

# TAJ Series

## Standard Tantalum

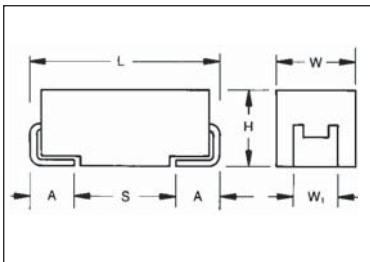


- General purpose SMT chip tantalum series
- 6 case sizes available
- Low profile options available
- CV range: 0.10-2200 $\mu$ F / 2.5-50V



LEAD-FREE COMPATIBLE COMPONENT

### CASE DIMENSIONS: millimeters (inches)



For part marking see page 132

Code	EIA Code	EIA Metric	L $\pm$ 0.20 (0.008)	W+0.20 (0.008) -0.10 (0.004)	H+0.20 (0.008) -0.10 (0.004)	W $\pm$ 0.20 (0.008)	A+0.30 (0.012) -0.20 (0.008)	S Min.
A	1206	3216-18	3.20 (0.126)	1.60 (0.063)	1.60 (0.063)	1.20 (0.047)	0.80 (0.031)	1.10 (0.043)
B	1210	3528-21	3.50 (0.138)	2.80 (0.110)	1.90 (0.075)	2.20 (0.087)	0.80 (0.031)	1.40 (0.055)
C	2312	6032-28	6.00 (0.236)	3.20 (0.126)	2.60 (0.102)	2.20 (0.087)	1.30 (0.051)	2.90 (0.114)
D	2917	7343-31	7.30 (0.287)	4.30 (0.169)	2.90 (0.114)	2.40 (0.094)	1.30 (0.051)	4.40 (0.173)
E	2917	7343-43	7.30 (0.287)	4.30 (0.169)	4.10 (0.162)	2.40 (0.094)	1.30 (0.051)	4.40 (0.173)
V	2924	7361-38	7.30 (0.287)	6.10 (0.240)	3.45 $\pm$ 0.30 (0.136 $\pm$ 0.012)	3.10 (0.120)	1.40 (0.055)	4.40 (0.173)

W<sub>1</sub> dimension applies to the termination width for A dimensional area only.

### HOW TO ORDER

<b>TAJ</b>	<b>C</b>	<b>106</b>	<b>M</b>	<b>035</b>	<b>R</b>	<b>NJ</b>	<b>-</b>
<b>Type</b>	<b>Case Size</b> See table above	<b>Capacitance Code</b> pF code: 1st two digits represent significant figures 3rd digit represents multiplier (number of zeros to follow)	<b>Tolerance</b> K= $\pm$ 10% M= $\pm$ 20%	<b>Rated DC Voltage</b> 002=2.5Vdc 004=4Vdc 006=6.3Vdc 010=10Vdc 016=16Vdc 020=20Vdc 025=25Vdc 035=35Vdc 050=50Vdc 063=63Vdc	<b>Packaging</b> R = 7" T/R (Lead Free since production date 1/1/04) S = 13" T/R (Lead Free since production date 1/1/04) A = Gold Plating 7" Reel B = Gold Plating 13" Reel H = Tin Lead 7" reel (Contact Manufacturer) K = Tin Lead 13" reel (Contact Manufacturer) H, K = Non RoHS	<b>Specification Suffix</b> NJ = Standard Suffix	<b>Additional characters may be added for special requirements</b> V = Dry pack Option (selected codes only)

