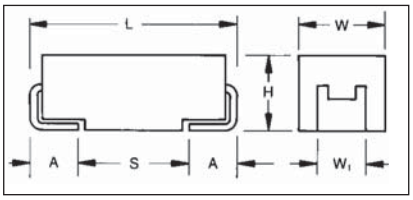
THJ Series

High Temperature Tantalum Chip Capacitor

The THJ surface mount series combines high temperature operation and higher basic reliability for optimal performance in high temperature automotive and industry applications. The operational temperature is up to +175°C with 50% voltage derating. The level of reliability of this tantalum product is 0.5% / 1000 hours at rated voltage, rated temperature and 0.1Ω/volt circuit impedance. The capacitors are produced in black encapsulation with white polarity marking. The THJ series encompasses the 4 case sizes with dimensions identical to TAJ standard series. The voltage range available today is 6.3V to 50V.



For part marking see page 167

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)	1.10 (0.043)
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)
C	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	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	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)

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

HOW TO ORDER

THJ	B	105	*	035	R	JN
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 025=25Vdc 035=35Vdc 050=50Vdc	**Packaging** R = 7" T/R Lead Free S = 13" T/R Lead Free A = Gold Plating 7" Reel B = Gold Plating 13" Reel H = Tin Lead 7" Reel K = Tin Lead 13" Reel	**Additional characters may be added for special requirements**

TECHNICAL SPECIFICATIONS

Technical Data:		All technical data relate to an ambient temperature of +25°C						
Capacitance Range:		0.1 µF to 150 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
	⩽ +175°C	3	5	8	10	12	17	25
Surge Voltage (V_S)	⩽ +85°C	8	13	20	26	32	46	65
	⩽ +125°C	5	8	13	16	20	28	40
	⩽ +175°C	4	6	10	12	15	21	30
Temperature Range:		Up to 175°C with 50% voltage derating.						
Reliability:		0.5% per 1000 hours at 85°C, V_R with 0.1Ω/V series impedance, 60% confidence level, 3.5 Fits at 40°C, $0.5V_R$						
Termination Finish:		Sn Plating (standard), Gold Plating available on request						
		Meets requirements of AEC-Q200						

CAPACITANCE AND VOLTAGE RANGE (LETTER DENOTES CASE SIZE)

Capacitance		Rated voltage (V_R) to 85°C (Voltage Code)						
µF	Code	6.3V (J)	10V (A)	16V (C)	20V (D)	25V (E)	35V (V)	50V (T)
0.10	104						A	
0.15	154						A	
0.22	224						A	
0.33	334						A	
0.47	474					A	B	
0.68	684					A	B	
1.0	105					A	A/B	
1.5	155				A		C	
2.2	225			A		B	C	
3.3	335		A	A	B		C	
4.7	475	A	A	A/B			C	D
6.8	685	A	A	A/B		C	D	
10	106	A	B	B		C	D	
15	156	B	B	B	C		D	
22	226	B	B	C		D	D	
33	336	B	C	C	D	D	E	
47	476	C	C	D				
68	686	C	D	D				
100	107	D	D					
150	157	D						

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RATINGS & PART NUMBER REFERENCE

