

# TAJ Series

## Standard Tantalum

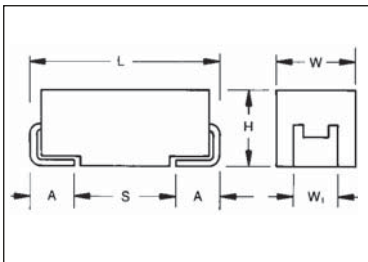


- General purpose SMT chip tantalum series
- 6 case sizes available
- Low profile options available
- CV range: 0.10-2200µF / 2.5-50V



SnPb termination option is not RoHS compliant.

### CASE DIMENSIONS: millimeters (inches)



Code	EIA Code	EIA Metric	L±0.20 (0.008)	W+0.20 (0.008) -0.10 (0.004)	H+0.20 (0.008) -0.10 (0.004)	W <sub>1</sub> ±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)	3.55 (0.140)	3.10 (0.120)	1.30 (0.051)	4.40 (0.173)

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

For part marking see page 149

### 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=±10% M=±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	<b>Packaging</b> R = Pure Tin 7" Reel S = Pure Tin 13" Reel 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 µF to 2200 µF										
Capacitance Tolerance:	±10%; ±20%										
Rated Voltage (V <sub>R</sub> )	≤ +85°C:	2.5	4	6.3	10	16	20	25	35	50	
Category Voltage (V <sub>C</sub> )	≤ +125°C:	1.7	2.7	4	7	10	13	17	23	33	
Surge Voltage (V <sub>S</sub> )	≤ +85°C:	3.3	5.2	8	13	20	26	32	46	65	
Surge Voltage (V <sub>S</sub> )	≤ +125°C:	2.2	3.4	5	8	13	16	20	28	40	
Temperature Range:	-55°C to +125°C										
Reliability:	1% per 1000 hours at 85°C, V <sub>R</sub> with 0.1Ω/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 For AEC-Q200 availability, please contact AVX										



## Standard Tantalum

### 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)
0.10	104								A	A
0.15	154								A	A/B
0.22	224								A	A/B
0.33	334							A	A	A/B
0.47	474						A	A	A/B	A/B/C
0.68	684						A	A	A/B	A/B/C
1.0	105					A	A	A	A/B	A <sup>(M)</sup> /B/C
1.5	155				A	A	A	A/B	A/B/C	B/C/D
2.2	225			A	A	A/B	A/B	A/B	A/B/C	B/C/D
3.3	335		A	A	A	A/B	A/B	A/B/C	A/B/C	B/C
4.7	475		A	A	A/B	A/B	A/B/C	A/B/C	A/B/C	B/C/D
6.8	685		A	A/B	A/B	A/B/C	A/B/C	B/C	B/C	C/D
10	106		A	A/B	A/B/C	A/B/C	A <sup>(M)</sup> */B/C	B/C/D	C/D/E	D/E/V
15	156		A/B	A/B	A/B/C	A <sup>(M)</sup> /B/C	B/C/D	C/D	C/D	D/E/V
22	226		A	A/B/C	A/B/C	B/C/D	B/C/D	C/D	D/E	V
33	336	A	A/B	A/B/C	A/B/C/D	B/C/D	C/D	C/D	D/E	D/E/V
47	476	A	A/B	A/B/C/D	B/C/D	C/D	C/D/E	D/E	D/E	E/V
68	686	A	A/B/C	B/C/D	B/C/D	C/D	C <sup>(M)</sup> /D/E	E/V	E/V	V
100	107	A/B	A/B/C	B/C/D	B <sup>(M)</sup> /C/D/E	C/D/E	D/E/V	E <sup>(M)</sup> /V		
150	157	B	B/C	B <sup>(M)</sup> /C/D	C/D/E	D/E/V	E/V	V <sup>(M)</sup>		
220	227	B/D	B <sup>(M)</sup> /C/D	C/D/E	C/D/E	E/V				
330	337	D	C/D/E	C/D/E	D/E/V	E <sup>(M)</sup>				
470	477	C/D	C/D/E	D/E/V	E/V					
680	687	C/D/E	D/E	E/V						
1000	108	D <sup>(M)</sup> /E	D/E/V	E <sup>(M)</sup> /V <sup>(M)</sup>						
1500	158	D/E/V <sup>(M)</sup>	E/V <sup>(M)</sup>							
2200	228	V <sup>(M)</sup>								

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.





