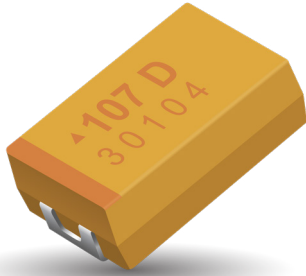


TAJ Automotive Range

Standard Tantalum - Automotive Product Range



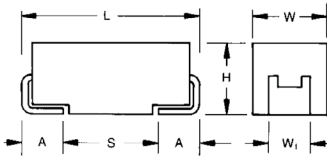
FEATURES

- General Purpose SMT Chip Tantalum Series
- 100% Surge Current Tested
- 7 Case Sizes Available
- CV Range: 0.22-680µF / 6.3-50V



APPLICATIONS

- Audio Systems
- GPS
- Seat Controls
- Dashboard



CASE DIMENSIONS:

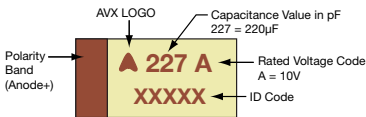
millimeters (inches)

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 ₁ ±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)
P	0805	2012-15	2.05 (0.081)	1.35 (0.053)	1.50 (0.059) max.	1.00±0.10 (0.039±0.004)	0.50 (0.020)	0.85 (0.033)
Y	2917	7343-20	7.30 (0.287)	4.30 (0.169)	2.00 (0.079)	2.40 (0.094)	1.30 (0.051)	4.40 (0.173)

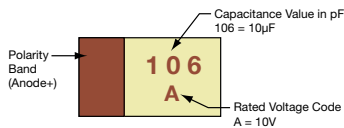
W₁ dimension applies to the termination width for A dimensional area only.

MARKING

A, B, C, D, E, Y CASE



P CASE



HOW TO ORDER

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

TECHNICAL SPECIFICATIONS

Technical Data:	All technical data relate to an ambient temperature of +25°C								
Capacitance Range:	0.22 µF to 680 µF								
Capacitance Tolerance:	±10%; ±20%								
Rated Voltage (V _R)	≤ +85°C:	6.3	10	16	20	25	35	50	
Category Voltage (V _C)	≤ +125°C:	4	7	10	13	17	23	33	
Surge Voltage (V _S)	≤ +85°C:	8	13	20	26	32	46	65	
Surge Voltage (V _S)	≤ +125°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 0.1Ω/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



TAJ AUTOMOTIVE RANGE CAPACITANCE AND RATED VOLTAGE RANGE (LETTER DENOTES CASE SIZE)

Capacitance		Rated voltage DC (V_R to 85°C)						
µF	Code	6.3V (J)	10V (A)	16V (C)	20V (D)	25V (E)	35V (V)	50V (T)
0.10	104							
0.15	154							
0.22	224							A
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/B	A/B	C
2.2	225		A	A	A/B	A/B	B/C	C/D
3.3	335	A		A/B	A/B	A/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	A/B/C	B/C	C/D	D
10	106	A/B	A/B/P	A/B/C	B/C	B/C/D	C/D/Y	D/E
15	156	A/P	A/B/C	B/C	B/C	C/D/Y	D/Y	E
22	226	A/B/C	A/B/C	B/C/D	B/C/D/Y	C/D/Y	D/E	
33	336	A/B	B/C	B/C/D/Y	C/D/Y	D	D/E	
47	476	A/B/C	B/C/D	C/D/Y	D/Y	D/E	E	
68	686	B/C	B/C/D/Y	C/D/Y	D/E	E		
100	107	B/C/D/Y	C/D/Y	D/E	E	E		
150	157	C/D/Y	D/E/Y	D/E				
220	227	C/D/Y	D/E	E				
330	337	D/E	D/E					
470	477	D/E						
680	687	D/E						

