CHIP TANTALUM CAPACITORS

1. HOW TO ORDER

H	G	C	106	M	035	T
Product Type	Feature	Case Size	Capacitance Code	Tolerance	DC Voltage	Packing Type
H Means HKT Brand	G : General Purpose L:High Frequency and Low ESR	A3.2*1.6 B3.5*2.8 C6.0*3.2 D7.3*4.3 E7.3*4.3 V7.3*6.1	106=10uF	K=±10% M=±20%	004=4V 006=6.3V 010=10V 020=20V 025=25V 035=35V 050=50V	T=Tape Reel

2. TECHNICAL SPECIFICATIONS

Technical Data:		All technical data relate to an ambient temperature of +25℃								
Capacitance Range:		0.1 μF to 2200 μF								
Capacitance Tolerance:		±10%; ±20%								
Rated Voltage (V_R)	+85℃:	2.5	4	6.3	10	16	20	25	35	50
Category Voltage (V_C)	+125℃:	1.7	2.7	4	7	10	13	17	23	33
Surge Voltage (V_S)	+85℃:	3.3	5.2	8	13	20	26	32	46	65
Surge Voltage (V_S)	+125℃:	2.2	3.4	5	8	13	16	20	28	40
Temperature Range:		-55℃ to +125℃								
Reliability:		1% per 1000 hours at 85℃, V_R with 0.1Ω/V_R series impedance, 60% confidence level								
Qualification:		CECC 30801 - 005 issue 2 EIA 535BAAC								
		Meets requirements of AEC-Q200								

3. CAPACITANCE AND RATED VOLTAGE, V_R (VOLTAGE CODE) RANGE (LETTER DENOTES CASE SIZE)

Capacitance		Rated voltage DC (V_R) to 85℃								
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	B
0.47	474							A	A/B	B/C
0.68	684						A	A	A/B	B/C
1.0	105					A A	A A	A	A/B	B/C
1.5	155				A	A/B	A/B	A/B	A/B/C	C/D
2.2	225			A	A			A/B	A/B/C	C/D
3.3	335			A A	A	A/B	A/B	A/B/C	B/C	C/D
4.7	475		A	A/B	A/B	A/B	A/B/C	B/C	B/C/D	D
6.8	685		A		A/B	A/B/C	A/B/C	B/C	C/D	D
10	106		A	A/B	A/B/C	A/B/C	B/C	C/D	C/D/E	D/E
15	156		A/B	A/B	A/B/C	A(M)/B/C	B/C/D	C/D	C/D	E
22	226		A	A/B/C	A/B/C	B/C/D	B/C/D	C/D	D/E	V
33	336		A/B	A/B/C	A/B/C/D	B/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	E/V	
68	686	A	B/C	B/C/D	B/C/D	C/D	D/E	E/V	V(M)	
100	107	B B	B/C B/C	B/C/D	B(M)/C/D/E	D/E	D/E/V	V		
150	157	B/D	B(M)/C/D	C/D	C/D/E D/E	D/E/V	E/V			
220	227			C/D/E		D/E/V				
330	337	D	C/D/E	C/D/E	D/E/V	E/V				
470	477	C/D	D/E	D/E/V	E/V					
680	687	D/E	D/E	E/V	V					
1000	108	D(M)/E	D/E/V	V(M)						
1500	158	D/E/V	E/V(M)							
2200	228	V								

Non preferred Ratings - not recommended for new designs, higher voltage or smaller case size substitution are offered.

Developmental Ratings - subject to change.

Released codes (M tolerance only)

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

4. 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)
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)
V	7361-38	7.30(0.287)	6.10(0.240)	3.45±0.30 (0.136±0.012)	3.10(0.120)	1.40(0.055)	4.40(0.173)

