

## DSCC 93026 Super Tan<sup>®</sup> Wet Tantalum Capacitors



Vishay's DSCC 93026 capacitor represents a major breakthrough in wet tantalum technology. Its unique cathode system provides the highest capacitance per unit volume. The design facilitates a doubling of capacitance, lower ESR and higher ripple current rating compared with conventional wet tantalum products. Moreover, the DSCC 93026 has the capacitance stability of a solid tantalum capacitor and there are no circuit impedance restrictions.

The DSCC 93026 is housed in an all tantalum, hermetically sealed case and is manufactured to withstand hazardous environments. The DSCC 93026 is used widely in the defense and aerospace industries and whenever there is a space problem.

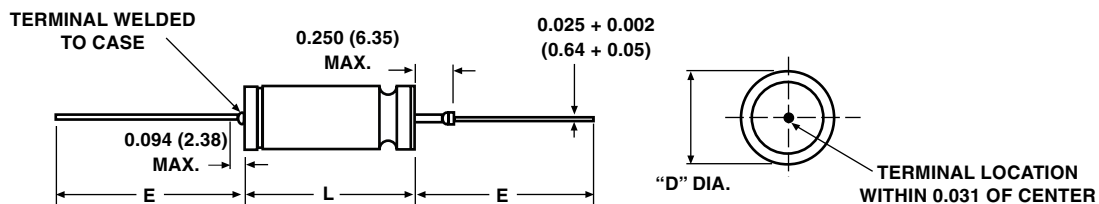
### FEATURES

- Terminations: Standard tin/lead (Sn/Pb)
- Very High Capacitance
- 10 to 1800  $\mu\text{F}$
- 25  $V_{\text{DC}}$  to 125  $V_{\text{DC}}$
- - 55  $^{\circ}\text{C}$  to + 125  $^{\circ}\text{C}$
- Very Low ESR
- High Ripple Current
- All Tantalum Case
- Hermetically Sealed
- Low DCL

### APPLICATION NOTES

- No continuous reverse voltage permissible.
- The peak of the applied AC ripple and the applied DC voltage must not exceed the DC voltage rating of the capacitor.
- Ripple current ratings by part number at 85  $^{\circ}\text{C}$  and 40 kHz are included in the table. Ripple current correction factors for other temperatures and frequencies are given on the next page.
- Transient reverse voltage surges are acceptable under the following conditions:  
The peak reverse voltage does not exceed 1.5 V and the peak current times the duration of the reverse transient does not exceed 0.05 As. In addition, the repetition frequency of the reverse voltage surge is less than 10 Hz.

### DIMENSIONS in inches [millimeters]



CASE CODE	D MAX. INSULATED	D ± 0.016 (0.41)	L + 0.031 (0.79) UNINSULATED	E ± 0.250 (6.35) MAX.
T1	0.219 (5.56)	0.188 (4.78)	0.453 (11.51)	1.500 (38.10)
T2	0.312 (7.92)	0.281 (7.14)	0.641 (16.28)	2.250 (57.15)
L2	0.312 (7.92)	0.281 (7.14)	1.008 (25.60)	2.250 (57.15)
T3	0.406 (10.31)	0.375 (9.52)	0.766 (19.46)	2.250 (57.15)
T4	0.406 (10.31)	0.375 (9.52)	1.062 (26.97)	2.250 (57.15)

#### Notes

1. Material at egress is tantalum
2. Insulation sleeving will lap over the ends of the capacitor case.
3. Tinned nickel leads, solderable and weldable

Approx. Weight  
 T1: 2.3 g, T2: 5.7 g  
 T3: 9.4 g, T4: 14.8 g

ORDERING INFORMATION			
<u>93026</u>	<u>-29</u>	<u>K</u>	<u>S</u>
DSCC DRAWING NUMBER	DASH NUMBER	CAPACITANCE TOLERANCE	
		K = ± 10 % M = ± 20 %	S = Sleeved U = Unsleeved

DEFENSE SUPPLY CENTER, COLUMBUS COLUMBUS, OHIO	DRAWING NO. 93026
---------------------------------------------------	----------------------