Released ratings

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

TAJ Automotive Range

Standard Tantalum - Automotive Product Range



RATINGS & PART NUMBER REFERENCE

AVX Part No.	Case Size	Capacitance (µF)	Rated Voltage (V)	Rated Temperature (°C)	Category Voltage (V)	Category Temperature (°C)	DCL Max. (µA)	DF Max. (%)	ESR Max. @ 100kHz (Ω)	100kHz RMS Current (mA)			MSL
										25°C	85°C	125°C	
TAJD156*025TNJV	D	15	25	85	17	125	3.8	6	1	387	349	155	3
TAJY156*025TNJV	Y	15	25	85	17	125	3.8	6	1	354	318	141	3
TAJC226*025TNJ	C	22	25	85	17	125	5.5	6	1.4	280	252	112	1
TAJD226*025TNJV	D	22	25	85	17	125	5.5	6	0.9	408	367	163	3
TAJY226*025TNJV	Y	22	25	85	17	125	5.5	6	0.8	395	356	158	3
TAJD336*025TNJV	D	33	25	85	17	125	8.3	6	0.9	408	367	163	3
TAJD476*025TNJV	D	47	25	85	17	125	11.8	6	0.9	408	367	163	3
TAJE476*025TNJV	E	47	25	85	17	125	11.8	6	0.9	428	385	171	3
TAJE686*025TNJV	E	68	25	85	17	125	17	6	0.9	428	385	171	3
TAJE107*025TNJV	E	100	25	85	17	125	25	10	0.3	742	667	297	3
35 Volt @ 85°C													
TAJA334*035TNJ	A	0.33	35	85	23	125	0.5	4	15	71	64	28	1
TAJA474*035TNJ	A	0.47	35	85	23	125	0.5	4	12	79	71	32	1
TAJA684*035TNJ	A	0.68	35	85	23	125	0.5	4	8	97	87	39	1
TAJA105*035TNJ	A	1	35	85	23	125	0.5	4	7.5	100	90	40	1
TAJB105*035TNJ	B	1	35	85	23	125	0.5	4	6.5	114	103	46	1
TAJA155*035TNJ	A	1.5	35	85	23	125	0.5	6	7.5	100	90	40	1
TAJB155*035TNJ	B	1.5	35	85	23	125	0.5	6	5.2	128	115	51	1
TAJB225*035TNJ	B	2.2	35	85	23	125	0.8	6	4.2	142	128	57	1
TAJC225*035TNJ	C	2.2	35	85	23	125	0.8	6	3.5	177	160	71	1
TAJB335*035TNJ	B	3.3	35	85	23	125	1.2	6	3.5	156	140	62	1
TAJC335*035TNJ	C	3.3	35	85	23	125	1.2	6	2.5	210	189	84	1
TAJB475*035TNJ	B	4.7	35	85	23	125	1.6	6	3.1	166	149	66	1
TAJC475*035TNJ	C	4.7	35	85	23	125	1.6	6	2.2	224	201	89	1
TAJD475*035TNJV	D	4.7	35	85	23	125	1.6	6	1.5	316	285	126	3
TAJC685*035TNJ	C	6.8	35	85	23	125	2.4	6	1.8	247	222	99	1
TAJD685*035TNJV	D	6.8	35	85	23	125	2.4	6	1.3	340	306	136	3
TAJC106*035TNJ	C	10	35	85	23	125	3.5	6	1.6	262	236	105	1
TAJD106*035TNJV	D	10	35	85	23	125	3.5	6	1	387	349	155	3
TAJY106*035TNJV	Y	10	35	85	23	125	3.5	6	1	354	318	141	3
TAJD156*035TNJV	D	15	35	85	23	125	5.3	6	0.9	408	367	163	3
TAJY156*035TNJV	Y	15	35	85	23	125	5.3	6	0.6	456	411	183	3
TAJD226*035TNJV	D	22	35	85	23	125	7.7	6	0.9	408	367	163	3
TAJE226*035TNJV	E	22	35	85	23	125	7.7	6	0.5	574	517	230	3
TAJD336*035TNJV	D	33	35	85	23	125	11.6	6	0.9	408	367	163	3
TAJE336*035TNJV	E	33	35	85	23	125	11.6	6	0.9	428	385	171	3
TAJE476*035TNJV	E	47	35	85	23	125	16.5	6	0.9	428	385	171	3
50 Volt @ 85°C													
TAJA224*050TNJ	A	0.22	50	85	33	125	0.5	4	18	65	58	26	1
TAJA334*050TNJ	A	0.33	50	85	33	125	0.5	4	17	66	60	27	1
TAJA474*050TNJ	A	0.47	50	85	33	125	0.5	4	9.5	89	80	36	1
TAJB474*050TNJ	B	0.47	50	85	33	125	0.5	4	9.5	95	85	38	1
TAJB684*050TNJ	B	0.68	50	85	33	125	0.5	4	8	103	93	41	1
TAJB105*050TNJ	B	1	50	85	33	125	0.5	6	7	110	99	44	1
TAJC105*050TNJ	C	1	50	85	33	125	0.5	4	5.5	141	127	57	1
TAJC155*050TNJ	C	1.5	50	85	33	125	0.8	6	4.5	156	141	63	1
TAJC225*050TNJ	C	2.2	50	85	33	125	1.1	8	2.5	210	189	84	1
TAJD225*050TNJV	D	2.2	50	85	33	125	1.1	6	2.5	245	220	98	3
TAJC335*050TNJ	C	3.3	50	85	33	125	1.6	6	2.5	210	189	84	1
TAJD335*050TNJV	D	3.3	50	85	33	125	1.7	6	2	274	246	110	3
TAJC475*050TNJ	C	4.7	50	85	33	125	2.4	6	1.4	280	252	112	1
TAJD475*050TNJV	D	4.7	50	85	33	125	2.4	6	1.4	327	295	131	3
TAJD685*050TNJV	D	6.8	50	85	33	125	3.4	6	1	387	349	155	3
TAJD106*050TNJV	D	10	50	85	33	125	5	6	0.8	433	390	173	3
TAJE106*050TNJV	E	10	50	85	33	125	5	6	1	406	366	162	3
TAJE156*050TNJV	E	15	50	85	33	125	7.5	6	0.6	524	472	210	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 259.

