

Type 211D Wet Tantalum Capacitor Array with Tantalum Cased Tantalum Internal Components for -55 °C to +125 °C Operation



FEATURES

- Assembly of tantalum case capacitors
- Terminations isolated from case
- 12 case codes
- 3 V reverse capability

APPLICATIONS

- Military
- Industrial

PERFORMANCE CHARACTERISTICS

Operating Temperature: -55 °C to +125 °C

Capacitance Tolerance: at 120 Hz, +25 °C, ± 20 % standard, ± 10 % available

DC Leakage Current (DCL maximum):

at +25 °C: leakage current shall not exceed the values listed in the Standard Ratings table.

Life Test: capacitors shall withstand 2000 h at a temperature of +85 °C or +125 °C at the rated DC working voltage. Following the life test:

1. DCL shall not exceed the original requirement
2. ESR shall not exceed the original requirement
3. Capacitance shall not change more than ± 10 %

ORDERING INFORMATION				
<u>211D</u> MODEL	<u>228</u> CAPACITANCE	<u>X</u> CAPACITANCE TOLERANCE	<u>030</u> DC VOLTAGE RATING AT +85 °C	<u>A5</u> CASE CODE
	This is expressed in picofarads. The first two digits are significant figures. The third is the number of zeros.	X0 = ± 20 % X9 = ± 10 %	This is expressed in volts. To complete the three digit block, zeros precede the voltage rating. A decimal point is indicated by an "R" (6R3 = 6.3 V).	See dimensional configurations

DIMENSIONS		CASE CODE	H CASE HEIGHT
SERIES "A" CASE	SERIES "B" CASE		
		A1	1.062 [26.97]
		A2	1.375 [34.93]
		A3	1.625 [41.28]
		A4	2.000 [50.60]
		A5	2.500 [63.50]
		B1	1.500 [38.10]
		B2	1.875 [47.63]
		B3	2.250 [57.15]
		B4	2.625 [66.68]
		B5	3.000 [76.20]
		B6	3.375 [85.73]
		B7	3.750 [95.25]



STANDARD RATINGS							
CAPACITANCE (μ F)	CASE CODE	PART NUMBER	MAXIMUM ESR AT +25 °C (Ω)	MAXIMUM IMPEDANCE AT -55 °C (Ω)	DCL AT +25 °C (μ A)	DCL AT +85 °C / +125 °C (μ A)	MAXIMUM RMS RIPPLE 40 kHz (A)
10 V_{DC} AT +85 °C; 6.7 V_{DC} AT +125 °C							
4500	B1	211D458X0010B1	0.150	3.8	24	96	11
7500	B3	211D758X0010B3	0.090	2.3	40	160	19
10 000	B5	211D109X0010B5	0.063	1.64	56	224	26
14 000	B7	211D149X0010B7	0.049	1.28	72	288	34
30 V_{DC} AT +85 °C; 20 V_{DC} AT +125 °C							
1200	A2	211D128X0030A2	0.31	3.9	21	63	7.8
1300	A4	211D138X0030A4	0.42	6.0	18	96	5.8
1800	A5	211D188X0030A5	0.45	6.3	32	128	4.8
1800	B1	211D188X0030B1	0.23	4.2	48	192	9.4
50 V_{DC} AT +85 °C; 35 V_{DC} AT +125 °C							
700	A4	211D707X0050A4	0.23	8.2	24	144	5.8
1000	A5	211D108X0050A5	0.51	7.3	27	108	4.6
3300	B5	211D338X0050B5	0.150	2.2	90	360	15
5200	B6	211D528X0050B6	0.096	1.38	144	576	24
5900	B7	211D598X0050B7	0.085	1.22	162	648	27
75 V_{DC} AT +85 °C; 50 V_{DC} AT +125 °C							
120	A2	211D127X0075A2	0.99	20	6	36	3.0
200	A4	211D207X0075A4	0.67	15.0	6	60	2.4
220	A5	211D227X0075A5	0.49	10.0	12	72	6.0
400	A3	211D407X0075A3	0.50	13.0	20	120	4.0
480	A4	211D487X0075A4	0.41	10.5	24	144	4.8
660	A5	211D667X0075A5	0.60	8.0	30	120	4.3
880	B2	211D887X0075B2	0.180	3.6	72	288	12
1100	B3	211D118X0075B3	0.150	2.9	90	360	15
4000	B7	211D408X0075B7	0.100	1.33	180	720	26
100 V_{DC} AT +85 °C; 70 V_{DC} AT +125 °C							
540	A5	211D547X0100A5	0.25	5.7	70	336	15
1200	B3	211D128X0100B3	0.28	3.0	120	480	16
1600	B7	211D168X0100B7	0.085	1.66	162	648	26
125 V_{DC} AT +85 °C; 80 V_{DC} AT +125 °C							
380	A5	211D387X0125A5	0.25	6.4	70	336	13
1100	B5	211D118X0125B5	0.20	2.3	168	672	21
1400	B7	211D148X0125B7	0.160	1.78	216	864	27
150 V_{DC} AT +85 °C; 100 V_{DC} AT +125 °C							
70	A2	211D706X0150A2	1.90	45	4	40	2.9
550	B3	211D118X0150B3	0.32	4.8	50	200	7

Note

- Other ratings are available. Contact factory with your specific requirements.



Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

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 in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Hyperlinks included in this datasheet may direct users to third-party websites. These links are provided as a convenience and for informational purposes only. Inclusion of these hyperlinks does not constitute an endorsement or an approval by Vishay of any of the products, services or opinions of the corporation, organization or individual associated with the third-party website. Vishay disclaims any and all liability and bears no responsibility for the accuracy, legality or content of the third-party website or for that of subsequent links.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

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