AVX Part No.	Case Size	Capacitance (µF)	Rated Voltage (V)	DCL (µA) Max.	DF % Max.	ESR Max. (Ω) @ 100 kHz
Voltage Rating	6.3 v @ 85°C (3 v @ 175°C) / J					
THJA475*006#JN	A	4.7	6.3	0.5	6	6
THJA685*006#JN	A	6.8	6.3	0.5	4.5	2.6
THJA106*006#JN	A	10	6.3	0.6	4.5	2.2
THJB156*006#JN	B	15	6.3	0.9	6	2.5
THJB226*006#JN	B	22	6.3	1.4	6	2.5
THJB336*006#JN	B	33	6.3	1.9	6	1.7
THJC476*006#JN	C	47	6.3	3.0	6	1.6
THJC686*006#JN	C	68	6.3	4.3	6	1.5
THJD107*006#JN	D	100	6.3	6	4.5	0.4
THJD157*006#JN	D	150	6.3	9.5	6	0.9
Voltage Rating	10 v @ 85°C (5 v @ 175°C) / A					
THJA335*010#JN	A	3.3	10	0.5	6	5.5
THJA475*010#JN	A	4.7	10	0.5	4.5	2.9
THJA685*010#JN	A	6.8	10	0.7	4.5	2.6
THJB106*010#JN	B	10	10	1	4.5	1.8
THJB156*010#JN	B	15	10	1.5	4.5	1.5
THJB226*010#JN	B	22	10	2.2	6	2.4
THJC336*010#JN	C	33	10	3.3	6	1.6
THJC476*010#JN	C	47	10	4.7	4.5	0.5
THJD686*010#JN	D	68	10	6.8	4.5	0.4
THJD107*010#JN	D	100	10	10	6	0.9
Voltage Rating	16 v @ 85°C (8 v @ 175°C) / C					
THJA225*016#JN	A	2.2	16	0.5	6	6.5
THJA335*016#JN	A	3.3	16	0.5	6	3.7
THJA475*016#JN	A	4.7	16	0.8	4.5	2.9
THJB475*016#JN	B	4.7	16	0.8	6	3.5
THJA685*016#JN	A	6.8	16	1.1	6	2.6
THJB685*016#JN	B	6.8	16	1.1	6	2.5
THJB106*016#JN	B	10	16	1.6	6	2.8
THJB156*016#JN	B	15	16	2.4	6	2.0
THJC226*016#JN	C	22	16	3.5	6	1.6
THJC336*016#JN	C	33	16	5.3	6	0.6
THJD476*016#JN	D	47	16	7.5	6	0.9
THJD686*016#JN	D	68	16	10.9	4.5	0.9

AVX Part No.	Case Size	Capacitance (µF)	Rated Voltage (V)	DCL (µA) Max.	DF % Max.	ESR Max. (Ω) @ 100 kHz
Voltage Rating	20 v @ 85°C (10 v @ 175°C) / D					
THJA155*020#JN	A	1.5	20	0.5	6	6.5
THJB335*020#JN	B	3.3	20	0.7	6	3
THJC156*020#JN	C	15	20	3.0	6	1.7
THJD336*020#JN	D	33	20	6.6	6	0.9
Voltage Rating	25 v @ 85°C (12 v @ 175°C) / E					
THJA474*025#R	A	0.47	25	0.5	4	14
THJA684*025#JN	A	0.68	25	0.5	4	10
THJA105*025#JN	A	1.0	25	0.5	3	5.2
THJB225*025#JN	B	2.2	25	0.6	6	4.5
THJC685*025#JN	C	6.8	25	1.7	6	2
THJC106*025#JN	C	10	25	2.5	6	1.8
THJD226*025#JN	D	22	25	5.5	6	0.9
THJD336*025#JN	D	33	25	8.3	6	0.5
Voltage Rating	35 v @ 85°C (17 v @ 175°C) / V					
THJA104*035#JN	A	0.1	35	0.5	4	24
THJA154*035#JN	A	0.15	35	0.5	4	21
THJA224*035#JN	A	0.22	35	0.5	4	18
THJA334*035#JN	A	0.33	35	0.5	4	15
THJB474*035#JN	B	0.47	35	0.5	4	10
THJB684*035#JN	B	0.68	35	0.5	4	8
THJA105*035#JN	A	1.0	35	0.5	4	6.6
THJB105*035#JN	B	1.0	35	0.5	4	6.5
THJC155*035#JN	C	1.5	35	0.5	6	4.5
THJC225*035#JN	C	2.2	35	0.8	6	3.5
THJC335*035#JN	C	3.3	35	1.2	6	2.5
THJC475*035#JN	C	4.7	35	1.6	6	2.2
THJD685*035#JN	D	6.8	35	2.4	6	1.3
THJD106*035#JN	D	10	35	3.5	6	1
THJD156*035#JN	D	15	35	5.3	6	0.9
THJD226*035#JN	D	22	35	7.7	6	0.6
THJE336*035#JN	E	33	35	11.6	6	0.5
Voltage Rating	50 v @ 85°C (25 v @ 150°C) / T					
THJD475*050#JN	D	4.7	50	2.4	6	0.9

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.

* Insert K for ±10% and M for ±20%

NOTE: AVX reserves the right to supply higher specification parts in the same case size, to the same reliability standards.

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 – Insert H for 7" reel and K for 13" reel

For parametric information on development codes, please contact your local AVX sales office.