# 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	MSL
<b>50 Volt @ 85°C (33 Volt @ 125°C)</b>							
TAJA104*050#NJ	A	0.1	50	0.5	4	22	1
TAJA154*050#NJ	A	0.15	50	0.5	4	15	1
TAJB154*050#NJ	B	0.15	50	0.5	4	17	1
TAJA224*050#NJ	A	0.22	50	0.5	4	18	1
TAJB224*050#NJ	B	0.22	50	0.5	4	14	1
TAJA334*050#NJ	A	0.33	50	0.5	4	17	1
TAJB334*050#NJ	B	0.33	50	0.5	4	12	1
TAJA474*050#NJ	A	0.47	50	0.5	4	9.5	1
TAJB474*050#NJ	B	0.47	50	0.7	4	9.5	1
TAJC474*050#NJ	C	0.47	50	0.5	4	8	1
TAJA684*050#NJ	A	0.68	50	0.5	4	7.9	1
TAJB684*050#NJ	B	0.68	50	0.5	4	8	1
TAJC684*050#NJ	C	0.68	50	0.5	4	7	1
TAJA105M050#NJ	A	1	50	0.5	4	6.6	1
TAJB105*050#NJ	B	1	50	0.5	6	7	1
TAJC105*050#NJ	C	1	50	0.5	4	5.5	1
TAJB155*050#NJ	B	1.5	50	0.8	8	5.4	1
TAJC155*050#NJ	C	1.5	50	0.8	6	4.5	1
TAJD155*050#NJ	D	1.5	50	0.8	6	4	1
TAJB225*050#NJ	B	2.2	50	1.1	8	4.5	1
TAJC225*050#NJ	C	2.2	50	1.1	8	2.5	1
TAJD225*050#NJ	D	2.2	50	1.1	6	2.5	1
TAJC335*050#NJ	C	3.3	50	1.6	6	2.5	1
TAJD335*050#NJ	D	3.3	50	1.7	6	2	1
TAJC475*050#NJ	C	4.7	50	0.5	4	1.4	1
TAJD475*050#NJ	D	4.7	50	2.4	6	1.4	1
TAJC685*050#NJ	C	6.8	50	3.4	6	1	1
TAJD685*050#NJ	D	6.8	50	3.4	6	1	1
TAJD106*050#NJ	D	10	50	5	6	0.8	1
TAJE106*050#NJ	E	10	50	5	6	1	1 <sup>1)</sup>
TAJV106*050#NJ	V	10	50	5	6	0.65	1 <sup>1)</sup>
TAJD156*050#NJ	D	15	50	7.5	6	0.6	1
TAJE156*050#NJ	E	15	50	7.5	6	0.6	1 <sup>1)</sup>
TAJV156*050#NJ	V	15	50	7.5	6	0.6	1 <sup>1)</sup>
TAJV226*050#NJ	V	22	50	11	8	0.6	1 <sup>1)</sup>

<sup>1)</sup> Dry pack option (see How to order) recommended for reduction of stress during soldering. Dry pack parts should be treated as MSL 3.

For AEC-Q200 availability, please contact AVX.

Moisture Sensitivity Level (MSL) is defined according to J-STD-020.

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.

For typical weight and composition see page 142.

