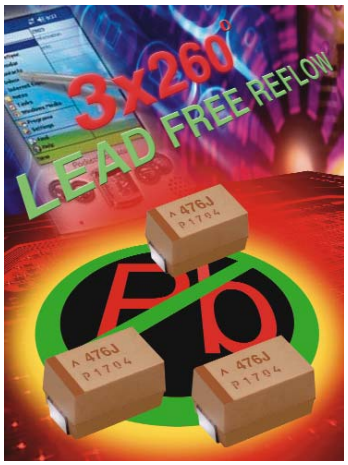
TCJ Series

Tantalum Solid Electrolytic Chip Capacitors with Conductive Polymer Electrode



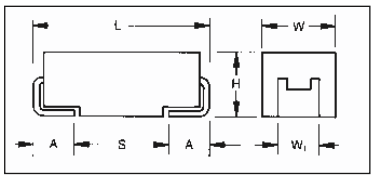
The TCJ Series of tantalum capacitors with a conductive polymer electrode offers lower ESR, safer non-ignition failure mode and better capacitance retention compared to the conventional MnO_2 electrode capacitors. The TCJ series is suitable for power management systems with operating temperatures up to 125°C. In addition the TCJ series complies with RoHS requirements and it is an environmentally friendly component ready for lead-free assembly systems up to 3x reflow with 260°C peak temperature. Small A and B case sizes are ideal for use with the latest portable handheld electronics such as cellular phones, PDAs or other digital equipment such as cameras.

Pb
LEAD-FREE

LEAD-FREE COMPATIBLE COMPONENT

HALOGEN-FREE COMPOUNDS

ENVIRONMENTAL FRIENDLY COMPONENT

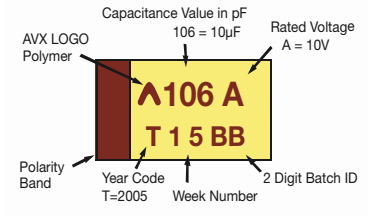


CASE DIMENSIONS: millimeters (inches)

Code	EIA Code	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	3216-18	3.20 (0.126)	1.60 (0.063)	1.60 (0.063)	1.20 (0.047)	0.80 (0.031)	1.80 (0.071)
B	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)
R	2012-12	2.05 (0.081)	1.30 (0.051)	1.20 (0.047) max	1.0±0.1 (0.039±0.004)	0.50 (0.020)	0.85 (0.033)
T	3528-12	3.50 (0.138)	2.80 (0.110)	1.20 (0.047) max	2.20 (0.087)	0.80 (0.031)	2.00 (0.079)
W	6032-15	6.00 (0.236)	3.20 (0.126)	1.50 (0.059) max	2.20 (0.087)	1.30 (0.051)	2.90 (0.114)
Y	7343-20	7.30 (0.287)	4.30 (0.169)	2.00 (0.079) max	2.40 (0.094)	1.30 (0.051)	4.40 (0.173)

W_1 dimension applies to the termination width for A dimensional area only.

Marking



Packaging Suffix

Reel Quantity	R = 7" Reel	S = 13" Reel	Tape Width
A Case	2000	8000	8 mm
B Case	2000	8000	8 mm
R Case	2500	10000	8 mm
T Case	2500	10000	8 mm
W Case	1000	5000	12 mm
Y Case	1000	4000	12 mm

HOW TO ORDER

TCJ	A	226	M	004	R	0300
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** M=±20%	**Rated DC Voltage** 002=2.5Vdc 004=4Vdc 006=6.3Vdc 010=10Vdc 016=16Vdc	**Packaging** R=7" T/R S=13" T/R	**ESR in mΩ**

TECHNICAL SPECIFICATIONS

Technical Data:		All technical data relate to an ambient temperature of +25°C					
Capacitance Range:		4.7 µF to 150 µF					
Capacitance Tolerance:		±20%					
Leakage Current DCL:		0.1CV					
Rated Voltage (V_R)	⩽ +85°C:	2.5	4	6.3	10	16	
Category Voltage (V_C)	⩽ +125°C:	1.7	2.7	4	7	10	
Surge Voltage (V_S)	⩽ +85°C:	3.3	5.2	8	13	20	
Surge Voltage (V_S)	⩽ +125°C:	2.0	3.4	5.0	8	13	
Temperature Range:		-55°C to +125°C					
Reliability:		1% per 1000 hours at 85°C, V_R with 0.1Ω/V_R series impedance, 60% confidence level					

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CAPACITANCE AND RATED VOLTAGE, V_R (VOLTAGE CODE) 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)**
4.7	475				R (500)	
6.8	685					A (200)
10	106			A (300), R (500)	A (300)	A (200), T (150)
15	156		A (300)	A (300)	A (200)	B (150)
22	226		A (300)	A (300), T (150)	B (300), T (150)	B (150)
33	336		A (300)	A (200, B (200), T (150)	C (100), B (200), T (150)	
47	476		A (200), T (80)	A (200, T (80), B (70)	B (70), C (100)	
68	686	A (250)	A (250), B (70), T (80)	B (70), C (100)		
100	107	A (200), B (70)	A (200), B (70), T (150)	B (70)		
150	157	B (70)	B (70), W (70)	W (70), Y (25)		
220	227		Y (25)	Y (25)		

Developmental Ratings - subject to change.

Available Ratings, (ESR ratings in mOhms in brackets)

The EIA and CECC standards for low ESR solid Tantalum capacitors allow an ESR movement to 1.25 times catalog limit post mounting.

