)
			+ 25 °C	+ 85 °C	+ 125 °C	+ 25 °C	+ 85 °C + 125 °C	- 55 °C	
6 VDC AT + 85 °C, 4 VDC AT + 125 °C									
1.5	A	CWR11DH155(1)(2)(3)(4)	0.5	5	6	6	9	9	8
2.2	A	CWR11DH225(1)(2)(3)(4)	0.5	5	6	6	6	9	8
3.3	A	CWR11DH335(1)(2)(3)(4)	0.5	5	6	6	9	9	8
4.7	B	CWR11DH475(1)(2)(3)(4)	0.5	5	6	6	9	9	5.5
6.8	B	CWR11DH685(1)(2)(3)(4)	0.5	5	6	6	6	9	4.5
10	B	CWR11DH106(1)(2)(3)(4)	0.6	6	7.2	6	9	9	3.5
15	C	CWR11DH156(1)(2)(3)(4)	0.9	9.0	10.8	6	6	9	3.0
22	C	CWR11DH226(1)(2)(3)(4)	1.4	14.0	16.8	6	9	9	2.2
47	D	CWR11DH476(1)(2)(3)(4)	2.8	28	33.6	6	6	9	1.1
68	D	CWR11DH686(1)(2)(3)(4)	4.3	43	51.6*	6	9	9	0.9
10 VDC AT + 85 °C, 7 VDC AT + 125 °C									
1.0	A	CWR11FH105(1)(2)(3)(4)	0.5	5	6	4	6	6	10
1.5	A	CWR11FH155(1)(2)(3)(4)	0.5	5	6	6	6	9	8
2.2	A	CWR11FH225(1)(2)(3)(4)	0.5	5	6	6	9	9	8
3.3	B	CWR11FH335(1)(2)(3)(4)	0.5	5	6	6	9	9	5.5
4.7	B	CWR11FH475(1)(2)(3)(4)	0.5	5	6	6	9	9	4.5
6.8	B	CWR11FH685(1)(2)(3)(4)	0.7	7	8.4	6	9	9	3.5
15	C	CWR11FH156(1)(2)(3)(4)	1.5	15	18.0	6	6	9	2.5
33	D	CWR11FH336(1)(2)(3)(4)	3.3	33	39.6	6	6	9	1.1
47	D	CWR11FH476(1)(2)(3)(4)	4.7	47	56.4	6	9	9	0.9
15 VDC AT + 85 °C, 10 VDC AT + 125 °C									
0.68	A	CWR11HH684(1)(2)(3)(4)	0.5	5	6	4	6	6	12
1.0	A	CWR11HH105(1)(2)(3)(4)	0.5	5	6	4	6	6	10
1.5	A	CWR11HH155(1)(2)(3)(4)	0.5	5	6	6	9	9	8
2.2	B	CWR11HH225(1)(2)(3)(4)	0.5	5	6	6	9	9	5.5
3.3	B	CWR11HH335(1)(2)(3)(4)	0.5	5	6	6	8	9	5
4.7	B	CWR11HH475(1)(2)(3)(4)	0.7	7	8.4	6	9	9	4
10	C	CWR11HH106(1)(2)(3)(4)	1.6	16	19.2	6	8	9	2.5
22	D	CWR11HH226(1)(2)(3)(4)	3.3	33	39.6	6	8	9	1.1
33	D	CWR11HH336(1)(2)(3)(4)	5.3	53	63.6	6	9	9	0.9
20 VDC AT + 85 °C, 13 VDC AT + 125 °C									
0.47	A	CWR11JH474(1)(2)(3)(4)	0.5	5	6	4	6	6	14
0.68	A	CWR11JH684(1)(2)(3)(4)	0.5	5	6	4	6	6	12
1.0	A	CWR11JH105(1)(2)(3)(4)	0.5	5	6	4	6	6	10
1.5	B	CWR11JH155(1)(2)(3)(4)	0.5	5	6	6	9	9	6
2.2	B	CWR11JH225(1)(2)(3)(4)	0.5	5	6	6	8	9	5
3.3	B	CWR11JH335(1)(2)(3)(4)	0.7	7	8.4	6	9	9	4
4.7	C	CWR11JH475(1)(2)(3)(4)	1.0	10	12	6	8	9	3.0
6.8	C	CWR11JH685(1)(2)(3)(4)	1.4	14	16.8	6	9	9	2.4
15	D	CWR11JH156(1)(2)(3)(4)	3	30	36	6	8	9	1.1
22	D	CWR11JH226(1)(2)(3)(4)	4.4	44	52.8	6	9	9	0.9