### TECHNICAL SPECIFICATIONS

Technical Data:	All technical data relate to an ambient temperature of +25°C										
Capacitance Range:	0.10 $\mu$ F to 2200 $\mu$ F										
Capacitance Tolerance:	$\pm$ 10%; $\pm$ 20%										
Rated Voltage (V <sub>R</sub> )	$\leq$ +85°C:	2.5	4	6.3	10	16	20	25	35	50	63
Category Voltage (V <sub>C</sub> )	$\leq$ +125°C:	1.7	2.7	4	7	10	13	17	23	33	42
Surge Voltage (V <sub>S</sub> )	$\leq$ +85°C:	3.3	5.2	8	13	20	26	32	46	65	82
Surge Voltage (V <sub>S</sub> )	$\leq$ +125°C:	2.2	3.4	5	8	13	16	20	28	40	50
Temperature Range:	-55°C to +125°C										
Reliability:	1% per 1000 hours at 85°C, V <sub>R</sub> with 0.1 $\Omega$ /V series impedance, 60% confidence level										
Qualification:	CECC 30801 - 005 issue 2 EIA 535BAAC										
Termination Finished:	Sn Plating (standard), Gold and SnPb Plating upon request Meets requirements of AEC-Q200										



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### CAPACITANCE AND RATED VOLTAGE, VR (VOLTAGE CODE) RANGE (LETTER DENOTES CASE SIZE)

Capacitance		Rated voltage DC (V <sub>R</sub> ) to 85°C									
µF	Code	2.5V (e)	4V (G)	6.3V (J)	10V (A)	16V (C)	20V (D)	25V (E)	35V (V)	50V (T)	63V
0.10 0.15 0.22	104 154 224								A A A	A A/B A/B	
0.33 0.47 0.68	334 474 684						A	A A	A A/B A/B	B A/B/C A/B/C	
1.0 1.5 2.2	105 155 225			A	A A	A A A/B	A A A/B	A A/B A/B	A/B A/B/C A/B/C	A <sup>(M)</sup> /B/C C/D C/D	
3.3 4.7 6.8	335 475 685		A A	A A A/B	A A/B A/B	A/B A/B A/B/C	A/B A/B/C A/B/C	A/B/C A/B/C B/C	B/C B/C/D C/D	C/D C/D C/D	
10 15 22	106 156 226		A A/B A	A/B A/B A/B/C	A/B/C A/B/C A/B/C	A/B/C A <sup>(M)</sup> /B/C B/C/D	A <sup>(M)</sup> */B/C B/C/D B/C/D	B/C/D C/D C/D	C/D/E C/D D/E	D/E/V D/E/V V	E <sup>(M)</sup> * V <sup>(M)</sup> *
33 47 68	336 476 686	A A A	A/B A/B A/B/C	A/B/C A/B/C/D B/C/D	A/B/C/D B/C/D B/C/D	B/C/D C/D C/D	C/D C/D/E C <sup>(M)</sup> /D/E	D/E D/E E/V	D/E/V E/V V <sup>(M)</sup>		
100 150 220	107 157 227	A/B B B/D	A/B/C B/C B <sup>(M)</sup> /C/D	B/C/D B <sup>(M)</sup> /C/D C/D/E	B <sup>(M)</sup> /C/D/E C/D/E C/D/E	C/D/E D/E/V E/V	D/E/V E/V	E <sup>(M)</sup> /V V <sup>(M)</sup> *			
330 470 680	337 477 687	D C/D C/D/E	C/D/E C/D/E D/E	C/D/E D/E/V E/V	D/E/V E/V	V					
1000 1500 2200	108 158 228	D <sup>(M)</sup> /E D/E/V <sup>(M)</sup> V <sup>(M)</sup>	D/E/V E/V <sup>(M)</sup>	E <sup>(M)</sup> /V <sup>(M)</sup>							

Non preferred Ratings - not recommended for new designs, higher voltage or smaller case size substitution are offered.

Released codes <sup>(M tolerance only)</sup>

Engineering samples - please contact manufacturer

\*Codes under development - subject to change

Note: Voltage ratings are minimum values. AVX reserves the right to supply higher ratings in the same case size, to the same reliability standards.





