

TWS ELECTROLYTIC TANTALUM CAPACITOR

DLA 13017



The TWS series, built to the requirements of DLA 13017, represents a family of axial leaded wet tantalum capacitors that encompasses the high capacitance values of DLA 93026 with additional mechanical stability for increased vibration capability.

Vibration Capabilities:

Vibration: MIL-PRF-39006, MIL-STD-202, Method 204, Test Condition E, 50 g

Random Vibration: MIL-PRF-39006, MIL-STD-202, Method 214, Test condition II- G, 27.78 g

Shock: MIL-PRF-39006, MIL-STD-202, Method 213, Condition D, 500 g

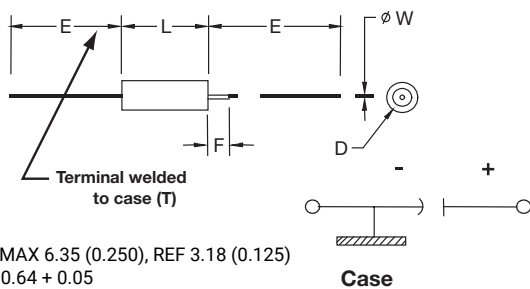
Components built to DLA 13017 also see enhanced thermal shock testing with an increase from the standard 30 cycles to 300 cycles.

In addition, this family includes reverse voltage testing in accordance with MIL-PRF- 39006, with a maximum dc potential of -3 V.

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

Operating Temperature -55°C to 125°C

OUTLINE DIMENSIONS



- F MAX 6.35 (0.250), REF 3.18 (0.125)
- W 0.64 + 0.05 (0.025 + 0.002)
- T 2.380 (0.094)

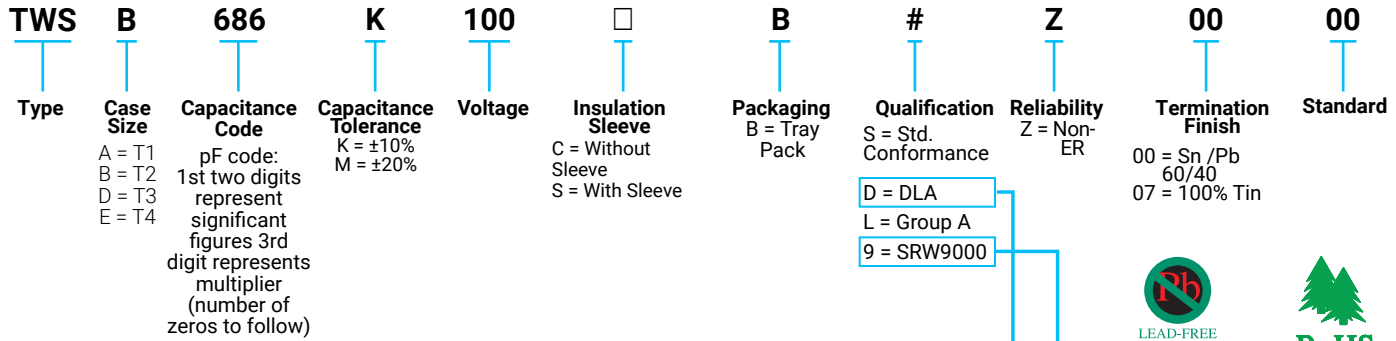
CASE DIMENSIONS: millimeters (inches)

DLA Case Size	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)

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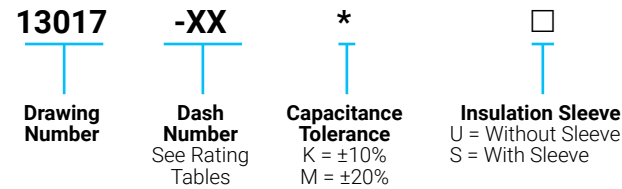
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HOW TO ORDER PART NUMBER:

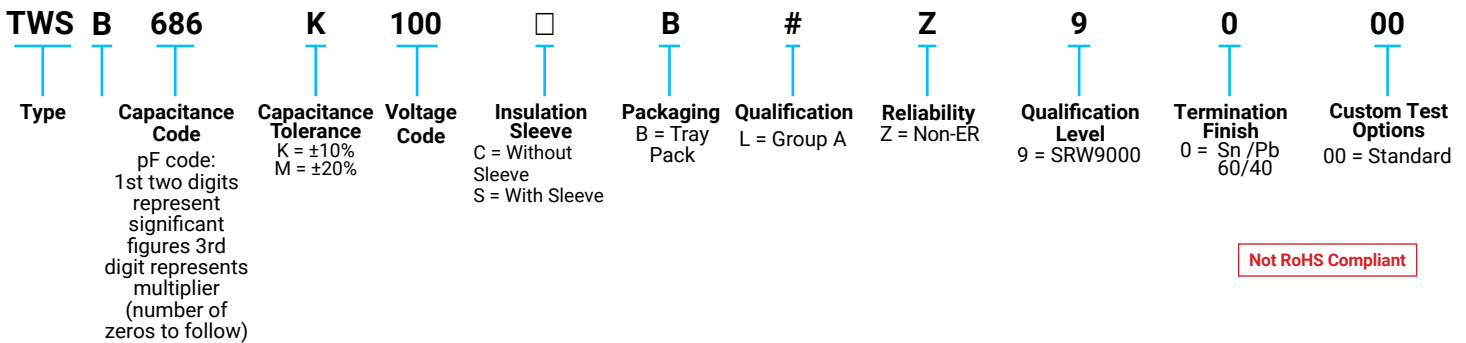


For RoHS compliant products, please select correct termination style.

