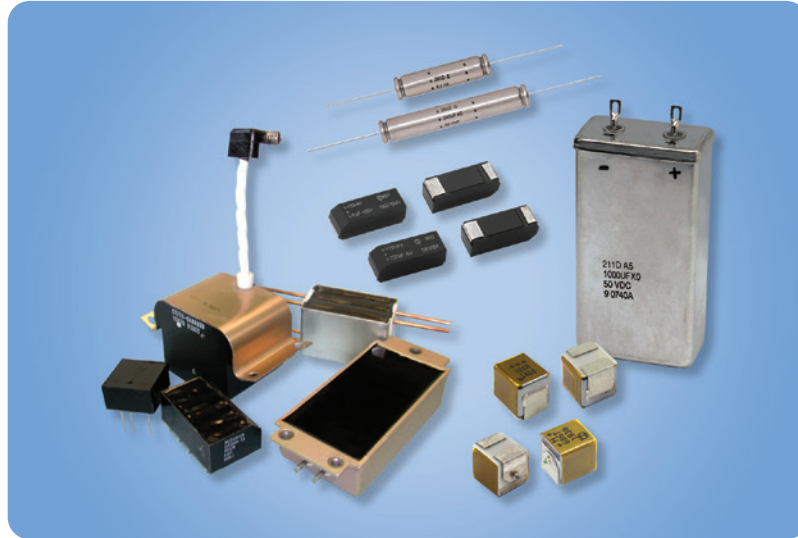




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Wet Tantalum Arrays and Assemblies



Wet Surface-Mount Capacitors

Standard Arrays and Assemblies

Custom-Designed Assemblies

Custom Case and Termination Options

High Capacitance and / or High Voltage Options

Single or Dual Ratings

Dielectric Options: Aluminum, Ceramic, Tantalum

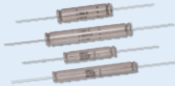
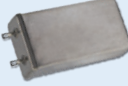
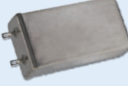






Series and Parallel Capacitor Circuit Design Options



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CAPACITORS

Wet Tantalum Arrays and Assemblies

Series	Capacitance Range	Voltage Range	Case Size	Features
Arrays and Assemblies				
<p>285D</p> 	1.0 μF to 410 μF	6 V to 300 V	A, B, C, D, E, F, G, H	Tantalex®, Tantalum Case, Replacement for Tantalum Foil M39006/01, /02, /03, /04, /16, /17 Series, Polar and Non-Polar Configurations
<p>200D, 202D</p> 	70 μF to 15 000 μF	6 V to 150 V	A1 - A5, B1 - B7	Tantalex, Tantalum Case, Hermetic Seal, TANTAPAK Capacitor Assemblies
<p>DLA 04021</p> 	70 μF to 2400 μF	15 V to 150 V	A1, A2, A3, A4, A5	Tantalum Case, Hermetic Seal, Capacitor Assemblies, Replacement for MIL-DTL-3965/21 (CL55)
<p>211D</p> 	70 μF to 14 000 μF	10 V to 150 V	A1 - A5, B1 - B7	Tantalex, Tantalum Case, Hermetic Seal, TANTAPAK Capacitor Assemblies
<p>XTH-K-L-M-V</p> 	2.0 μF to 2200 μF	8 V to 630 V	A - M	Cylindrical Case, Hermetic Seal, Capacitor Assemblies
<p>DLA 04022</p> 	2.0 μF to 1300 μF	8 V to 630 V	1A, 1B, 1C	Cylindrical Case, Hermetic Seal, Capacitor Assemblies, Replacement for MIL-PRF-39006/18, /19, /20 (CLR10, CLR14, CLR17) Replacement for MIL-DTL-3965/20, /1, /19 (CL10, CL14, CL17)
<p>DLA 04033</p> 	2.0 μF to 1300 μF	8 V to 630 V	1A, 1B, 1C	Cylindrical Case, Hermetic Seal, Capacitor Assemblies, Replacement for MIL-DTL-3965/20, /1, /19 (CL13, CL16, CL18)
<p>MT2</p> 	27 μF to 6000 μF	6 V to 375 V	B	Epoxy Resin Modules, Internal Axial Lead, Tantalum Case, Hermetic Seal Elements
<p>M35</p> 	1.7 μF to 220 μF	6 V to 125 V	C	Wet Surface-Mount, Molded Case