### RATINGS & PART NUMBER REFERENCE

AVX Part No.	Case Size	Cap (µF)	Rated Voltage (V)	DCL (µA) Max.	DF % Max.	ESR Max. (Ω) @100kHz
TAJD226*016#NJ	D	22	16	3.5	6	1.1
TAJB336*016#NJ	B	33	16	5.3	8	2.1
TAJC336*016#NJ	C	33	16	5.3	6	1.5
TAJD336*016#NJ	D	33	16	5.3	6	0.9
TAJC476*016#NJ	C	47	16	7.5	6	0.5
TAJD476*016#NJ	D	47	16	7.5	6	0.8
TAJC686*016#NJ	C	68	16	10.9	6	1.3
TAJD686*016#NJ	D	68	16	10.9	6	0.9
TAJC107*016#NJ	C	100	16	16	8	1
TAJD107*016#NJ	D	100	16	16	6	0.6
TAJE107*016#NJ	E	100	16	16	6	0.9
TAJD157*016#NJ	D	150	16	24	6	0.9
TAJE157*016#NJ	E	150	16	24	8	0.3
TAJV157*016#NJ	V	150	16	24	8	0.5
TAJE227*016#NJ	E	220	16	35.2	10	0.5
TAJV227*016#NJ	V	220	16	35.2	8	0.9
TAJV337*016#NJ	V	330	16	52.8	10	0.5
<b>20 Volt @ 85°C (13 Volt @ 125°C)</b>						
TAJA105*020#NJ	A	1	20	0.5	4	9
TAJA155*020#NJ	A	1.5	20	0.5	6	6.5
TAJA225*020#NJ	A	2.2	20	0.5	6	5.3
TAJB225*020#NJ	B	2.2	20	0.5	6	3.5
TAJA335*020#NJ	A	3.3	20	0.7	6	4.5
TAJB335*020#NJ	B	3.3	20	0.7	6	3
TAJA475*020#NJ	A	4.7	20	0.9	6	4
TAJB475*020#NJ	B	4.7	20	0.9	6	3
TAJA685*020#NJ	A	6.8	20	1.4	6	2.4
TAJB685*020#NJ	B	6.8	20	1.4	6	2.5
TAJC685*020#NJ	C	6.8	20	1.4	6	2
TAJB106*020#NJ	B	10	20	2	6	2.1
TAJC106*020#NJ	C	10	20	2	6	1.2
TAJB156*020#NJ	B	15	20	3	6	2
TAJC156*020#NJ	C	15	20	3	6	1.7
TAJB226*020#NJ	B	22	20	4.4	6	1.8
TAJC226*020#NJ	C	22	20	4.4	6	1.6
TAJD226*020#NJ	D	22	20	4.4	6	0.9
TAJC336*020#NJ	C	33	20	6.6	6	1.5
TAJD336*020#NJ	D	33	20	6.6	6	0.9
TAJC476*020#NJ	C	47	20	9.4	6	0.5
TAJD476*020#NJ	D	47	20	9.4	6	0.9
TAJE476*020#NJ	E	47	20	9.4	6	0.9
TAJC686M020#NJ	C	68	20	13.6	8	0.9
TAJD686*020#NJ	D	68	20	13.6	6	0.4
TAJE686*020#NJ	E	68	20	13.6	6	0.9
TAJD107*020#NJ	D	100	20	20	6	0.5
TAJE107*020#NJ	E	100	20	20	6	0.4
TAJV107*020#NJ	V	100	20	20	8	0.9
TAJE157*020#NJ	E	150	20	30	8	0.3
TAJV157*020#NJ	V	150	20	30	8	0.3
<b>25 Volt @ 85°C (17 Volt @ 125°C)</b>						
TAJA474*025#NJ	A	0.47	25	0.5	4	14
TAJA684*025#NJ	A	0.68	25	0.5	4	10
TAJA105*025#NJ	A	1	25	0.5	4	8
TAJA155*025#NJ	A	1.5	25	0.5	6	7.5
TAJB155*025#NJ	B	1.5	25	0.5	6	5
TAJA225*025#NJ	A	2.2	25	0.6	6	7
TAJB225*025#NJ	B	2.2	25	0.6	6	4.5
TAJA335*025#NJ	A	3.3	25	0.8	6	3.7

