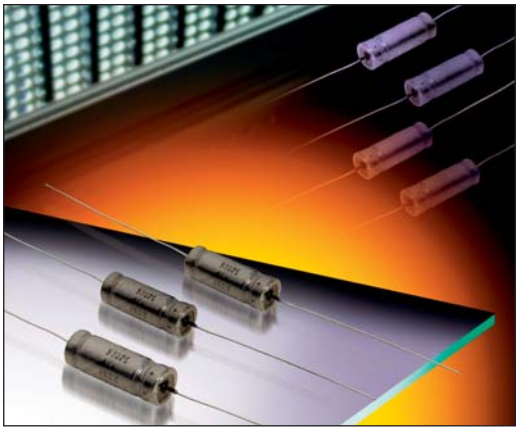
TWA Series – DSCC 93026

TWA Wet Electrolytic Tantalum Capacitor

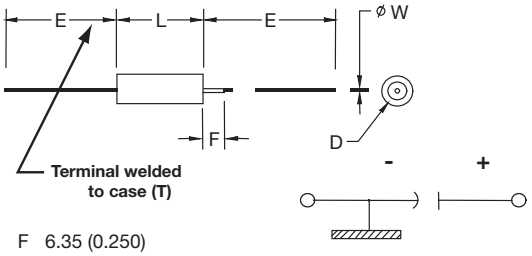


The TWA series is an axial leaded wet electrolytic tantalum capacitor and represents a new level of high CV (capacitance/voltage) previously unavailable in this technology. TWA incorporates a novel, very high capacitance cathode system that allows for higher CV designs, well beyond values specified in the Mil-PRF-39006 drawing.

TWA products are listed in DSCC 93026, which includes new high capacitance/voltage ratings. This design includes a welded tantalum can and header assembly that provides a hermetic seal to withstand harsh shock and vibration requirements of 39006. Wet tantalums do not require the same derating as solid tantalums. AVX recommends derating components by only 20% in order to enhance reliability.

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

OUTLINE DIMENSIONS



F 6.35 (0.250)
W 0.64 +0.05
(.025 +.002)
T 2.380 (.094)

CASE DIMENSIONS: millimeters (inches)

DSCC Case Size	AVX Case Size	L +0.79 (0.031) -0.41 (0.016)	D Without Insulating Sleeve ±0.41 (0.016)	D With Insulatiing Sleeve Max	E ±6.35 (0.250)
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 -55ºC to 125ºC)

Voltage (DC)								
Rated Voltage: (Ur)	85ºC	25	30	50	60	75	100	125
Derated Voltage: (Uc)	125ºC	15	20	30	40	50	65	85
Surge Voltage: (Us)	85ºC	28.8	34.5	57.5	69	86.3	115	144

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TWA Wet Electrolytic Tantalum Capacitor

HOW TO ORDER

AVX PART NUMBER:

TWA	D	227	*	035	□	B	S	Z	0	0	00
Type	**Case Size**	**Capacitance Code** pF code: 1st two digits represent significant figures 3rd digit represents multiplier (number of zeros to follow)	**Capacitance Tolerance** K = ±10% M = ±20%	**Voltage Code**	**Insulation Sleeve** C = Without Sleeve S = With Sleeve	**Packaging** B = Tray Pack	**Inspecition Level** S = Std. Conformance D = DSCC L = Group A	**Reliability** Z = Non-ER	**Qualification Level** 0 = COTS-Plus 9 = SRC9000	**Termination Finish** 0 = Sn/Pb 60/40	**Custom Test Options** 00 = Standard

Not RoHS Compliant

DSCC PART IDENTIFICATION NUMBER (PIN):

93026	-XX	*	□
Drawing Number	**Dash Number** See Rating Tables	**Capacitance Tolerance** K = ±10% M = ±20%	**Insulation Sleeve** U = Without Sleeve S = With Sleeve

Not RoHS Compliant

SPACE LEVEL OPTIONS TO SRC9000*:

TWA	D	227	*	035	□	B	L	Z	9	0	00
Type	**Case Size**	**Capacitance Code** pF code: 1st two digits represent significant figures 3rd digit represents multiplier (number of zeros to follow)	**Capacitance Tolerance** M = ±20% K = ±10%	**Voltage Code**	**Insulation Sleeve** C = Without Sleeve S = With Sleeve	**Packaging** B = Tray Pack	**Inspecition Level** L ≠ Group A	**Reliability** Z = Non-ER	**Qualification Level** 9 - SRW9000	**Termination Finish** 0 = Sn/Pb 60/40	**Custom Test Options** 00 = Standard

Not RoHS Compliant

* Check with factory for availability and testing details

RIPPLE CURRENT MULTIPLIERS vs. Frequency, temperature and applied voltage[1/ 2/]

Frequency of Applied Ripple Current		120Hz				800Hz				1kHz			
Ambient Still Air Temperature (ºC)		≤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	–	–
85ºC	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 (ºC)		≤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	–	–
85ºC	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 125ºC the rated voltage of the capacitors decreases to 66 2/3 of the 85ºC 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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TWA Wet Electrolytic Tantalum Capacitor