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CAPACITORS

Wet Tantalum Arrays and Assemblies

Series	Capacitance Range	Voltage Range	Case Size	Features
Arrays and Assemblies				
<p>M34</p> 	10 μ F to 470 μ F	6 V to 125 V	C	Wet Surface-Mount, Molded Case
<p>T22</p> 	10 μ F to 68 μ F	50 V to 125 V	C	Wet Surface-Mount, Tantalum Case
<p>T24</p> 	10 μ F to 33 μ F	75 V to 125 V	C	Wet Surface-Mount, Tantalum Case, for +200 °C Operation
<p>DLA 19001</p> 	10 μ F to 68 μ F	50 V to 125 V	C	Wet Surface-Mount, Tantalum Case

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CAPACITORS

Wet Tantalum Arrays and Assemblies

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Custom Designs

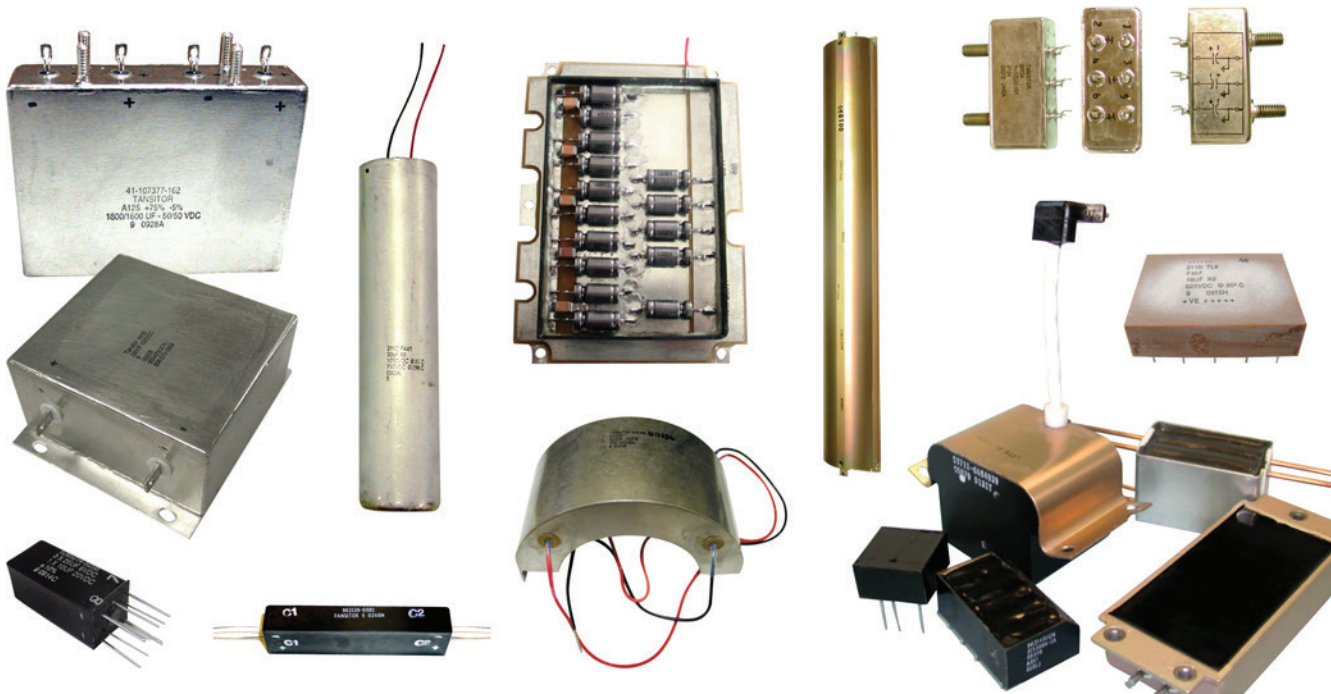
Custom-designed capacitor assemblies are an important tool for circuit designers faced with extra high capacitance and / or voltage requirements not met by standard units. In most cases, Vishay capacitor assemblies employ internal sections of wet tantalum capacitors. However, an assembly may utilize solid tantalum, ceramics, and even aluminum internal sections, along with resistors and other components as needed, to meet the electrical parameters and performance required. Dual or plural ratings are also available in a single assembly.

