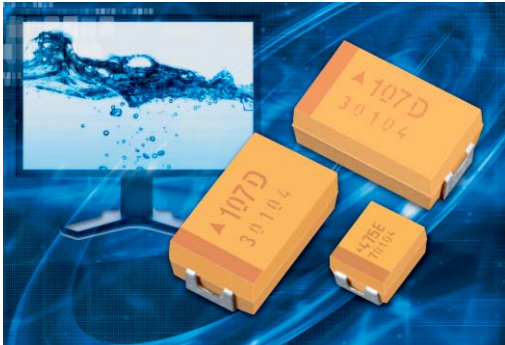


TAJ Series



Standard and Low Profile Tantalum Capacitors

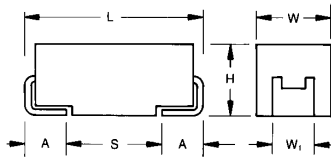


FEATURES

- General purpose SMT chip tantalum series
- 17 case sizes available, standard and low profile down to 1mm maximum height
- CV range: 0.10 - 2200µF / 2.5 - 50V
- J-lead construction

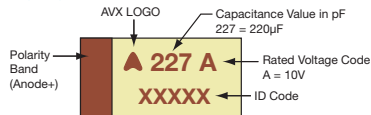
APPLICATIONS

- General low power DC/DC and LDO
- Entertainment / Infotainment systems
- Height restricted design

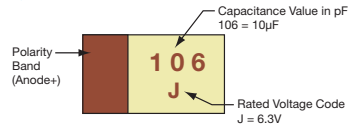


MARKING

A, B, C, D, E, F, H, K, S, T, U, V, W, X, Y CASE



P, R CASE



HOW TO ORDER

TAJ	C	106	M	035	R	NJ	-
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 002 = 2.5Vdc 004 = 4Vdc 006 = 6.3Vdc 010 = 10Vdc 016 = 16Vdc 020 = 20Vdc 025 = 25Vdc 035 = 35Vdc 050 = 50Vdc	Packaging 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 K = Tin Lead 13" Reel H, K = Non RoHS A, B, H, K = please contact manufacturer	Specification Suffix NJ = Standard Suffix	Additional characters may be added for special requirements V = Dry pack Option (selected ratings 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 _R)	≤ +85°C:	2.5	4	6.3	10	16	20	25	35	50
Category Voltage (V _C)	≤ +125°C:	1.7	2.7	4	7	10	13	17	23	33
Surge Voltage (V _S)	≤ +85°C:	3.3	5.2	8	13	20	26	32	46	65
Surge Voltage (V _S)	≤ +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 _R with 0.1Ω/V series impedance, 60% confidence level									
Qualification:	CECC 30801 - 005 issue 2 EIA 535BAAC for standard case sizes									
Termination Finished:	Sn Plating (standard), Gold and SnPb Plating upon request									
	For AEC-Q200 availability, please contact AVX									



Standard and Low Profile Tantalum Capacitors

STANDARD TANTALUMS CAPACITANCE AND RATED VOLTAGE RANGE (LETTER DENOTES CASE SIZE)

Capacitance		Rated voltage DC (V _R) 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/B
0.47	474							A	A/B	A/B/C
0.68	684							A	A/B	A/B/C
1.0	105					A	A	A	A/B	A/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/B	A/B	A/B/C	B/C	C/D
4.7	475			A	A/B	A/B	A/B/C	A/B/C	B/C/D	C/D
6.8	685			A/B	A/B	A/B/C	A/B/C	B/C	C/D	C/D
10	106		A	A/B	A/B/C	A/B/C	B/C	B/C/D	C/D/E	D/E/V
15	156		A	A/B	A/B/C	A/B/C	B/C/D	C/D	C/D	D/E/V
22	226		A	A/B/C	A/B/C	A/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/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/V	
68	686	A	A/B	B/C/D	B/C/D	C/D	C ^(M) /D/E	D/E/V	V	
100	107	A/B	A/B/C	B/C/D	B/C/D/E	C/D/E	D/E/V	E/V		
150	157	B	B/C	B ^(M) /C/D	C/D/E	D/E/V	E/V	V ^(M)		
220	227	B/D	B/C/D	C/D/E	C/D/E	D ^(M) /E/V				
330	337	D	C/D	C/D/E	D/E/V	E ^(M)				
470	477	C/D	C/D/E	D/E/V	E/U/V					
680	687	C/D/E	D/E	D/E/V	E ^(M) /V ^(M)					
1000	108	D ^(M) /E	D/E/V	E ^(M) /V ^(M)						
1500	158	D/E/V ^(M)	E/V ^(M)							
2200	228	V ^(M)								

LOW PROFILE TANTALUMS CAPACITANCE AND RATED VOLTAGE RANGE (LETTER DENOTES CASE SIZE)