AVX Part No.	Case Size	Cap (µF)	Rated Voltage (V)	DCL (µA) Max.	DF % Max.	ESR Max. (Ω) @100kHz
TAJB335*025#NJ	B	3.3	25	0.8	6	3.5
TAJA475*025#NJ	A	4.7	25	1.2	6	3.1
TAJB475*025#NJ	B	4.7	25	1.2	6	1.5
TAJB685*025#NJ	B	6.8	25	1.7	6	2.8
TAJC685*025#NJ	C	6.8	25	1.7	6	2
TAJB106*025#NJ	B	10	25	2.5	6	2.5
TAJC106*025#NJ	C	10	25	2.5	6	1.8
TAJD106*025#NJ	D	10	25	2.5	6	1.2
TAJC156*025#NJ	C	15	25	3.8	6	1.6
TAJD156*025#NJ	D	15	25	3.8	6	1
TAJC226*025#NJ	C	22	25	5.5	6	1.4
TAJD226*025#NJ	D	22	25	5.5	6	0.9
TAJD336*025#NJ	D	33	25	8.3	6	0.9
TAJE336*025#NJ	E	33	25	8.3	6	0.9
TAJD476*025#NJ	D	47	25	11.8	6	0.9
TAJB476*025#NJ	E	47	25	11.8	6	0.9
TAJE686*025#NJ	E	68	25	17	6	0.9
TAJV686*025#NJ	V	68	25	17	6	0.9
TAJE107M025#NJ	E	100	25	25	10	0.3
TAJV107*025#NJ	V	100	25	25	8	0.4
TAJV157M025#NJ	V	150	25	37.5	10	0.4
<b>35 Volt @ 85°C (23 Volt @ 125°C)</b>						
TAJA104*035#NJ	A	0.1	35	0.5	4	24
TAJA154*035#NJ	A	0.15	35	0.5	4	21
TAJA224*035#NJ	A	0.22	35	0.5	4	18
TAJA334*035#NJ	A	0.33	35	0.5	4	15
TAJA474*035#NJ	A	0.47	35	0.5	4	12
TAJB474*035#NJ	B	0.47	35	0.5	4	10
TAJA684*035#NJ	A	0.68	35	0.5	4	8
TAJB684*035#NJ	B	0.68	35	0.5	4	8
TAJA105*035#NJ	A	1	35	0.5	4	7.5
TAJB105*035#NJ	B	1	35	0.5	4	6.5
TAJA155*035#NJ	A	1.5	35	0.5	6	7.5
TAJB155*035#NJ	B	1.5	35	0.5	6	5.2
TAJC155*035#NJ	C	1.5	35	0.5	6	4.5
TAJA225*035#NJ	A	2.2	35	0.8	6	4.5
TAJB225*035#NJ	B	2.2	35	0.8	6	4.2
TAJC225*035#NJ	C	2.2	35	0.8	6	3.5
TAJB335*035#NJ	B	3.3	35	1.2	6	3.5
TAJC335*035#NJ	C	3.3	35	1.2	6	2.5
TAJB475*035#NJ	B	4.7	35	1.6	6	3.1
TAJC475*035#NJ	C	4.7	35	1.6	6	2.2
TAJD475*035#NJ	D	4.7	35	1.6	6	1.5
TAJC685*035#NJ	C	6.8	35	2.4	6	1.8
TAJD685*035#NJ	D	6.8	35	2.4	6	1.3
TAJC106*035#NJ	C	10	35	3.5	6	1.6
TAJD106*035#NJ	D	10	35	3.5	6	1
TAJE106*035#NJ	E	10	35	3.5	6	0.9
TAJC156*035#NJ	C	15	35	5.3	6	1.4
TAJD156*035#NJ	D	15	35	5.3	6	0.9
TAJD226*035#NJ	D	22	35	7.7	6	0.9
TAJE226*035#NJ	E	22	35	7.7	6	0.5
TAJD336*035#NJ	D	33	35	11.6	6	0.9
TAJE336*035#NJ	E	33	35	11.6	6	0.5
TAJV336*035#NJ	V	33	35	11.6	6	0.5
TAJE476*035#NJ	E	47	35	16.5	6	0.9
TAJV476*035#NJ	V	47	35	16.5	6	0.4
TAJV686M035#NJ	V	68	35	23.8	6	0.5

