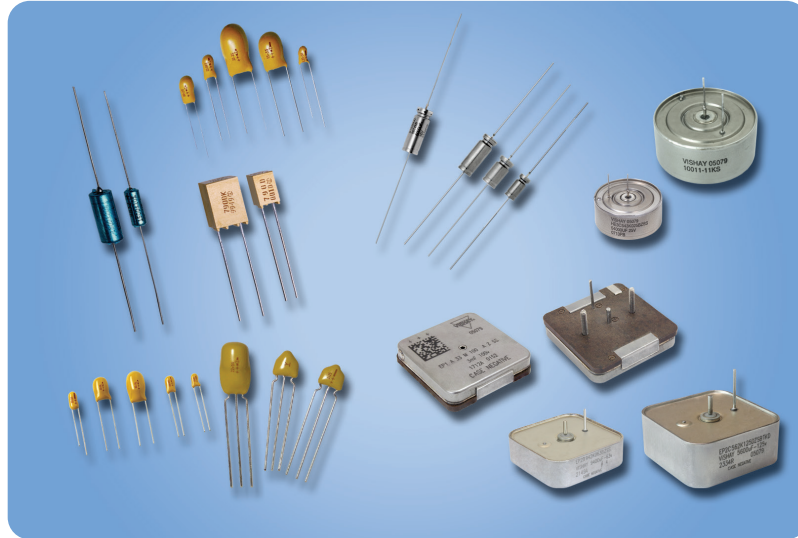




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### Tantalum Solid and Wet Through-Hole Capacitors



Solid Tantalum, Through-Hole

Wet Tantalum, Through-Hole

## RESOURCES












- Datasheets:
  - Wet: [www.vishay.com/capacitors/tantalum/tantalum-wet/](http://www.vishay.com/capacitors/tantalum/tantalum-wet/)
  - Solid: [www.vishay.com/capacitors/tantalum/tantalum-solid/](http://www.vishay.com/capacitors/tantalum/tantalum-solid/)
- Technical support: [tantalum@vishay.com](mailto:tantalum@vishay.com)
- Sales contacts: [www.vishay.com/doc?99914](http://www.vishay.com/doc?99914)



# CAPACITORS

## Tantalum Solid and Wet Through-Hole

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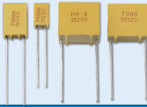


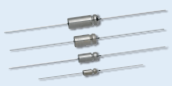


Series	Capacitance Range	Voltage Range	Case Size	Features
<b>Through-Hole Solid</b>				
<b>150D</b> 	0.027 $\mu$ F to 330 $\mu$ F	6 V to 125 V	A, B, R, S	TANTALEX™, hermetically sealed, axial lead
<b>152D</b> 	1.2 $\mu$ F to 1000 $\mu$ F	6 V to 60 V	A, B, R, S	TANTALEX™, hermetically sealed, axial lead, extended range
<b>550D</b> 	5.6 $\mu$ F to 330 $\mu$ F	6 V to 50 V	R, S	TANTALEX™, hermetically sealed, axial lead, low ESR
<b>CTS1</b> 	0.10 $\mu$ F to 330 $\mu$ F	6.3 V to 63 V	A, B, C, D	TANTALEX™, hermetically sealed, axial lead, CECC 30021-002 approved
<b>CTS13</b> 	0.10 $\mu$ F to 330 $\mu$ F	6.3 V to 63 V	A, B, C, D	TANTALEX™, hermetically sealed, axial lead, CECC 30201-005 approved
<b>749DX</b> 	0.10 $\mu$ F to 330 $\mu$ F	6.3 V to 63 V	A, B, C, D	TANTALEX™, hermetically sealed, axial lead, CECC 30201-001 and CECC 30201-029 approved
<b>M39003/01</b> 	0.033 $\mu$ F to 330 $\mu$ F	6 V to 100 V	A, B, C, D	TANTALEX™, hermetically sealed, axial lead, MIL-PRF-39003 qualified, CSR13
<b>M39003/03</b> 	1.2 $\mu$ F to 1000 $\mu$ F	6 V to 50 V	A, B, C, D	TANTALEX™, hermetically sealed, axial lead, extended range, MIL-PRF-39003 qualified, CSR23
<b>M39003/09</b> 	5.6 $\mu$ F to 330 $\mu$ F	6 V to 50 V	C, D	TANTALEX™, hermetically sealed, axial lead, low ESR, MIL-PRF-39003 qualified, CSR21
<b>173D</b> 	0.10 $\mu$ F to 330 $\mu$ F	2 V to 50 V	U, V, W, X, Y	TANTALEX™, molded case, axial lead
<b>199D</b> 	0.10 $\mu$ F to 680 $\mu$ F	3 V to 50 V	A, B, C, D, E, F	TANTALEX™, resin-coated, radial lead



