

# TWA-E Series



## CECC Wet Electrolytic Tantalum Capacitor



The TWA-E series is an axial leaded wet electrolytic tantalum capacitor manufactured in EU in accordance with CECC 30 202-001. High capacitance cathode system allows high level of CV (Capacitance/Voltage) in DSCC compatible case sizes.

This design includes a welded tantalum can and header assembly that provides a hermetic seal to withstand harsh shock and vibration requirements of MIL-PRF-39006.

Customized capacitance and voltage packages are possible and welcomed. Contact the factory about design possibilities beyond those contained in this datasheet.

### OUTLINE DIMENSIONS



### CASE DIMENSIONS: millimeters (inches)

DSCC Case Size	AVX Case Size	L +0.79 (0.031) -0.41 (0.016)	D		E ±6.35 (0.250)
			Without Insulating Sleeve ±0.41 (0.016)	With Insulating Sleeve Max	
T1	A	11.51 (0.453)	4.78 (0.188)	5.56 (0.219)	38.10 (1.500)
T2	B	16.28 (0.641)	7.14 (0.281)	7.92 (0.312)	57.15 (2.250)
T3	D	19.46 (0.766)	9.52 (0.375)	10.31 (0.406)	57.15 (2.250)
T4	E	26.97 (1.062)	9.52 (0.375)	10.31 (0.406)	57.15 (2.250)

### VOLTAGE RATINGS (Operating Temperature -55°C to 125°C)

Voltage (DC)								
Rated Voltage: (V <sub>R</sub> )	85°C	25	30	50	60	75	100	125
Derated Voltage: (V <sub>C</sub> )	125°C	15	20	30	40	50	65	85
Surge Voltage: (V <sub>S</sub> )	85°C	28.8	34.5	57.5	69	86.3	115	144



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### HOW TO ORDER

#### AVX PART NUMBER:

<b>TWA</b>	<b>D</b>	<b>337</b>	<b>*</b>	<b>050</b>	<b>□</b>	<b>B</b>	<b>E</b>	<b>Z</b>	<b>0</b>	<b>^</b>	<b>00</b>
Type	Case Size	Capacitance Code	Capacitance Tolerance	Voltage Code	Insulation Sleeve	Packaging	Inspection Level	Reliability	Qualification Level	Termination Finish	Custom Test Options
		pF code: 1st two digits represent significant figures 3rd digit represents multiplier (number of zeros to follow)	K = ±10% M = ±20%		C = Without Sleeve S = With Sleeve	B = Tray Pack	E = In accordance with CECC testing	Z = Non-ER	0 = N/A	0 = Sn/Pb 60/40 7 = Matte tin	00 = Standard

Not RoHS Compliant



### RIPPLE CURRENT MULTIPLIERS vs. Frequency, temperature and applied voltage<sup>1/2/</sup>

Frequency of Applied Ripple Current		120Hz				800Hz				1kHz			
Ambient Still Air Temperature (°C)		≤55	85	105	125	≤55	85	105	125	≤55	85	105	125
% of	100%	0.60	0.39	–	–	0.71	0.43	–	–	0.72	0.45	–	–
85°C	90%	0.60	0.46	–	–	0.71	0.55	–	–	0.72	0.55	–	–
Rated	80%	0.60	0.52	0.35	–	0.71	0.62	0.42	–	0.72	0.62	0.42	–
Peak	70%	0.60	0.58	0.44	–	0.71	0.69	0.52	–	0.72	0.70	0.52	–
Voltage	66-2/3%	0.60	0.60	0.46	0.27	0.71	0.71	0.55	0.32	0.72	0.72	0.55	0.32

Frequency of Applied Ripple Current		10kHz				40kHz				100kHz			
Ambient Still Air Temperature (°C)		≤55	85	105	125	≤55	85	105	125	≤55	85	105	125
% of	100%	0.88	0.55	–	–	1.00	0.63	–	–	1.10	0.69	–	–
85°C	90%	0.88	0.67	–	–	1.00	0.77	–	–	1.10	0.85	–	–
Rated	80%	0.88	0.76	0.52	–	1.00	0.87	0.59	–	1.10	0.96	0.65	–
Peak	70%	0.88	0.85	0.64	–	1.00	0.97	0.73	–	1.10	1.07	0.80	–
Voltage	66-2/3%	0.88	0.88	0.68	0.40	1.00	1.00	0.77	0.45	1.10	1.10	0.85	0.50

1/ At 125°C the rated voltage of the capacitors decreases to 66 2/3 of the 85°C rated voltage.

2/ The peak of the applied ac ripple voltage plus the applied dc voltage must not exceed the dc voltage rating of the capacitors.