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

TAJ Automotive Range

Standard Tantalum - Automotive Product Range

QUALIFICATION TABLE

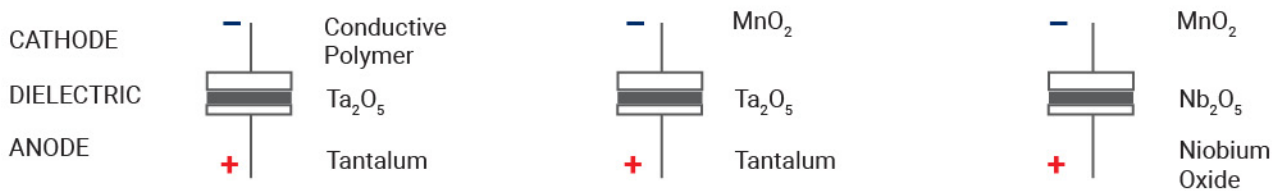
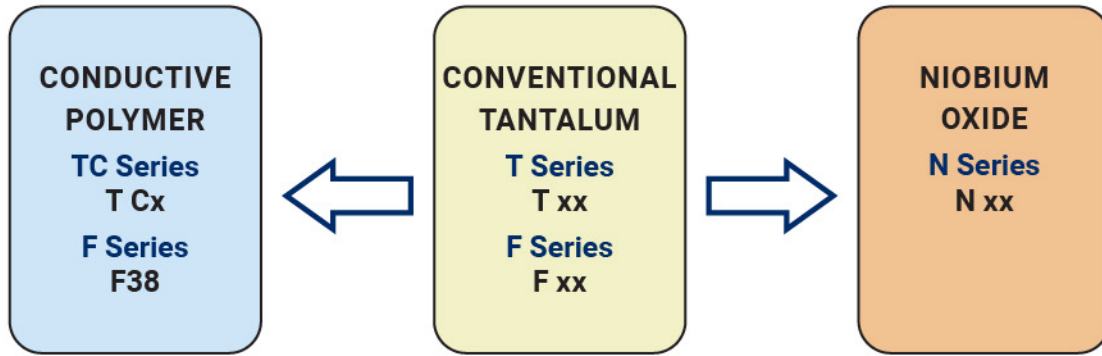
TEST	TAJ automotive series (Temperature range -55°C to +125°C)									
	Condition			Characteristics						
Endurance	Apply rated voltage (Ur) at 85°C and / or category voltage (Uc) at 125°C for 2000 hours through a circuit impedance of $\leq 0.1\Omega/V$. Stabilize at room temperature for 1-2 hours before measuring.			Visual examination	no visible damage					
				DCL	1.25 x initial limit					
				$\Delta C/C$	within $\pm 10\%$ of initial value					
				DF	initial limit					
				ESR	initial limit					
Storage Life	Store at 125°C, no voltage applied, for 2000 hours. Stabilize at room temperature for 1-2 hours before measuring.			Visual examination	no visible damage					
				DCL	1.25 x initial limit					
				$\Delta C/C$	within $\pm 10\%$ of initial value					
				DF	initial limit					
				ESR	initial limit					
Humidity	Store at 65°C and 95% relative humidity for 500 hours, with no applied voltage. Stabilize at room temperature and humidity for 1-2 hours before measuring.			Visual examination	no visible damage					
				DCL	1.5 x initial limit					
				$\Delta C/C$	within $\pm 10\%$ of initial value					
				DF	1.2 x initial limit					
				ESR	initial limit					
Biased Humidity	Apply rated voltage (Ur) at 85°C, 85% relative humidity for 1000 hours. Stabilize at room temperature and humidity for 1-2 hours before measuring.			Visual examination	no visible damage					