**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 Automotive Range



## Standard Tantalum - Automotive Product Range

### TAJ AUTOMOTIVE RANGE CAPACITANCE AND RATED VOLTAGE, $V_R$ (VOLTAGE CODE) RANGE (LETTER DENOTES CASE SIZE)

Capacitance		Rated voltage DC ( $V_R$ ) to 85°C						
$\mu\text{F}$	Code	6.3V (J)	10V (A)	16V (C)	20V (D)	25V (E)	35V (V)	50V (T)
0.10	104							
0.15	154							A
0.22	224							
0.33	334						A	A
0.47	474					A	A	A/B
0.68	684					A	A	B
1.0	105			A	A	A	A/B	B/C
1.5	155				A	A	A/B	C
2.2	225		A	A	A/B	A/B	B/C	C/D
3.3	335	A		A/B	A/B	B	B/C	C/D
4.7	475		A/B	A/B	A/B	B/C	B/C/D	C/D
6.8	685		A/B	A/B	B/C	B/C	C/D	D
10	106	A/B	A/B	A/B/C	B/C	C/D	C/D	D/E
15	156	A	A/B/C	B/C	B/C	C/D	D	E
22	226	A/B/C	A/B/C	B/C/D	C/D	C/D	D/E	
33	336	A/B	B/C	C/D	C/D	D	E	
47	476	B/C	B/C/D	C/D	D	D/E		
68	686	B/C	C/D	C/D	D/E			
100	107	C/D	C/D	D/E	E			
150	157	C/D	D/E	E				
220	227	D	D/E					
330	337	D/E	E					
470	477	D/E						
680	687	E						

Not recommended for new designs, higher voltage or smaller case size substitution are offered.

Released codes

Engineering samples - please contact manufacturer

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

## HOW TO ORDER

<b>TAJ</b>	<b>C</b>	<b>106</b>	<b>M</b>	<b>035</b>	<b>T</b>	<b>NJ</b>	<b>V</b>
<b>Type</b>	<b>Case Size</b>	<b>Capacitance Code</b>	<b>Tolerance</b>	<b>Rated DC Voltage</b>	<b>Packaging</b>	<b>Specification Suffix</b>	<b>Dry Pack Option</b>
	See table above	pF code: 1st two digits represent significant figures, 3rd digit represents multiplier (number of zeros to follow)	K = $\pm 10\%$ M = $\pm 20\%$	006 = 6.3Vdc 010 = 10Vdc 016 = 16Vdc 020 = 20Vdc	025 = 25Vdc 035 = 35Vdc 050 = 50Vdc	T = Automotive Lead Free 7" Reel U = Automotive Lead Free 13" Reel	(D,E case sizes mandatory)

## TECHNICAL SPECIFICATIONS

Technical Data:

All technical data relate to an ambient temperature of +25°C

Capacitance Range: 0.22  $\mu\text{F}$  to 680  $\mu\text{F}$

Capacitance Tolerance:  $\pm 10\%$ ;  $\pm 20\%$

Rated Voltage ( $V_R$ )	$\leq +85^\circ\text{C}$ :	6.3	10	16	20	25	35	50
Category Voltage ( $V_C$ )	$\leq +125^\circ\text{C}$ :	4	7	10	13	17	23	33
Surge Voltage ( $V_S$ )	$\leq +85^\circ\text{C}$ :	8	13	20	26	32	46	65
Surge Voltage ( $V_S$ )	$\leq +125^\circ\text{C}$ :	5	8	13	16	20	28	40

Temperature Range: -55°C to +125°C

Environmental Classification: 55/125/56 (IEC 68-2)

Reliability: 1% per 1000 hours at 85°C,  $V_R$  with 0.1 $\Omega$ /V series impedance, 60% confidence level