STANDARD RATINGS										
CAP. AT 25 °C and 120 Hz (µF)	CASE CODE	MAX. ESR Ω 120 Hz	MAX. DCL µA		MAX. IMP. AT - 55 °C 120 Hz Ω	MAX. CAPACITANCE CHANGE %			AC RIPPLE 85 °C 40 kHz mA RMS	PART NUMBER
			25 °C	85 °C and 125 °C		- 55 °C	85 °C	125 °C		
25 V <sub>DC</sub> at 85 °C					15 V <sub>DC</sub> at 125 °C					
120	T1	1.3	1	5	25	- 42	+ 8	+ 12	1250	93026-29(1)(2)
560	T2	0.83	2	10	12	- 65	+ 10	+ 15	2100	93026-30(1)(2)
1100	L2	0.5	3	25	7	- 60	+ 20	+ 45	3200	93026-57(1)(2)
1200	T3	0.65	5	20	7	- 70	+ 12	+ 18	2600	93026-31(1)(2)
1800	T4	0.5	6	25	7	- 75	+ 12	+ 20	3100	93026-32(1)(2)
30 V <sub>DC</sub> at 85 °C					20 V <sub>DC</sub> at 125 °C					
100	T1	1.3	1	5	25	- 38	+ 8	+ 12	1200	93026-33(1)(2)
470	T2	0.85	2	10	15	- 65	+ 10	+ 18	1800	93026-34(1)(2)
950	L2	0.5	5	30	7	- 55	+ 18	+ 35	3200	93026-58(1)(2)
1000	T3	0.7	7	25	7	- 70	+ 10	+ 18	2500	93026-35(1)(2)
1500	T4	0.6	12	35	6	- 72	+ 10	+ 20	3000	93026-36(1)(2)
50 V <sub>DC</sub> at 85 °C					30 V <sub>DC</sub> at 125 °C					
68	T1	1.5	1	5	35	- 25	+ 8	+ 15	1050	93026-37(1)(2)
220	T2	0.9	2	10	17.5	- 50	+ 8	+ 15	1800	93026-38(1)(2)
450	L2	0.6	3	25	7.5	- 45	+ 12	+ 30	2900	93026-59(1)(2)
470	T3	0.75	3	25	10	- 50	+ 8	+ 15	2100	93026-39(1)(2)
680	T4	0.7	5	40	8	- 58	+ 10	+ 20	2750	93026-40(1)(2)
60 V <sub>DC</sub> at 85 °C					40 V <sub>DC</sub> at 125 °C					
47	T1	2.0	1	5	44	- 25	+ 8	+ 12	1050	93026-41(1)(2)
150	T2	1.1	2	10	20	- 40	+ 8	+ 15	1650	93026-42(1)(2)
370	L2	0.6	3	25	9	- 33	+ 9	+ 20	2900	93026-60(1)(2)
390	T3	0.9	3	25	15	- 60	+ 8	+ 15	2100	93026-43(1)(2)
560	T4	0.8	5	40	10	- 58	+ 8	+ 15	2750	93026-44(1)(2)
75 V <sub>DC</sub> at 85 °C					50 V <sub>DC</sub> at 125 °C					
33	T1	2.5	1	5	66	- 25	+ 5	+ 9	1050	93026-45(1)(2)
110	T2	1.3	2	10	24	- 35	+ 6	+ 10	1650	93026-46(1)(2)
250	L2	0.8	5	30	12	- 30	+ 6	+ 15	2500	93026-61(1)(2)
330	T3	1.0	3	30	12	- 45	+ 6	+ 10	2100	93026-47(1)(2)
470	T4	0.9	5	50	12	- 55	+ 6	+ 10	2750	93026-48(1)(2)



STANDARD RATINGS										
CAP. AT 25 °C and 120 Hz (µF)	CASE CODE	MAX. ESR Ω 120 Hz	MAX. DCL µA		MAX. IMP. AT - 55 °C 120 Hz Ω	MAX. CAPACITANCE CHANGE %			AC RIPPLE 85 °C 40 kHz mA RMS	PART NUMBER
			25 °C	85 °C and 125 °C		- 55 °C	85 °C	125 °C		
100 V <sub>DC</sub> at 85 °C					65 V <sub>DC</sub> at 125 °C					
15	T1	3.5	1	5	125	- 18	+ 3	+ 10	1050	93026-49(1)(2)
68	T2	2.1	2	10	37	- 30	+ 4	+ 12	1650	93026-50(1)(2)
120	L2	1.0	3	25	20.5	- 30	+ 4	+ 12	2200	93026-62(1)(2)
150	T3	1.6	3	25	22	- 35	+ 6	+ 12	2100	93026-51(1)(2)
220	T4	1.2	5	50	15	- 40	+ 6	+ 12	2750	93026-52(1)(2)
125 v at 85 °C					85 V <sub>DC</sub> at 125 °C					
10	T1	5.5	1	5	175	- 15	+ 3	+ 10	1050	93026-53(1)(2)
47	T2	2.3	2	10	47	- 25	+ 5	+ 12	1650	93026-54(1)(2)
90	L2	1.3	5	25	25	- 22	+ 4	+ 15	2000	93026-63(1)(2)
100	T3	1.8	3	25	35	- 35	+ 5	+ 12	2100	93026-55(1)(2)
150	T4	1.6	5	50	20	- 35	+ 6	+ 12	2750	93026-56(1)(2)

Notes

- (1) Capacitance tolerance. K = 10 %, M = 20 %
- (2) Case or body insulation. S = Sleeved, U = Unsleeved

RIPPLE CURRENT MULTIPLIERS VERSUS FREQUENCY, TEMPERATURE AND APPLIES PEAK VOLTAGE																									
FREQUENCY OF APPLIED RIPPLE CURRENT		120 Hz				800 Hz				1 kHz				10 kHz				40 kHz				100 kHz			
		≤ 55	85	105	125	≤ 55	85	105	125	≤ 55	85	105	125	≤ 55	85	105	125	≤ 55	85	105	125	≤ 55	85	105	125
% of rated peak voltage	100 %	0.60	0.39	-	-	0.71	0.43	-	-	0.72	0.46	-	-	0.88	0.55	-	-	1.0	0.63	-	-	1.1	0.69	-	-
	90 %	0.60	0.46	-	-	0.71	0.55	-	-	0.72	0.55	-	-	0.88	0.67	-	-	1.0	0.77	-	-	1.1	0.85	-	-
	80 %	0.60	0.52	0.35	-	0.71	0.62	0.42	-	0.72	0.62	0.42	-	0.88	0.76	0.52	-	1.0	0.87	0.59	-	1.1	0.96	0.65	-
	70 %	0.60	0.58	0.44	-	0.71	0.69	0.52	-	0.72	0.70	0.52	-	0.88	0.85	0.64	-	1.0	0.97	0.73	-	1.1	1.07	0.80	-
	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	0.88	0.88	0.68	0.40	1.0	1.0	0.77	0.45	1.1	1.1	0.85	0.50



## Disclaimer

All product specifications and data are subject to change without notice.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product.

Vishay disclaims any and all liability arising out of the use or application of any product described herein or of any information provided herein to the maximum extent permitted by law. The product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein, which apply to these products.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Vishay products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Vishay for any damages arising or resulting from such use or sale. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.