Capacitance		Rated voltage DC (V _R) 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						R/S		R/S	S
0.15	154						R/S	R	R/S	S
0.22	224						R/S	R	R/S	P/R/S
0.33	334						R/S	R	R/S	P/R ^(M) /S/T
0.47	474						R/S	R/S	R/S/T	S/T
0.68	684					R/S	R/S/T	R/S	P/S/T	
1.0	105				R/S	R/S/T	R/S/T	P/R/S	P/S/T	W
1.5	155			R/S	R/S	R/S	P/R/S/T	P/S/T	T	W
2.2	225		R/S	R/S	R/S	R/S/T	P/R/S/T	T	T	W
3.3	335		R/S	R/S	R/S/T	R/S/T	T	T/W	W	Y
4.7	475	R	R/S	R/S/T	R/S/T	K/P/S/T	T	T/W	W	X/Y
6.8	685	R	R/S/T	R/S/T	P/R/S/T	S/T	T	W	Y	Y
10	106	R/S	R/S/T	P/R/S/T	K/P/R ^(M) /S/T	T/W	W	W	X/Y	
15	156	R	R/S/T	K/P/R/S/T	S/T/W	T ^(M) /W	W	Y	Y	
22	226	P/R	K/P/R/S/T	K/P ^(M) /S/T/W	T/W	W	W/Y	F/Y	Y	
33	336	K/P/S	K/P ^(M) /S/T/W	T/W	W	W/Y	X/Y	Y		
47	476	P ^(M) /S	T/W	T/W	H/W/Y	W/X/Y	X/Y	Y		
68	686	T	T/W	W	W/Y	F/X/Y	Y			
100	107	T/W	T ^(M) /W	W/Y	W/X/Y	F ^(M) /Y				
150	157	T ^(M) /W	W/Y	W/X/Y	F/X ^(M) /Y	Y ^(M)				
220	227	W/Y	W/X/Y	F/X/Y	Y					
330	337	W ^(M) /Y	F/X/Y	Y						
470	477	F/Y	Y	Y						
680	687	Y	Y ^(M)							
1000	108	Y ^(M)								

Released ratings ^(M tolerance only)

Engineering samples - please contact AVX

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.

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	
TAJS474*050#NJ	S	0.47	50	85	33	125	0.5	4	9.5	83	74	33	1
TAJT474*050#NJ	T	0.47	50	85	33	125	0.5	4	9.5	92	83	37	1
TAJA684*050#NJ	A	0.68	50	85	33	125	0.5	4	7.9	97	88	39	1
TAJB684*050#NJ	B	0.68	50	85	33	125	0.5	4	8	103	93	41	1
TAJC684*050#NJ	C	0.68	50	85	33	125	0.5	4	7	125	113	50	1
TAJA105*050#NJ	A	1	50	85	33	125	0.5	4	6.6	107	96	43	1
TAJB105*050#NJ	B	1	50	85	33	125	0.5	6	7	110	99	44	1
TAJC105*050#NJ	C	1	50	85	33	125	0.5	4	5.5	141	127	57	1
TAJW105*050#NJ	W	1	50	85	33	125	0.5	6	4.4	143	129	57	1
TAJB155*050#NJ	B	1.5	50	85	33	125	0.8	8	5.4	125	113	50	1
TAJC155*050#NJ	C	1.5	50	85	33	125	0.8	6	4.5	156	141	63	1
TAJD155*050#NJ	D	1.5	50	85	33	125	0.8	6	4	194	174	77	1
TAJW155*050#NJ	W	1.5	50	85	33	125	0.8	6	3.1	170	153	68	1
TAJB225*050#NJ	B	2.2	50	85	33	125	1.1	8	4.5	137	124	55	1
TAJC225*050#NJ	C	2.2	50	85	33	125	1.1	8	2.5	210	189	84	1
TAJD225*050#NJ	D	2.2	50	85	33	125	1.1	6	2.5	245	220	98	1
TAJW225*050#NJ	W	2.2	50	85	33	125	1.1	8	2.5	190	171	76	1
TAJC335*050#NJ	C	3.3	50	85	33	125	1.6	6	2.5	210	189	84	1
TAJD335*050#NJ	D	3.3	50	85	33	125	1.7	6	2	274	246	110	1
TAJY335*050#NJ	Y	3.3	50	85	33	125	1.7	4	1.5	289	260	115	1 ¹⁾
TAJC475*050#NJ	C	4.7	50	85	33	125	0.5	4	1.4	280	252	112	1
TAJD475*050#NJ	D	4.7	50	85	33	125	2.4	6	1.4	327	295	131	1
TAJX475*050#NJV	X	4.7	50	85	33	125	2.4	6	1.0	316	285	126	3
TAJY475*050#NJ	Y	4.7	50	85	33	125	2.4	6	1.2	323	290	129	1 ¹⁾
TAJC685*050#NJ	C	6.8	50	85	33	125	3.4	6	1	332	298	133	1
TAJD685*050#NJ	D	6.8	50	85	33	125	3.4	6	1	387	349	155	1
TAJY685*050#NJ	Y	6.8	50	85	33	125	3.4	6	0.9	373	335	149	1 ¹⁾
TAJD106*050#NJ	D	10	50	85	33	125	5	6	0.8	433	390	173	1
TAJE106*050#NJ	E	10	50	85	33	125	5	6	0.8	454	409	182	1 ¹⁾
TAJV106*050#NJ	V	10	50	85	33	125	5	6	0.65	620	558	248	1 ¹⁾
TAJD156*050#NJ	D	15	50	85	33	125	7.5	6	0.6	500	450	200	1
TAJE156*050#NJ	E	15	50	85	33	125	7.5	6	0.6	524	472	210	1 ¹⁾
TAJV156*050#NJ	V	15	50	85	33	125	7.5	6	0.6	645	581	258	1 ¹⁾
TAJV226*050#NJ	V	22	50	85	33	125	11	8	0.6	645	581	258	1 ¹⁾