Vishay capacitor assemblies have been used in avionics, military, and space applications for many years. They are also an important component for oil exploration equipment and other industrial applications.

The capacitor assembly may prove valuable in any application where there are high capacitance / voltage needs and critical space limitations exist, or multiple functions are required in one package.

Because tantalum capacitors can be designed to provide a wide range of parameters, they allow simplified circuit design and a lower cost solution. Reliability depends on the capacitor elements used, while cost reflects both capacitor type picked and quantity required.

Custom Arrays





Wet Tantalum Arrays and Assemblies

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Capacitor Assembly

Each Vishay custom capacitor assembly will be documented with a Vishay drawing as shown below, and assigned a unique part number. If there is a customer drawing, it will be noted here and all revisions will be fully documented.

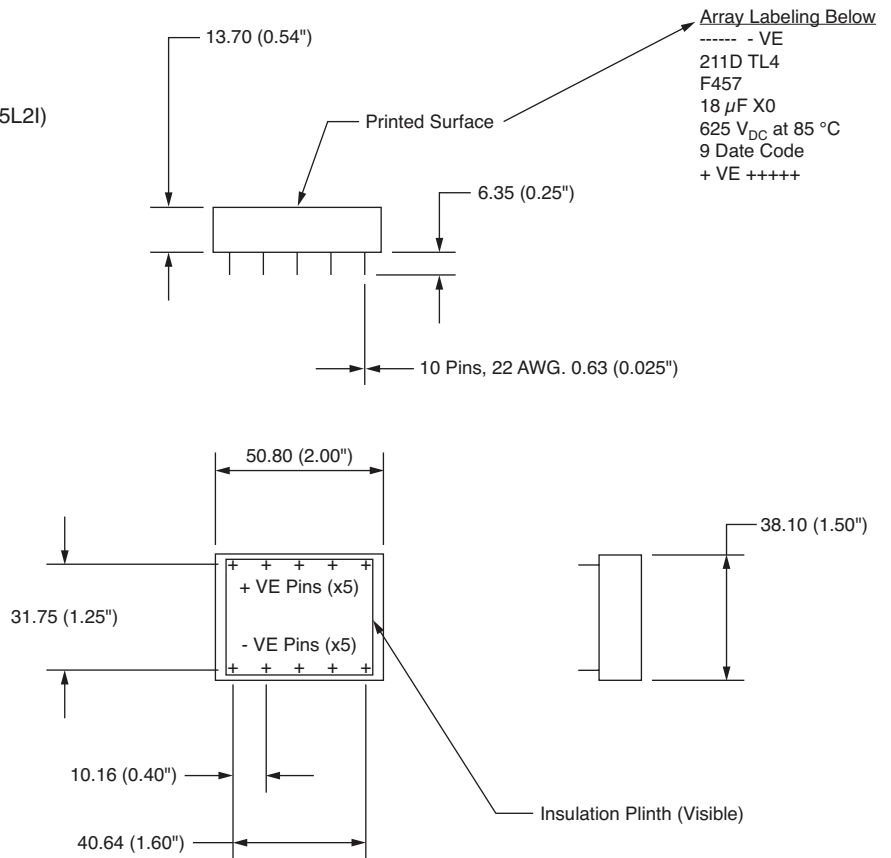
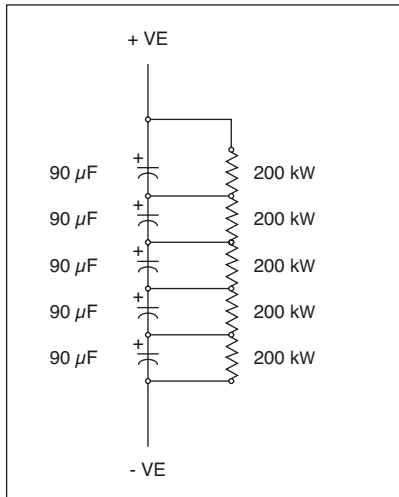
Notes