Termination Finished: Sn Plating (standard), Gold and SnPb Plating upon request

Meets requirements of AEC-Q200





# TAJ Automotive Range



## Standard Tantalum - Automotive Product Range

### RATINGS & PART NUMBER REFERENCE

AVX Part No.*	Case Size	Cap (µF)	Rated Voltage (V)	DCL (µA) Max.	DF % Max.	ESR Max. (Ω) @100kHz	MSL
TAJD226*025TNJV	D	22	25	5.5	6	0.9	3
TAJD336*025TNJV	D	33	25	8.3	6	0.9	3
TAJD476*025TNJV	D	47	25	11.8	6	0.9	3
TAJE476*025TNJV	E	47	25	11.8	6	0.9	3
<b>35 Volt @ 85°C (23 Volt @ 125°C)</b>							
TAJA334*035TNJ	A	0.33	35	0.5	4	15	1
TAJA474*035TNJ	A	0.47	35	0.5	4	12	1
TAJA684*035TNJ	A	0.68	35	0.5	4	8	1
TAJA105*035TNJ	A	1	35	0.5	4	7.5	1
TAJB105*035TNJ	B	1	35	0.5	4	6.5	1
TAJA155*035TNJ	A	1.5	35	0.5	6	7.5	1
TAJB155*035TNJ	B	1.5	35	0.5	6	5.2	1
TAJB225*035TNJ	B	2.2	35	0.8	6	4.2	1
TAJC225*035TNJ	C	2.2	35	0.8	6	3.5	1
TAJB335*035TNJ	B	3.3	35	1.2	6	3.5	1
TAJC335*035TNJ	C	3.3	35	1.2	6	2.5	1
TAJB475*035TNJ	B	4.7	35	1.6	6	3.1	1
TAJC475*035TNJ	C	4.7	35	1.6	6	2.2	1
TAJD475*035TNJV	D	4.7	35	1.6	6	1.5	3
TAJC685*035TNJ	C	6.8	35	2.4	6	1.8	1
TAJD685*035TNJV	D	6.8	35	2.4	6	1.3	3
TAJC106*035TNJ	C	10	35	3.5	6	1.6	1
TAJD106*035TNJV	D	10	35	3.5	6	1	3
TAJD156*035TNJV	D	15	35	5.3	6	0.9	3
TAJD226*035TNJV	D	22	35	7.7	6	0.9	3
TAJE226*035TNJV	E	22	35	7.7	6	0.5	3
TAJE336*035TNJV	E	33	35	11.6	6	0.9	3
<b>50 Volt @ 85°C (33 Volt @ 125°C)</b>							
TAJA224*050TNJ	A	0.22	50	0.5	4	18	1
TAJA334*050TNJ	A	0.33	50	0.5	4	17	1
TAJA474*050TNJ	A	0.47	50	0.5	4	9.5	1
TAJB474*050TNJ	B	0.47	50	0.7	4	9.5	1
TAJB684*050TNJ	B	0.68	50	0.5	4	8	1
TAJB105*050TNJ	B	1	50	0.5	6	7	1
TAJC105*050TNJ	C	1	50	0.5	4	5.5	1
TAJC155*050TNJ	C	1.5	50	0.8	6	4.5	1
TAJC225*050TNJ	C	2.2	50	1.1	8	2.5	1
TAJD225*050TNJV	D	2.2	50	1.1	6	2.5	3
TAJC335*050TNJ	C	3.3	50	1.6	6	2.5	1
TAJD335*050TNJV	D	3.3	50	1.7	6	2	3
TAJC475*050TNJ	C	4.7	50	0.5	4	1.4	1
TAJD475*050TNJV	D	4.7	50	2.4	6	1.4	3
TAJD685*050TNJV	D	6.8	50	3.4	6	1	3
TAJD106*050TNJV	D	10	50	5	6	0.8	3
TAJE106*050TNJV	E	10	50	5	6	1	3
TAJE156*050TNJV	E	15	50	7.5	6	0.6	3

Moisture Sensitivity Level (MSL) is defined according to J-STD-020

\*Please use "U" instead of "T" in the suffix letter for 13" reel packaging

Please use specific PN for automotive version – see "HOW TO ORDER".

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.

For typical weight and composition see page 142.

**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.**