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

For part marking see page 157

5. RATINGS & PART NUMBER REFERENCE

HKT Part No.	Case Size	Capacitance (μF)	Rated Voltage (V)	DCL (μA) Max.	DF % Max.	ESR Max.(Ω) @100kHz
A476*002	A	47	2.5	0.9	6	3
A686*002	A	68	2.5	1.4	8	1.5
B107*002	B	100	2.5	2.5	8	1.4
B157*002	B	150	2.5	3	10	1.6
B227*002	B	220	2.5	4.4	16	1.6
D227*002	D	220	2.5	5.5	8	0.3
D337*002	D	330	2.5	8.2	8	0.3
C477*002	C	470	2.5	9.4	12	0.2
D477*002	D	470	2.5	11.6	8	0.2
D687*002	D	680	2.5	17	16	0.2
E687*002	E	680	2.5	17	10	0.2
D108*002	D	1000	2.5	25	20	0.2
E108*002	E	1000	2.5	20	14	0.4
D158*002	D	1500	2.5	37.5	60	0.2
E158*002	E	1500	2.5	37	20	0.2
V158*002	V	1500	2.5	30	20	0.2
V228*002	V	2200	2.5	55	50	0.2
A336*004	A	33	4	1.3	6	3
A476*004	A	47	4	1.9	8	2.6
B686*004	B	68	4	2.7	6	1.8
B107*004	B	100	4	4	8	0.9
B157*004	B	150	4	6	8	1.5
C157*004	C	150	4	6	6	0.3
B227*004	B	220	4	8.8	12	1.1
C227*004	C	220	4	8.8	8	1.2
D227*004	D	220	4	8.8	8	0.9
C337*004	C	330	4	13.2	8	0.9
D337*004	D	330	4	13.2	8	0.9
D477*004	D	470	4	18.8	12	0.9
E477*004	E	470	4	18.8	10	0.5
D687*004	D	680	4	27.2	14	0.5
E687*004	E	680	4	27.2	14	0.9
D108*004	D	1000	4	40	60	0.2
E108*004	E	1000	4	40	14	0.4
V108*004	V	1000	4	40	16	0.4
E158*004	E	1500	4	60	30	0.2
V158*004	V	1500	4	60	30	0.2
A106*006	A	10	6.3	0.6	6	4
A156*006	A	15	6.3	0.9	6	3.5
A226*006	A	22	6.3	1.4	6	3
A336*006	A	33	6.3	2.1	8	2.5
A476*006	A	47	6.3	2.8	10	1.6
B476*006	B	47	6.3	3	6	2
C476*006	C	47	6.3	3	6	1.6
B686*006	B	68	6.3	4	8	0.9
C686*006	C	68	6.3	4.3	6	1.5
B107*006	B	100	6.3	6.3	10	1.7
C107*006	C	100	6.3	6.3	6	0.9
C157*006	C	150	6.3	9.5	6	1.3
D157*006	D	150	6.3	9.5	6	0.9
C227*006	C	220	6.3	13.9	8	1.2
D227*006	D	220	6.3	13.9	8	0.9
E227*006	E	220	6.3	13.9	8	0.9
D337*006	D	330	6.3	20.8	8	0.4
E337*006	E	330	6.3	20.8	8	0.4
D477*006	D	470	6.3	28	12	0.4
E477*006	E	470	6.3	28	10	0.4