# CAPACITORS

## Tantalum Solid and Wet Through-Hole

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Series	Capacitance Range	Voltage Range	Case Size	Features
<b>Through-Hole Solid</b>				
 <p><b>299D</b></p>	0.10 $\mu$ F to 680 $\mu$ F	3 V to 50 V	A, B, C, D, E, F	TANTALEX™, resin-coated, radial lead, triple lead
 <p><b>489D, 499D</b></p>	0.10 $\mu$ F to 680 $\mu$ F	3 V to 50 V	A, B, C, D, E, F, H, M, N, R	TANTALEX™, resin-coated, radial lead
 <p><b>ETPW</b></p>	0.10 $\mu$ F to 330 $\mu$ F	3 V to 50 V	1A - 6R	TANTALEX™, resin-coated, radial lead
 <p><b>ETQW</b></p>	0.10 $\mu$ F to 330 $\mu$ F	3 V to 50 V	1A - 6R	TANTALEX™, resin-coated, radial lead
 <p><b>790D</b></p>	0.10 $\mu$ F to 330 $\mu$ F	6.3 V to 50 V	A, B, C, D	TANTALEX™, molded case, radial lead
<b>Through-Hole Wet</b>				
 <p><b>109D<sup>(1)</sup></b></p>	1.7 $\mu$ F to 2200 $\mu$ F	6 V to 150 V	C, F, K, T	TANTALEX™, silver case, elastomer seal
 <p><b>138D</b></p>	1.7 $\mu$ F to 2200 $\mu$ F	6 V to 150 V	C, F, K, T	TANTALEX™, silver case, hermetic seal
 <p><b>738D</b></p>	3.3 $\mu$ F to 1200 $\mu$ F	6.3 V to 125 V	A, B, C, D	TANTALEX™, silver case, hermetic seal
 <p><b>135D</b></p>	1.7 $\mu$ F to 2200 $\mu$ F	6 V to 125 V	C, F, K, T	TANTALEX™, tantalum case, hermetic seal, +200 °C operation
 <p><b>136D</b></p>	1.7 $\mu$ F to 2200 $\mu$ F	6 V to 125 V	C, F, K, T	TANTALEX™, tantalum case, hermetic seal, low ESR