				DCL	2 x initial limit					
				$\Delta C/C$	within $\pm 10\%$ of initial value					
				DF	1.2 x initial limit					
				ESR	initial limit					
Temperature Stability	Step	Temperature°C	Duration(min)		+20°C	-55°C	+20°C	+85°C	+125°C	+20°C
	1	+20	15	DCL	IL*	n/a	IL*	10 x IL*	12.5 x IL*	IL*
	2	-55	15	$\Delta C/C$	n/a	+0/-10%	$\pm 5\%$	+10/-0%	+12/-0%	$\pm 5\%$
	3	+20	15	DF	IL*	1.5 x IL*	IL*	1.5 x IL*	2 x IL*	IL*
	4	+85	15	ESR	IL*	2 x IL*	IL*	IL*	IL*	IL*
	5	+125	15							
	6	+20	15							
Surge Voltage	Apply 1.3x category voltage (Uc) at 125°C for 1000 cycles of duration 6 min (30 sec charge, 5 min 30 sec discharge) through a charge / discharge resistance of 1000 Ω			Visual examination	no visible damage					
				DCL	initial limit					
				$\Delta C/C$	within $\pm 5\%$ of initial value					
				DF	initial limit					
				ESR	initial limit					
Mechanical Shock	MIL-STD-202, Method 213, Condition F			Visual examination	no visible damage					
				DCL	initial limit					
				$\Delta C/C$	within $\pm 5\%$ of initial value					
				DF	initial limit					
				ESR	initial limit					
Vibration	MIL-STD-202, Method 204, Condition D			Visual examination	no visible damage					
				DCL	initial limit					
				$\Delta C/C$	within $\pm 5\%$ of initial value					
				DF	initial limit					
				ESR	initial limit					

*Initial Limit

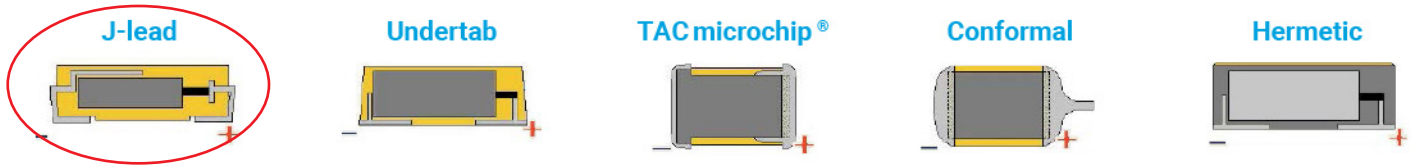
TAJ Automotive Range

Standard Tantalum - Automotive Product Range

AVX SOLID ELECTROLYTIC CAPACITOR ROADMAP



FIVE CAPACITOR CONSTRUCTION STYLES



SERIES LINE UP: CONVENTIONAL SMD MnO_2