Notes

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- (2) = Weibull failure rate: B, C, D
- (3) = Surge current (optional): A, B, C
- (4) = Packaging, optional - blank, /HP, /PT

RATINGS AND PART NUMBER REFERENCE									
CAPACITANCE (μ F)	CASE CODE	PART NUMBER	MAX. DC LEAKAGE (μ A) AT			MAX. DF 120 Hz (%) AT			MAX. ESR AT + 25 °C 100 kHz (Ω)
			+ 25 °C	+ 85 °C	+ 125 °C	+ 25 °C	+ 85 °C + 125 °C	- 55 °C	
25 VDC AT + 85 °C, 17 VDC AT + 125 °C									
0.33	A	CWR11KH334(1)(2)(3)(4)	0.5	5.0*	6	4	6	6	15
0.47	A	CWR11KH474(1)(2)(3)(4)	0.5	5.0*	6	4	6	6	14
0.68	B	CWR11KH684(1)(2)(3)(4)	0.5	5.0*	6	4	6	6	7.5
1.0	B	CWR11KH105(1)(2)(3)(4)	0.5	5.0*	6	4	6	6	6.5
1.5	B	CWR11KH155(1)(2)(3)(4)	0.5	5.0*	6	6	8	9	6.5
2.2	C	CWR11KH225(1)(2)(3)(4)	0.6	6.0	7.2	6	9	9	3.5
3.3	C	CWR11KH335(1)(2)(3)(4)	0.9	9.0	10.8	6	8	9	2.5
4.7	C	CWR11KH475(1)(2)(3)(4)	1.2	12	14.4	6	9	9	2.5
6.8	D	CWR11KH685(1)(2)(3)(4)	1.7	17.0*	20.4	6	9	9	1.4
10	D	CWR11KH106(1)(2)(3)(4)	2.5	25.0*	30	6	8	9	1.2
15	D	CWR11KH156(1)(2)(3)(4)	3.8	38.0*	45.6	6	9	9	1
35 VDC AT + 85 °C, 23 VDC AT + 125 °C									
0.10	A	CWR11MH104(1)(2)(3)(4)	0.5	5	6	4	6	6	24
0.15	A	CWR11MH154(1)(2)(3)(4)	0.5	5	6	4	6	6	21
0.22	A	CWR11MH224(1)(2)(3)(4)	0.5	5	6	4	6	6	18
0.33	A	CWR11MH334(1)(2)(3)(4)	0.5	5	6	4	6	6	15
0.47	B	CWR11MH474(1)(2)(3)(4)	0.5	5	6	4*	6	6	10
0.68	B	CWR11MH684(1)(2)(3)(4)	0.5	5	6	4	6	6	8
1.0	B	CWR11MH105(1)(2)(3)(4)	0.5	5	6	4	6	6	6.5
1.5	C	CWR11MH155(1)(2)(3)(4)	0.5	5	6	6	8	9	4.5
2.2	C	CWR11MH225(1)(2)(3)(4)	0.8	8	9.6	6	8	9	3.5
3.3	C	CWR11MH335(1)(2)(3)(4)	1.2	12	14.4	6	8	9	2.5
4.7	D	CWR11MH475(1)(2)(3)(4)	1.7	17	20.4	6	8	9	1.5
6.8	D	CWR11MH685(1)(2)(3)(4)	2.4	24	28.8	6	9	9	1.3
50 VDC AT + 85 °C, 33 VDC AT + 125 °C									
0.10	A	CWR11NH104(1)(2)(3)(4)	0.5	5	6	4	6	6	22
0.15	B	CWR11NH154(1)(2)(3)(4)	0.5	5	6	4	6	6	17
0.22	B	CWR11NH224(1)(2)(3)(4)	0.5	5	6	4	6	6	14
0.33	B	CWR11NH334(1)(2)(3)(4)	0.5	5	6	4	6	6	12
0.47	C	CWR11NH474(1)(2)(3)(4)	0.5	5	6	4	6	6	8
0.68	C	CWR11NH684(1)(2)(3)(4)	0.5	5	6	4	6	6	7
1.0	C	CWR11NH105(1)(2)(3)(4)	0.5	5	6	4	6	6	6
1.5	D	CWR11NH155(1)(2)(3)(4)	0.8	8	9.6	6	8	9	4
2.2	D	CWR11NH225(1)(2)(3)(4)	1.1	11	13.2	6	8	9	2.5
3.3	D	CWR11NH335(1)(2)(3)(4)	1.7	17	20.4	6	9	9	2
4.7	D	CWR11NH475(1)(2)(3)(4)	2.4	24	28.8	6	9	9	1.5

Notes

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(3) = Surge current (optional): A, B, C
(4) = Packaging, optional - blank, /HP, /PT



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