**Note**


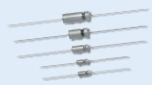

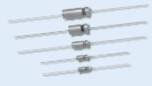



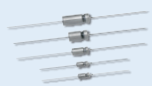

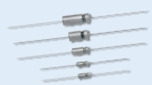

<sup>(1)</sup> Not for new designs



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# CAPACITORS

## Tantalum Solid and Wet Through-Hole












Series	Capacitance Range	Voltage Range	Case Size	Features
<b>Through-Hole Wet</b>				
 <p><b>134D</b></p>	10 $\mu$ F to 1000 $\mu$ F	50 V to 125 V	C, F, K, T	HI-TMP®, tantalum case, hermetic seal, +200 °C operation
 <p><b>T34D</b></p>	10 $\mu$ F to 1500 $\mu$ F	50 V to 125 V	A, B, C, D	HI-TMP®, tantalum case, hermetic seal, +200 °C operation
 <p><b>735D</b></p>	2.7 $\mu$ F to 2200 $\mu$ F	6 V to 125 V	A, B, C, D	TANTALEX™, tantalum case, hermetic seal, CECC 30202-001 approved
 <p><b>735DE</b></p>	3.6 $\mu$ F to 2200 $\mu$ F	6 V to 125 V	A, B, C, D	TANTALEX™, tantalum case, hermetic seal, CECC 30202-801 approved
 <p><b>CT79</b></p>	3.9 $\mu$ F to 2200 $\mu$ F	6.3 V to 125 V	A, B, C, D	TANTALEX™, tantalum case, hermetic seal, CECC 30202-005 approved
 <p><b>M39006/09</b></p>	1.7 $\mu$ F to 1200 $\mu$ F	6 V to 125 V	T1, T2, T3, T4	TANTALEX™, silver case, hermetic seal, MIL-PRF-39006 qualified, CLR65
 <p><b>M39006/21</b></p>	6.8 $\mu$ F to 2200 $\mu$ F	6 V to 125 V	T1, T2, T3, T4	TANTALEX™, silver case, hermetic seal, extended range, MIL-PRF-39006 qualified, CLR69
 <p><b>M39006/22</b></p>	1.7 $\mu$ F to 1200 $\mu$ F	6 V to 125 V	T1, T2, T3, T4	TANTALEX™, tantalum case, hermetic seal, MIL-PRF-39006 qualified, CLR79
 <p><b>M39006/25</b></p>	6.8 $\mu$ F to 2200 $\mu$ F	6 V to 125 V	T1, T2, T3, T4	TANTALEX™, tantalum case, hermetic seal, extended range, MIL-PRF-39006 qualified, CLR81
 <p><b>M39006/30</b></p>	1.7 $\mu$ F to 1200 $\mu$ F	6 V to 125 V	T1, T2, T3, T4	TANTALEX™, tantalum case, hermetic seal, low ESR, MIL-PRF-39006 qualified, CLR90
 <p><b>M39006/31</b></p>	6.8 $\mu$ F to 2200 $\mu$ F	6 V to 125 V	T1, T2, T3, T4	TANTALEX™, tantalum case, hermetic seal, low ESR, extended range, MIL-PRF-39006 qualified, CLR91



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# CAPACITORS

## Tantalum Solid and Wet Through-Hole


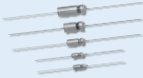

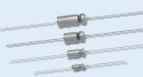

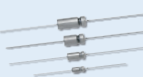
Series	Capacitance Range	Voltage Range	Case Size	Features
<b>Through-Hole Wet</b>				
<a href="#">M39006/33</a> 	15 $\mu$ F to 680 $\mu$ F	50 V to 100 V	T1, T2, T3, T4	TANTALEX™, tantalum case, hermetic seal, extended range, MIL-PRF-39006 qualified, CLR93
<a href="#">DLA 06013</a> 	1.7 $\mu$ F to 1200 $\mu$ F	6 V to 125 V	T1, T2, T3, T4	TANTALEX™, tantalum case, hermetic seal, space level, CLR79 ratings, DLA-approved
<a href="#">DLA 06014</a> 	6.8 $\mu$ F to 2200 $\mu$ F	6 V to 125 V	T1, T2, T3, T4	TANTALEX™, tantalum case, hermetic seal, extended range, space level, CLR81 ratings, DLA-approved
<a href="#">DLA 06015</a> 	1.7 $\mu$ F to 1200 $\mu$ F	6 V to 125 V	T1, T2, T3, T4	TANTALEX™, tantalum case, hermetic seal, low ESR, space level, CLR90 ratings, DLA-approved
<a href="#">DLA 06016</a> 	6.8 $\mu$ F to 2200 $\mu$ F	6 V to 125 V	T1, T2, T3, T4	TANTALEX™, tantalum case, hermetic seal, low ESR, extended range, space level, CLR91 ratings, DLA-approved
<a href="#">ST</a> 	10 $\mu$ F to 2200 $\mu$ F	25 V to 125 V	L2, T1, T2, T3, T4	SuperTan®, tantalum case, hermetic seal, surface-mount options
<a href="#">DLA 93026</a> 	10 $\mu$ F to 2200 $\mu$ F	25 V to 125 V	L2, T1, T2, T3, T4	SuperTan®, tantalum case, hermetic seal, DLA-approved
<a href="#">STA</a> 	150 $\mu$ F to 4700 $\mu$ F	6 V to 15 V	T1, T2, T3, T4	SuperTan®, tantalum case, hermetic seal
<a href="#">STE</a> 	22 $\mu$ F to 10 000 $\mu$ F	10 V to 125 V	T1, T2, T3, T4	SuperTan®, tantalum case, hermetic seal, extended range, surface-mount options
<a href="#">DLA 10004</a> 	22 $\mu$ F to 10 000 $\mu$ F	10 V to 125 V	T1, T2, T3, T4	SuperTan®, tantalum case, hermetic seal, extended range, DLA-approved
<a href="#">STH</a> 	470 $\mu$ F to 1500 $\mu$ F	75 V to 125 V	A, B, C, D	SuperTan®, tantalum case, hermetic seal, extended range, improved vibration capability, surface-mount options