HKT Part No.	Case Size	Capacitance (μF)	Rated Voltage (V)	DCL (μA) Max.	DF % Max.	ESR Max.(Ω) @100kHz
V477*006	V	470	6.3	28	10	0.4
E687*006	E	680	6.3	42.8	10	0.5
V687*006	V	680	6.3	42.8	10	0.5
V108*006	V	1000	6.3	63	16	0.4
A475*010	A	4.7	10	0.5	6	5
A685*010	A	6.8	10	0.7	6	4
A106*010	A	10	10	1	6	3
A156*010	A	15	10	1.5	6	3.2
B156*010	B	15	10	1.5	6	2.8
A226*010	A	22	10	2.2	8	3
B226*010	B	22	10	2.2	6	2.4
A336*010	A	33	10	3.3	8	1.7
B336*010	B	33	10	3.3	6	1.8
C336*010	C	33	10	3.3	6	1.6
B476*010	B	47	10	4.7	8	1
C476*010	C	47	10	4.7	6	1.2
B686*010	B	68	10	6.8	6	1.4
C686*010	C	68	10	6.8	6	1.3
B107*010	B	100	10	10	8	1.4
C107*010	C	100	10	10	8	1.2
D107*010	D	100	10	10	6	0.9
C157*010	C	150	10	15	8	0.9
D157*010	D	150	10	15	6	0.9
E157*010	E	150	10	15	8	0.9
D227*010	D	220	10	22	8	0.5
E227*010	E	220	10	22	8	0.5
D337*010	D	330	10	33	8	0.9
E337*010	E	330	10	33	8	0.9
V337*010	V	330	10	33	10	0.9
E477*010	E	470	10	47	10	0.5
V477*010	V	470	10	47	10	0.5
A225*016	A	2.2	16	0.5	6	6.5
A335*016	A	3.3	16	0.5	6	5
B335*016	B	3.3	16	0.5	6	4.5
A475*016	A	4.7	16	0.8	6	4
B475*016	B	4.7	16	0.8	6	3.5
A685*016	A	6.8	16	1.1	6	3.5
B685*016	B	6.8	16	1.1	6	2.5
A106*016	A	10	16	1.6	8	3
B106*016	B	10	16	1.6	6	2.8
C106*016	C	10	16	1.6	6	2
A156*016	A	15	16	2.4	6	2
B156*016	B	15	16	2.4	6	2.5
C156*016	C	15	16	2.4	6	1.8
B226*016	B	22	16	3.5	6	2.3
C226*016	C	22	16	3.5	6	1.6
D226*016	D	22	16	3.5	6	1.1
B336*016	B	33	16	5.3	8	2.1
C336*016	C	33	16	5.3	6	1.5
D336*016	D	33	16	5.3	6	0.9
C476*016	C	47	16	7.5	6	1.4
D476*016	D	47	16	7.5	6	0.9
C686*016	C	68	16	10.9	6	1.3
D686*016	D	68	16	10.9	6	0.9
D107*016	D	100	16	16	6	0.9
E107*016	E	100	16	16	6	0.9
D157*016	D	150	16	24	6	0.9

RATINGS & PART NUMBER REFERENCE

HKT Part No.	Case Size	Capacitance (μF)	Rated Voltage (V)	DCL (μA) Max.	DF % Max.	ESR Max. (Ω) @100kHz
E157*016	E	150	16	24	8	0.3
V157*016	V	150	16	24	8	0.5
E227*016	E	220	16	35.2	10	0.5
V227*016	V	220	16	35.2	8	0.9
A105*020	A	1	20	0.5	4	9
A155*020	A	1.5	20	0.5	6	6.5
A225*020	A	2.2	20	0.5	6	5.3
B225*020	B	2.2	20	0.5	6	3.5
A335*020	A	3.3	20	0.7	6	4.5
B335*020	B	3.3	20	0.7	6	3
A475*020	A	4.7	20	0.9	6	4
B475*020	B	4.7	20	0.9	6	3
A685*020	A	6.8	20	1.4	6	2.5
B685*020	B	6.8	20	1.4	6	2.5
C685*020	C	6.8	20	1.4	6	2
B106*020	B	10	20	2	6	2.1
C106*020	C	10	20	2	6	1.9
B156*020	B	15	20	3	6	2
C156*020	C	15	20	3	6	1.7
B226*020	B	22	20	4.4	6	1.8
C226*020	C	22	20	4.4	6	1.6
D226*020	D	22	20	4.4	6	0.9
C336*020	C	33	20	6.6	6	1.5
D336*020	D	33	20	6.6	6	0.9
C476*020	C	47	20	9.4	6	0.9
D476*020	D	47	20	9.4	6	0.9
E476*020	E	47	20	9.4	6	0.9
D686*020	D	68	20	13.6	6	0.9
E686*020	E	68	20	13.6	6	0.9
D107*020	D	100	20	20	6	0.9
E107*020	E	100	20	20	6	0.9
V107*020	V	100	20	20	8	0.9
E157*020	E	150	20	30	8	0.3
V157*020	V	150	20	30	8	0.5
A474*025	A	0.47	25	0.5	4	14
A684*025	A	0.68	25	0.5	4	10
A105*025	A	1	25	0.5	4	8
A155*025	A	1.5	25	0.5	6	7.5
B155*025	B	1.5	25	0.5	6	5
A225*025	A	2.2	25	0.6	6	7
B225*025	B	2.2	25	0.6	6	4.5
A335*025	A	3.3	25	0.8	6	3.7
B335*025	B	3.3	25	0.8	6	3.5
B475*025	B	4.7	25	1.2	6	2.8
B685*025	B	6.8	25	1.7	6	2.8
C685*025	C	6.8	25	1.7	6	2
C106*025	C	10	25	2.5	6	1.8
D106*025	D	10	25	2.5	6	1.2
C156*025	C	15	25	3.8	6	1.6
D156*025	D	15	25	3.8	6	1
C226*025	C	22	25	5.5	6	1.4
D226*025	D	22	25	5.5	6	0.9
D336*025	D	33	25	8.3	6	0.9
E336*025	E	33	25	8.3	6	0.9
D476*025	D	47	25	11.8	6	0.9
E476*025	E	47	25	11.8	6	0.9
E686*025	E	68	25	17	6	0.9
V686*025	V	68	25	17	6	0.9
V107*025	V	100	25	25	8	0.4
A104*035	A	0.1	35	0.5	4	24