Dimensions shown are metric, values in parenthesis indicate inch equivalent.

Electrical parameters:

- a) Temperature range: -55 °C to 200 °C
- b) Capacitance at 120 Hz, 25 °C: 18 μF ± 20 %
- c) Voltage at 85 °C = 625 V_{DC}
- d) Voltage at 200 °C = 300 V_{DC}
- e) % dissipation factor at 120 Hz and 25 °C = 50 % max.
- f) Decay time (from 625 V to 3.5 V): < 2 min
- g) Reverse voltage capability: none
- h) Surge voltage capability: 1.15 times rated voltage at relevant temp.
- i) Max. RMS ripple at 40 kHz and 85 °C = 1.5 A
- j) Max. weight = TBD (should be less than 100 g)
- k) Resistors: RN55D2003F
- l) Capacitor sections: five pieces 134D (HT90-125L2I)
- m) Vishay SAP part number: 211D186X0625XTL4
- n) Vishay non-standard number: 211DTL4

REV.	DATE	REVISION	APPROVALS	DWN BY
A	1/09	Change ripple from 2.0 A to 1.5 A		R. P.
B	3/09	Remove preliminary, add marking, add Vishay SAP part number		R. P.



Note This sheet and all attached documents are the proprietary data of Vishay Tansitor and shall not be disclosed to unauthorized and / or third parties without our written consent. These documents shall be returned to us immediately upon request.	DATE: 11-26-08	TANSITOR ELECTRONICS, INC. PO BOX 230 WEST ROAD BENNINGTON, VT. 05201
	DRAWN BY: R. P.	
	APPROVALS:	
	Standard tolerances ..XX ± 0.010 Fractions ± 1/64 ..XXX ± 0.005 Angular ± 0°30' ..XXXX ± 0.0005 Finish 125/	TITLE: Cap. Module, 18 μF at 300 V _{DC} at 200 °C
	SCALE: None	DWG. NO.: 211D186X0625XTL4



CAPACITORS

Wet Tantalum Arrays and Assemblies

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Capacitor Array Design Guide

*Inquiry Date: _____ Reference Number (Internal Use Only): _____

*Name: _____ Title: _____

*Company: _____

*Address: _____ *Phone: _____

_____ Alt. Phone: _____

_____ Fax: _____

Application Information

*ITAR? Yes No Program Name: _____

*Annual Usage: _____ *Desired Prototype Date: ____ / ____ / ____

*Actual Component Use (if ITAR): _____

*Physical Environment: _____

Mechanical Parameters

Shock Level: _____ Vibration Level: _____

Assembly Hermeticity Requirements: _____

Physical Dimensions: Length _____ in Width _____ in Height _____ in

Physical Form Factor and Mounting Means (attach drawing if available): _____

Electrical Parameters

Capacitance: _____ μ F Tolerance: _____ (\pm %) ESR: _____ Ω

Frequency: _____ Hz at _____ $^{\circ}$ C Sinusoidal Pulse Train Other _____

Ripple Current Magnitude: _____ A_{RMS} at _____ Hz Voltage _____ (V)

Impedance Limit: _____ Ω at _____ Hz

DC Leakage¹: _____ μ A (DCL is after five minutes of hold time, unless otherwise specified)

Other comments: _____

¹DCL is after five minutes of hold time, unless otherwise specified

*Denotes Required Information Check if Critical Parameter

Save this file and e-mail to tantalum@vishay.com to submit. Attach your drawing as well.