1¹⁾ – Dry pack option (see How to order) is recommended for reduction of stress during soldering. Dry pack parts should be treated as MSL 3.

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.

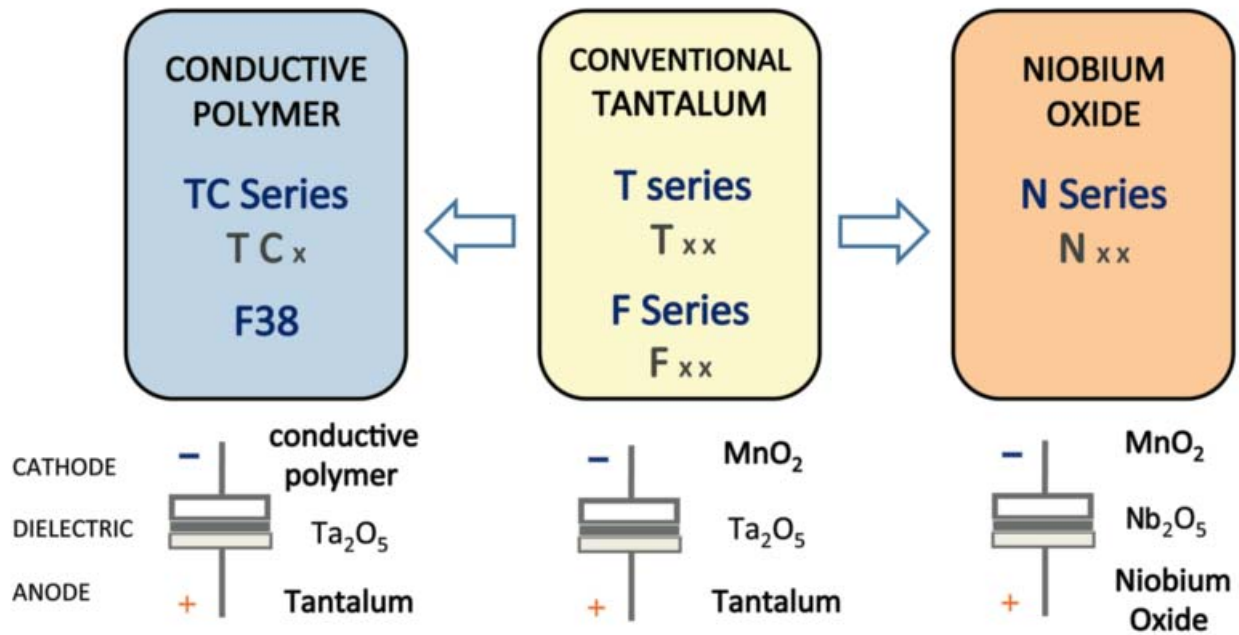
For typical weight and composition see page 274.

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

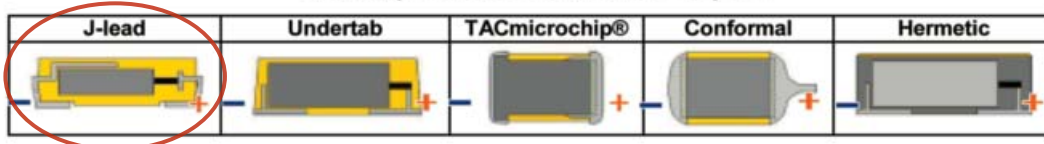
QUALIFICATION TABLE

TEST	TAJ 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						
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						
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								
	3	+20	15	$\Delta C/C$	n/a	+0/-10%	$\pm 5\%$	+10/-0%	+12/-0%	$\pm 5\%$	
	4	+85	15								
	5	+125	15	DF	IL*	1.5 x IL*	IL*	1.5 x IL*	2 x IL*	IL*	
	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						
Mechanical Shock	MIL-STD-202, Method 213, Condition C			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						

AVX SOLID ELECTROLYTE CAPACITOR ROADMAP



Five Capacitor Construction Styles



SERIES LINE UP: CONVENTIONAL SMD MnO₂