HKT Part No.	Case Size	Capacitance (μF)	Rated Voltage (V)	DCL (μA) Max.	DF % Max.	ESR Max. (Ω) @100kHz
A154*035	A	0.15	35	0.5	4	21
A224*035	A	0.22	35	0.5	4	18
A334*035	A	0.33	35	0.5	4	15
A474*035	A	0.47	35	0.5	4	12
B474*035	B	0.47	35	0.5	4	10
A684*035	A	0.68	35	0.5	4	8
B684*035	B	0.68	35	0.5	4	8
A105*035	A	1	35	0.5	4	7.5
B105*035	B	1	35	0.5	4	6.5
A155*035	A	1.5	35	0.5	6	7.5
B155*035	B	1.5	35	0.5	6	5.2
C155*035	C	1.5	35	0.5	6	4.5
A225*035	A	2.2	35	0.8	6	4.5
B225*035	B	2.2	35	0.8	6	4.2
C225*035	C	2.2	35	0.8	6	3.5
B335*035	B	3.3	35	1.2	6	3.5
C335*035	C	3.3	35	1.2	6	2.5
B475*035	B	4.7	35	1.2	6	3.1
C475*035	C	4.7	35	1.6	6	2.2
D475*035	D	4.7	35	1.6	6	1.5
C685*035	C	6.8	35	2.4	6	1.8
D685*035	D	6.8	35	2.4	6	1.3
C106*035	C	10	35	3.5	6	1.6
D106*035	D	10	35	3.5	6	1
E106*035	E	10	35	3.5	6	0.9
C156*035	C	15	35	5.3	6	1.4
D156*035	D	15	35	5.3	6	0.9
D226*035	D	22	35	7.7	6	0.9
E226*035	E	22	35	7.7	6	0.9
D336*035	D	33	35	11.6	6	0.9
E336*035	E	33	35	11.6	6	0.9
V336*035	V	33	35	11.6	6	500
E476*035	E	47	35	16.5	6	0.9
V476*035	V	47	35	16.5	6	0.4
V686 * 035	V	68	35	23.8	6	0.5
A104*050	A	0.1	50	0.5	4	22
A154*050	A	0.15	50	0.5	4	15
B154*050	B	0.15	50	0.5	4	17
A224*050	A	0.22	50	0.5	4	18
B224*050	B	0.22	50	0.5	4	14
B334*050	B	0.33	50	0.5	4	12
B474*050	B	0.47	50	0.7	4	9.5
C474*050	C	0.47	50	0.5	4	8
B684*050	B	0.68	50	0.5	4	8
C684*050	C	0.68	50	0.5	4	7
B105*050	B	1	50	0.5	4	7
C105*050	C	1	50	0.5	4	5.5
C155*050	C	1.5	50	0.8	6	4.5
D155*050	D	1.5	50	0.8	6	4
C225*050	C	2.2	50	1.1	6	3
D225*050	D	2.2	50	1.1	6	2.5
C335*050	C	3.3	50	1.7	6	2.5
D335*050	D	3.3	50	1.7	6	2
D475*050	D	4.7	50	2.4	6	1.4
D685*050	D	6.8	50	3.4	6	1
D106*050	D	10	50	5	6	0.8
E106*050	E	10	50	5	6	1
E156*050	E	15	50	7.5	6	0.6
V226*050	V	22	50	11	8	0.6