

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



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 Insulating 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 -55°C to 125°C)

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



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HOW TO ORDER

AVX PART NUMBER:

TWA	D	227	*	035	□	B	S	Z	0	0	00
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	S = Std. Conformance D = DSCC L = Group A	Z = Non-ER	0 = COTS-Plus 9 = SRC9000	0 = Sn/Pb 60/40	00 = Standard

DSCC PART IDENTIFICATION NUMBER (PIN):

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

SPACE LEVEL OPTIONS TO SRC9000*:

TWA	D	227	*	035	□	B	L	Z	9	0	00
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)	M = ±20% K = ±10%		C = Without Sleeve S = With Sleeve	B = Tray Pack	L = Group A	Z = Non-ER	9 - SRW9000	0 = Sn/Pb 60/40	00 = Standard

* 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			
		≤55	85	105	125	≤55	85	105	125	≤55	85	105	125
Ambient Still Air Temperature (°C)	% 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 Peak	80%	0.60	0.52	0.35	–	0.71	0.62	0.42	–	0.72	0.62	0.42	–
	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			
		≤55	85	105	125	≤55	85	105	125	≤55	85	105	125
Ambient Still Air Temperature (°C)	% 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 Peak	80%	0.88	0.76	0.52	–	1.00	0.87	0.59	–	1.10	0.96	0.65	–
	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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RATINGS & PART NUMBER REFERENCE

AVX Part Number	DSCC Part Number	Cap (µF) 25°C at 120Hz	DC Rated Voltage (V) at 85°C	ESR max (ohms) at 120Hz	DC Leakage max (µA)		Impedance max (Ohms) -55°C at 120Hz	Maximum Capacitance Change (%)			AC Ripple (mA rms) 85°C at 40kHz	Case Size	
					+25°C	+85°C & 125°C		-55°C	+85°C	+125°C		AVX	DSCC
25 VDC at 85°C 15 VDC at 125°C													
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 85°C 20 VDC at 125°C													
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 85°C 30 VDC at 125°C													
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 85°C 40 VDC at 125°C													
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 85°C 50 VDC at 125°C													
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 85°C 65 VDC at 125°C													
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 85°C 85 VDC at 125°C													
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 +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.

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