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# CAPACITORS

## Tantalum Solid and Wet Through-Hole

Series	Capacitance Range	Voltage Range	Case Size	Features
<b>Through-Hole Wet</b>				
 <p><b>T11</b></p>	47 $\mu$ F to 220 $\mu$ F	50 V to 125 V	A, B, C, D	HI-TMP®, tantalum case, hermetic seal, +230 °C operation
 <p><b>T16</b></p>	10 $\mu$ F to 1800 $\mu$ F	25 V to 125 V	A, B, C, D, E	Tantalum case, hermetic seal, extended range
 <p><b>DLA 13017</b></p>	10 $\mu$ F to 1800 $\mu$ F	25 V to 125 V	T1, T2, T3, T4	Tantalum case, hermetic seal, extended range, DLA-approved
 <p><b>DLA 20001</b></p>	15 $\mu$ F to 680 $\mu$ F	50 V to 100 V	T1, T2, T3, T4	Tantalum case, hermetic seal, space level, DLA-approved
 <p><b>T18</b></p>	22 $\mu$ F to 1200 $\mu$ F	50 V to 125 V	A, B, C, D	Tantalum case, hermetic seal, ultra high capacitance
 <p><b>DLA 15005</b></p>	470 $\mu$ F to 1000 $\mu$ F	75 V to 100 V	T1, T2, T3, T4	Tantalum case, hermetic seal, ultra high capacitance, DLA-approved



Series	Capacitance Range	Voltage Range	Case Size	Features
<b>High Energy Wet</b>				
 <p><b>HE3</b></p>	1100 $\mu$ F to 72 000 $\mu$ F	25 V to 125 V	A, B, C	Tantalum case, hermetic seal, largest capacitance value available
 <p><b>HE5</b></p>	1100 $\mu$ F to 72 000 $\mu$ F	25 V to 125 V	A, B, C	Tantalum case, hermetic seal, largest capacitance value available
 <p><b>DLA 10011</b></p>	1100 $\mu$ F to 72 000 $\mu$ F	25 V to 80 V	A, B, C	Tantalum case, hermetic seal, largest capacitance value available, DLA-approved



# CAPACITORS

## Tantalum Solid and Wet Through-Hole

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Series	Capacitance Range	Voltage Range	Case Size	Features
<b>High Energy Wet</b>				
<b>EP1</b> <sup>(1)</sup> 	2000 $\mu$ F to 58 000 $\mu$ F	25 V to 125 V	A, B, C	Tantalum case, hermetic seal, ultra high capacitance value
<b>EP2</b> 	2700 $\mu$ F to 44 000 $\mu$ F	25 V to 125 V	B, C, D	Tantalum case, hermetic seal, ultra high capacitance value

**Note**

<sup>(1)</sup> Not for new designs