RATINGS & PART NUMBER REFERENCE

AVX Part Number	DSCC Part Number	Cap (µF) 25ºC at 120Hz	DC Rated Voltage (V) at 85ºC	ESR max (ohms) at 120Hz	DC Leakage max (µA)		Impedance max (Ohms) -55ºC at 120Hz	Maximum Capacitance Change (%)			AC Ripple (mA rms) 85ºC at 40kHz	Case Size	
					+25ºC	+85ºC & 125ºC		-55ºC	+85ºC	+125ºC		AVX	DSCC
25 VDC at 85ºC 15 VDC at 125ºC													
TWAA127*025□BSZ0000	93026- 29*□	120	25	1.3	1	5	25	-42	8	12	1250	A	T1
TWAB567*025□BSZ0000	93026- 30*□	560	25	0.83	2	10	12	-65	10	15	2100	B	T2
TWAD128*025□BSZ0000	93026- 31*□	1200	25	0.65	5	20	7	-70	12	18	2600	D	T3
TWAE188*025□BSZ0000	93026- 32*□	1800	25	0.5	6	25	7	-75	12	20	3100	E	T4
TWAE228*025□BSZ0000	93026- 64*□	2200	25	0.5	10	80	10	-90	30	50	3200	E	T4
30 VDC at 85ºC 20 VDC at 125ºC													
TWAA107*030□BSZ0000	93026- 33*□	100	30	1.3	1	5	25	-38	8	12	1200	A	T1
TWAB477*030□BSZ0000	93026- 34*□	470	30	0.85	2	10	15	-65	10	18	1800	B	T2
TWAD108*030□BSZ0000	93026- 35*□	1000	30	0.7	7	25	7	-70	10	18	2500	D	T3
TWAE158*030□BSZ0000	93026- 36*□	1500	30	0.6	12	35	6	-72	10	20	3000	E	T4
50 VDC at 85ºC 30 VDC at 125ºC													
TWAA686*050□BSZ0000	93026- 37*□	68	50	1.5	1	5	35	-25	8	15	1050	A	T1
TWAB227*050□BSZ0000	93026- 38*□	220	50	0.9	2	10	17.5	-50	8	15	1800	B	T2
TWAD477*050□BSZ0000	93026- 39*□	470	50	0.75	3	25	10	-50	8	15	2100	D	T3
TWAE687*050□BSZ0000	93026- 40*□	680	50	0.7	5	40	8	-58	10	20	2750	E	T4
60 VDC at 85ºC 40 VDC at 125ºC													
TWAA476*060□BSZ0000	93026- 41*□	47	60	2	1	5	44	-25	8	12	1050	A	T1
TWAB157*060□BSZ0000	93026- 42*□	150	60	1.1	2	10	20	-40	8	15	1650	B	T2
TWAD397*060□BSZ0000	93026- 43*□	390	60	0.9	3	25	15	-60	8	15	2100	D	T3
TWAE567*060□BSZ0000	93026- 44*□	560	60	0.8	5	40	10	-58	8	15	2750	E	T4
TWAE108*060□BSZ0000	93026- 65*□	1000	60	1	12	90	20	-90	30	50	3200	E	T4
75 VDC at 85ºC 50 VDC at 125ºC													
TWAA336*075□BSZ0000	93026- 45*□	33	75	2.5	1	5	66	-25	5	9	1050	A	T1
TWAB117*075□BSZ0000	93026- 46*□	110	75	1.3	2	10	24	-35	6	10	1650	B	T2
TWAD337*075□BSZ0000	93026- 47*□	330	75	1	3	30	12	-45	6	10	2100	D	T3
TWAE477*075□BSZ0000	93026- 48*□	470	75	0.9	5	50	12	-55	6	10	2750	E	T4
100 VDC at 85ºC 65 VDC at 125ºC													
TWAA156*100□BSZ0000	93026- 49*□	15	100	3.5	1	5	125	-18	3	10	1050	A	T1
TWAB686*100□BSZ0000	93026- 50*□	68	100	2.1	2	10	37	-30	4	12	1650	B	T2
TWAD157*100□BSZ0000	93026- 51*□	150	100	1.6	3	25	22	-35	6	12	2100	D	T3
TWAE227*100□BSZ0000	93026- 52*□	220	100	1.2	5	50	15	-40	6	12	2750	E	T4
125 VDC at 85ºC 85 VDC at 125ºC													
TWAA106*125□BSZ0000	93026- 53*□	10	125	5.5	1	5	175	-15	3	10	1050	A	T1
TWAB476*125□BSZ0000	93026- 54*□	47	125	2.3	2	10	47	-25	5	12	1650	B	T2
TWAD107*125□BSZ0000	93026- 55*□	100	125	1.8	3	25	35	-35	5	12	2100	D	T3
TWAE157*125□BSZ0000	93026- 56*□	150	125	1.6	5	50	20	-35	6	12	2750	E	T4

All technical data relates to an ambient temperature of +25ºC. 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.

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