All technical data relates to an ambient temperature of +25°C. Capacitance and DF are measured at 120Hz, 0.5V RMS with a maximum DC bias of 2.2 volts. DCL is measured at rated voltage after 5 minutes.

TAJ series is MSL level 1 according to J-STD-020C.

- \* Insert K for ±10% and M for ±20% Capacitance Tolerance
- # **Standard Plating** – Insert R for 7" reel and S for 13" reel
- # **Gold Plating** – Insert A for 7" reel and B for 13" reel
- # **Tin Lead Plating** – Insert H for 7" reel and K for 13" reel

**NOTE:** AVX reserves the right to supply a higher voltage rating or tighter tolerance part in the same case size, to the same reliability standards.



# TAJ Series



## Standard Tantalum

### RATINGS & PART NUMBER REFERENCE

AVX Part No.	Case Size	Cap (μF)	Rated Voltage (V)	DCL (μA) Max.	DF % Max.	ESR Max. (Ω) @100kHz
<b>50 Volt @ 85°C (33 Volt @ 125°C)</b>						
TAJA104*050#NJ	A	0.1	50	0.5	4	22
TAJA154*050#NJ	A	0.15	50	0.5	4	15
TAJB154*050#NJ	B	0.15	50	0.5	4	17
TAJA224*050#NJ	A	0.22	50	0.5	4	18
TAJB224*050#NJ	B	0.22	50	0.5	4	14
TAJB334*050#NJ	B	0.33	50	0.5	4	12
TAJA474*050#NJ	A	0.47	50	0.5	4	9.5
TAJB474*050#NJ	B	0.47	50	0.7	4	9.5
TAJC474*050#NJ	C	0.47	50	0.5	4	8
TAJA684*050#NJ	A	0.68	50	0.5	4	7.9
TAJB684*050#NJ	B	0.68	50	0.5	4	8
TAJC684*050#NJ	C	0.68	50	0.5	4	7
TAJA105M050#NJ	A	1	50	0.5	4	6.6
TAJB105*050#NJ	B	1	50	0.5	6	7
TAJC105*050#NJ	C	1	50	0.5	4	5.5
TAJC155*050#NJ	C	1.5	50	0.8	6	4.5
TAJD155*050#NJ	D	1.5	50	0.8	6	4
TAJC225*050#NJ	C	2.2	50	1.1	6	3
TAJD225*050#NJ	D	2.2	50	1.1	6	2.5
TAJC335*050#NJ	C	3.3	50	1.7	6	2.5
TAJD335*050#NJ	D	3.3	50	1.7	6	2
TAJC475*050#NJ	C	4.7	50	0.5	4	1.4
TAJD475*050#NJ	D	4.7	50	2.4	6	1.4
TAJC685*050#NJ	C	6.8	50	3.4	6	1
TAJD685*050#NJ	D	6.8	50	3.4	6	1
TAJD106*050#NJ	D	10	50	5	6	0.8
TAJE106*050#NJ	E	10	50	5	6	1
TAJV106*050#NJ	V	10	50	5	6	0.65
TAJD156*050#NJ	D	15	50	7.5	6	0.6
TAJE156*050#NJ	E	15	50	7.5	6	0.6
TAJV156*050#NJ	V	15	50	7.5	6	0.6
TAJV226*050#NJ	V	22	50	11	8	0.6

All technical data relates to an ambient temperature of +25°C. Capacitance and DF are measured at 120Hz, 0.5V RMS with a maximum DC bias of 2.2 volts. DCL is measured at rated voltage after 5 minutes.

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