TCJ Series

Tantalum Solid Electrolytic Chip Capacitors with Conductive Polymer Electrode

RATINGS & PART NUMBER REFERENCE

AVX Part No.	Case Size	Capacitance (µF)	Rated Voltage (V)	DCL (µA) Max.	DF % Max.	ESR Max. (mΩ) @100kHz	100kHz RMS Current (mA)			100kHz RMS Voltage (mV)		
							25°C	85°C	125°C	25°C	85°C	125°C
2 Volt @ 85°C (1.7 Volt @ 125°C)												
TCJA686M002#0250	A	68	2.5	17.0	6	250	548	493	219	137	123	55
TCJA107M002#0200	A	100	2.5	25.0	6	200	612	551	245	122	110	49
TCJB107M002#0070	B	100	2.5	25.0	6	70	1102	992	441	77	69	31
TCJB157M002#0070	B	150	2.5	37.5	6	70	1102	992	441	77	69	31
4 Volt @ 85°C (2.7 Volt @ 125°C)												
TCJA156M004#0300	A	15	4	6.0	6	300	500	450	200	150	135	60
TCJA226M004#0300	A	22	4	8.8	6	300	500	450	200	150	135	60
TCJA336M004#0300	A	33	4	13.2	6	300	500	450	200	150	135	60
TCJA476M004#0200	A	47	4	18.8	6	200	612	551	245	122	110	49
TCJT476M004#0080	T	47	4	18.8	8	80	1000	900	400	80	72	32
TCJA686M004#0250	A	68	4	27.2	6	250	548	493	219	137	123	55
TCJB686M004#0070	B	68	4	27.2	6	70	1102	992	441	77	69	31
TCJT686M004#0080	T	68	4	27.2	8	80	1000	900	400	80	72	32
TCJA107M004#0200	A	100	4	40.0	6	200	612	551	245	122	110	49
TCJB107M004#0070	B	100	4	40.0	8	70	1102	992	441	77	69	31
TCJT107M004#0150	T	100	4	40.0	8	150	730	657	292	110	99	44
TCJB157M004#0070	B	150	4	60.0	6	70	1102	992	441	77	69	31
6.3 Volt @ 85°C (4 Volt @ 125°C)												
TCJA106M006#0300	A	10	6.3	6.0	6	300	500	450	200	150	135	60
TCJR106M006#0500	R	10	6.3	6.0	6	500	332	298	133	166	149	66
TCJA156M006#0300	A	15	6.3	9.0	6	300	500	450	200	150	135	60
TCJA226M006#0300	A	22	6.3	13.2	6	300	500	450	200	150	135	60
TCJT226M006#0150	T	22	6.3	13.2	6	150	730	657	292	110	99	44
TCJA336M006#0200	A	33	6.3	19.8	6	200	612	551	245	122	110	49
TCJB336M006#0200	B	33	6.3	19.8	6	200	652	587	261	130	117	52
TCJT336M006#0150	T	33	6.3	19.8	8	150	730	657	292	110	99	44
TCJA476M006#0200	A	47	6.3	28.2	6	200	612	551	245	122	110	49
TCJB476M006#0070	B	47	6.3	28.2	6	70	1102	992	441	77	69	31
TCJT476M006#0080	T	47	6.3	28.2	8	80	1000	900	400	80	72	32
TCJB686M006#0070	B	68	6.3	40.8	8	70	1102	992	441	77	69	31
TCJC686M006#0100	C	68	6.3	40.8	6	100	1049	944	420	105	94	42
TCJB107M006#0070	B	100	6.3	60.0	10	70	1102	992	441	77	69	31
TCJW157M006#0070	W	150	6.3	90.0	6	70	1134	1021	454	79	71	32
10 Volt @ 85°C (7 Volt @ 125°C)												
TCJR475M010#0500	R	4.7	10	4.7	6	500	332	298	133	166	149	66
TCJA106M010#0300	A	10	10	10.0	6	300	500	450	200	150	135	60
TCJA156M010#0200	A	15	10	15.0	6	200	612	551	245	122	110	49
TCJB226M010#0300	B	22	10	22.0	6	300	532	479	213	160	144	64
TCJT226M010#0150	T	22	10	22.0	6	150	730	657	292	110	99	44
TCJB336M010#0200	B	33	10	33.0	6	200	652	587	261	130	117	52
TCJC336M010#0100	C	33	10	33.0	6	100	1049	944	420	105	94	42
TCJT336M010#0150	T	33	10	33.0	6	50	730	657	292	110	99	44
TCJB476M010#0070	B	47	10	47.0	6	70	1102	992	441	77	69	31
TCJC476M010#0100	C	47	10	47.0	6	100	1049	944	420	105	94	42
16 Volt @ 85°C (10 Volt @ 125°C)												
TCJA685M016#0200	A	6.8	16	10.9	6	200	612	551	245	122	110	49
TCJA106M016#0200	A	10	16	16.0	6	200	612	551	245	122	110	49
TCJT106M016#0150	T	10	16	16.0	6	150	730	657	292	110	99	44
TCJB156M016#0150	B	15	16	24.0	6	150	753	677	301	113	102	45
TCJB226M016#0150	B	22	16	35.2	6	150	753	677	301	113	102	45

insert R for 7" reel or S for 13" reel

All technical data relates to an ambient temperature of +25°C. Capacitance and DF are measured at 120Hz, 0.5 RMS with DC bias of 2.2 volts. DCL is measured at rated voltage after 5 minutes. TCJ series is MSL level 3 according to J-STD-020C.

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