DLA PART IDENTIFICATION NUMBER (PIN):



SPACE LEVEL OPTIONS TO SRW9000*:



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 (°C)	≤55	85	105	125	≤55	85	105	125	≤55	85	105	125
% of 85°C Rated Peak Voltage	100%	0.60	0.39	-	-	0.71	0.43	-	-	0.72	0.45	-	-
	90%	0.60	0.46	-	-	0.71	0.55	-	-	0.72	0.55	-	-
	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	-
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 85°C Rated Peak Voltage	100%	0.88	0.55	-	-	1.00	0.63	-	-	1.10	0.69	-	-
	90%	0.88	0.67	-	-	1.00	0.77	-	-	1.10	0.85	-	-
	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	-
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

Part Number	DLA Part Number	Cap (µF) 25°C at 120Hz	DC Rated Voltage (V) at 85°C	DF max. (%) at 120Hz	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		KYOCERA AVX	DLA
25 VDC at 85°C 15 VDC at 125°C														
TWSA127*025□B#Z0000	13017-01*□	120	25	14.1	1.3	1	5	25	-42	8	12	1250	A	T1
TWSB567*025□B#Z0000	13017-02*□	560	25	42.1	0.83	2	10	12	-65	14	18	2000	B	T2
TWSD128*025□B#Z0000	13017-03*□	1200	25	70.6	0.65	5	20	7	-70	15	20	2400	D	T3
TWSE188*025□B#Z0000	13017-04*□	1800	25	81.4	0.5	6	25	7	-72	15	20	3000	E	T4
30 VDC at 85°C 20 VDC at 125°C														
TWSA107*030□B#Z0000	13017-05*□	100	30	11.8	1.3	1	5	25	-38	8	12	1200	A	T1
TWSB477*030□B#Z0000	13017-06*□	470	30	36.1	0.85	2	10	15	-65	14	18	1800	B	T2
TWSD108*030□B#Z0000	13017-07*□	1000	30	63.3	0.7	7	25	7	-70	15	25	2200	D	T3
TWSE158*030□B#Z0000	13017-08*□	1500	30	81.4	0.6	12	35	6	-72	15	25	2900	E	T4
50 VDC at 85°C 30 VDC at 125°C														
TWSA686*050□B#Z0000	13017-09*□	68	50	9.2	1.5	1	5	35	-25	8	15	1050	A	T1
TWSB227*050□B#Z0000	13017-10*□	220	50	17.9	0.9	2	10	17.5	-50	8	15	1800	B	T2
TWSD477*050□B#Z0000	13017-11*□	470	50	31.9	0.75	3	25	10	-45	8	15	2100	D	T3
TWSE687*050□B#Z0000	13017-12*□	680	50	43.1	0.7	5	40	8	-58	10	20	2700	E	T4
60 VDC at 85°C 40 VDC at 125°C														
TWSB157*060□B#Z0000	13017-14*□	150	60	14.9	1.1	2	10	20	-40	8	15	1800	B	T2
TWSD397*060□B#Z0000	13017-15*□	390	60	31.8	0.9	3	25	15	-45	8	15	2100	D	T3
TWSE567*060□B#Z0000	13017-16*□	560	60	40.5	0.8	5	40	10	-58	8	15	2700	E	T4
75 VDC at 85°C 50 VDC at 125°C														
TWSA336*075□B#Z0000	13017-17*□	33	75	7.5	2.5	1	5	66	-25	5	9	1050	A	T1
TWSB117*075□B#Z0000	13017-18*□	110	75	12.9	1.3	2	10	24	-35	6	10	1650	B	T2
TWSD337*075□B#Z0000	13017-19*□	330	75	29.9	1	3	30	12	-45	6	10	2100	D	T3
TWSE477*075□B#Z0000	13017-20*□	470	75	38.3	0.9	5	50	12	-50	6	10	2700	E	T4
100 VDC at 85°C 65 VDC at 125°C														
TWSA156*100□B#Z0000	13017-21*□	15	100	4.8	3.5	1	5	125	-18	3	10	1050	A	T1
TWSB686*100□B#Z0000	13017-22*□	68	100	12.9	2.1	2	10	37	-30	4	12	1650	B	T2
TWSD157*100□B#Z0000	13017-23*□	150	100	21.7	1.6	3	25	22	-35	6	12	2100	D	T3
TWSE227*100□B#Z0000	13017-24*□	220	100	23.9	1.2	5	50	15	-40	6	12	2700	E	T4
125 VDC at 85°C 85 VDC at 125°C														
TWSD826*125□B#Z0000	13017-27*□	82	125	13.3	1.8	3	25	40	-35	5	12	1950	D	T3
TWSD107*125□B#Z0000	13017-28*□	100	125	16.3	1.8	3	25	35	-35	5	12	2100	D	T3
TWSE157*125□B#Z0000	13017-29*□	150	125	21.7	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: KYOCERA AVX reserves the rights to supply higher voltage rating in the same case size, to the same reliability standards.