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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						
$\mu\text{F}$	Code	25V	30V	50V	60V	75V	100V	125V
15	156							A*
22	226						A*	
33	336					A*		
47	476			A*				B*
68	686	A					B	
100	107				B	B		
120	127							D*
150	157			B			D	E*
220	227		B			D*,E	E	
330	337	B		D*,E		E	E*	
470	477			D,E		E		
560	567	D*						
680	687	E	D	E				
750	757	D,E	D			E	E*	
1000	108	D,E		D*				
1500	158	E						
4700	478	E						

Released codes

Engineering samples - please contact manufacturer

\*Codes under development

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### RATINGS & PART NUMBER REFERENCE

AVX Part Number	Cap (µF) 25°C at 120Hz	DC Rated Voltage (V) at 85°C	ESR Max (ohms) at 120Hz	DC Leakage max (µA)		TANG δ Max +25°C (%)	Impedance max (Ohms) -55°C at 120Hz	Maximum Capacitance Change (%)			Case Size	
				+25°C	+85 & +125°C			-55°C	+85°C	+125°C	AVX	DSCC
<b>25 VDC at 85°C    15 VDC at 125°C</b>												
TWAA686*025□BEZ0^00	68	25	2.5	0.6	3	12	45	-40	12	15	A	T1
TWAB337*025□BEZ0^00	330	25	1.3	2	20	30	25	-60	10	15	B	T2
TWAE687*025□BEZ0^00	680	25	0.75	3	12	45	12	-50	8	15	E	T4
TWAD757*025□BEZ0^00	750	25	1	3	25	45	15	-50	8	15	D	T3
TWAE757*025□BEZ0^00	750	25	0.75	3.5	16	50	9	-55	10	18	E	T4
TWAD108*025□BEZ0^00	1000	25	1	4	30	45	15	-50	8	15	D	T3
TWAE108*025□BEZ0^00	1000	25	0.7	4	20	60	9	-55	10	18	E	T4
TWAE158*025□BEZ0^00	1500	25	0.5	6	24	65	7	-65	15	20	E	T4
TWAE478*025□BEZ0^00	4700	25	0.25	18	92	90	1.8	-74	32	34	E	T4
<b>30 VDC at 85°C    20 VDC at 125°C</b>												
TWAB227*030□BEZ0^00	220	30	2	1.9	10	15	30	-40	8	15	B	T2
TWAD687*030□BEZ0^00	680	30	1	3.3	25	45	15	-50	8	15	D	T3
TWAD757*030□BEZ0^00	750	30	1	3.6	30	45	15	-50	8	15	D	T3
<b>50 VDC at 85°C    30 VDC at 125°C</b>												
TWAA476*050□BEZ0^00	47	50	2	1	5	9	35	-25	8	15	A	T1
TWAB157*050□BEZ0^00	150	50	2	2	10	16	25	-50	8	15	B	T2
TWAD337*050□BEZ0^00	330	50	0.85	3	25	25	15	-50	8	15	D	T3
TWAE337*050□BEZ0^00	330	50	0.8	2.5	25	24	15	-50	8	15	E	T4
TWAD477*050□BEZ0^00	470	50	1	3	25	35	11	-50	8	15	D	T3
TWAE477*050□BEZ0^00	470	50	0.75	3	30	32	10	-50	8	15	E	T4
TWAE687*050□BEZ0^00	680	50	0.7	5	40	42	8	-58	10	20	E	T4
TWAD108*050□BEZ0^00	1000	50	1.2	15	125	100	15	-90	100	140	D	T3
<b>60 VDC at 85°C    40 VDC at 125°C</b>												
TWAB107*060□BEZ0^00	100	60	2.5	1.7	10	12	30	-40	8	15	B	T2
<b>75 VDC at 85°C    50 VDC at 125°C</b>												
TWAA336*075□BEZ0^00	33	75	2.5	1	5	8	66	-25	5	9	A	T1
TWAB107*075□BEZ0^00	100	75	2.5	2	10	12	24	-35	6	10	B	T2
TWAD227*075□BEZ0^00	220	75	1.2	3	30	24	20	-45	6	10	D	T3
TWAE227*075□BEZ0^00	220	75	1.1	2.5	30	22	20	-50	6	10	E	T4
TWAE337*075□BEZ0^00	330	75	1	3	40	30	12	-50	6	10	E	T4
TWAE477*075□BEZ0^00	470	75	0.9	5	50	38	12	-55	6	10	E	T4
TWAE757*075□BEZ0^00	750	75	0.7	12	120	60	10	-40	20	30	E	T4
<b>100 VDC at 85°C    65 VDC at 125°C</b>												
TWAA226*100□BEZ0^00	22	100	3.5	1	5	7	125	-18	3	10	A	T1
TWAB686*100□BEZ0^00	68	100	2.5	2	10	13	37	-30	4	12	B	T2
TWAD157*100□BEZ0^00	150	100	1.6	3	25	22	22	-35	6	12	D	T3
TWAE227*100□BEZ0^00	220	100	1.2	5	50	24	15	-40	6	12	E	T4
TWAE757*100□BEZ0^00	750	100	0.7	20	200	45	10	-40	20	50	E	T4

All technical data relates to an ambient temperature of +25°C. Capacitance and DF are measured at 120Hz, 0.5RMS with DC bias of 2.2V. DCL is measured at rated voltage after 5 minutes.

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