



Vishay Intertechnology, Inc.

# Tantalum Capacitors

**T18  
WET TANTALUM**  
High Capacitance, High Performance



**T58  
MICROTAN<sup>®</sup>  
POLYMER**  
Small Size, High Capacitance



**T22  
WET TANTALUM SMD**  
Tantalum Metal Case,  
Hermetic Package Design



**TP3  
MOLDED  
TANTALUM**  
High Performance,  
Automotive Grade



**T55  
POLYMER**  
New Low-ESR  
Polymer Capacitor



**T59  
LEADFRAMELESS  
POLYMER**  
Ultra-low ESR  
High Capacitance



**597D  
CONFORMAL  
COATED TANTALUM**  
Highest Capacitance  
Available in SMD  
Tantalum




**TM3  
MOLDED  
TANTALUM**  
High Reliability for  
Medical Instruments


















# TANTALUM CAPACITORS

## Focus Products

Polymer Chip Capacitors						
Series	Capacitance Range	Voltage	ESR	Case Sizes	Operating Temperature	
 <a href="#">T55</a>	3.3 $\mu$ F to 680 $\mu$ F	2.5 $V_{DC}$ to 35 $V_{DC}$	12 m $\Omega$ to 500 m $\Omega$	1608, 2012, 3216, 3528, 7343-30, 7343-20	-55 $^{\circ}$ C to +105 $^{\circ}$ C	
Polymer cathode system offers low ESR and eliminates ignition failure mode						

Leadframeless Polymer Capacitors						
Series	Capacitance Range	Voltage	ESR	Case Sizes	Operating Temperature	
 <a href="#">T58</a>	10 $\mu$ F to 330 $\mu$ F	4 $V_{DC}$ to 25 $V_{DC}$	50 m $\Omega$ to 500 m $\Omega$	1608 to 3528	-55 $^{\circ}$ C to +105 $^{\circ}$ C	
Smallest and lowest profile polymer tantalum capacitor; best-in-class ESR						
 <a href="#">T59</a>	10 $\mu$ F to 470 $\mu$ F	16 $V_{DC}$ to 75 $V_{DC}$	25 m $\Omega$ to 150 m $\Omega$	7343-43	-55 $^{\circ}$ C to +105 $^{\circ}$ C	
Extended capacitance and voltage range; ultra-low ESR						







MICROTAN <sup>®</sup>						
Series	Capacitance Range	Voltage Range	Case Sizes	Operating Temperature		
 <a href="#">TP8</a>	1.0 $\mu$ F to 100 $\mu$ F	6.3 $V_{DC}$ to 40 $V_{DC}$	1608 up to 3528	-55 $^{\circ}$ C to +125 $^{\circ}$ C		
AEC-Q200 micro tantalum chip capacitors for space-constrained automotive applications						
 <a href="#">TM8</a>	0.68 $\mu$ F to 47 $\mu$ F	2 $V_{DC}$ to 40 $V_{DC}$	1005 up to 3528	-55 $^{\circ}$ C to +125 $^{\circ}$ C		
High-reliability micro tantalum chip capacitors for military and medical applications; ISO-13485-qualified						





TANTAMOUNT <sup>®</sup> Solid Tantalum Surface-Mount Chip Capacitors						
Series	Qualification	Capacitance Range	Voltage Range	Case Size	Operating Temperature	
 <a href="#">TP3</a>	AEC-Q200	0.10 $\mu$ F to 470 $\mu$ F	4 $V_{DC}$ to 50 $V_{DC}$	A to E	-55 $^{\circ}$ C to +125 $^{\circ}$ C	
Molded case; high performance, automotive grade						
 <a href="#">TH3</a>	AEC-Q200	0.33 $\mu$ F to 220 $\mu$ F	6.3 $V_{DC}$ to 50 $V_{DC}$	A to E	-55 $^{\circ}$ C to +150 $^{\circ}$ C	
Molded case; high temperature to 150 $^{\circ}$ C, automotive grade						
 <a href="#">TH4</a>	AEC-Q200	10 $\mu$ F to 47 $\mu$ F	6.3 $V_{DC}$ to 16 $V_{DC}$	B, C, and D	-55 $^{\circ}$ C to +175 $^{\circ}$ C	
Molded case; high temperature to 175 $^{\circ}$ C; automotive grade						
 <a href="#">TM3</a>	ISO 13485	1 $\mu$ F to 220 $\mu$ F	4 $V_{DC}$ to 20 $V_{DC}$	A to E	-55 $^{\circ}$ C to +125 $^{\circ}$ C	
Molded case; high reliability, and low DCL for medical instruments						
 <a href="#">T83</a>	RoHS available	0.10 $\mu$ F to 470 $\mu$ F	4 $V_{DC}$ to 63 $V_{DC}$	A to E	-55 $^{\circ}$ C to +125 $^{\circ}$ C	
Molded case; Hi-Rel COTS						
 <a href="#">TL3</a>	EIA 717	0.10 $\mu$ F to 470 $\mu$ F	4 $V_{DC}$ to 50 $V_{DC}$	A to E	-55 $^{\circ}$ C to +125 $^{\circ}$ C	
Molded case; very low DCL						
 <a href="#">TR3</a>	EIA 717	0.47 $\mu$ F to 1000 $\mu$ F	4 $V_{DC}$ to 75 $V_{DC}$	A to E, V, and W	-55 $^{\circ}$ C to +125 $^{\circ}$ C	
Molded case; low ESR						
 <a href="#">TF3</a>		0.47 $\mu$ F to 470 $\mu$ F	4 $V_{DC}$ to 50 $V_{DC}$	C, D, and E	-55 $^{\circ}$ C to +125 $^{\circ}$ C	
Molded case; built-in-fuse						
 <a href="#">TH5</a>		4.7 $\mu$ F and 10 $\mu$ F	21 $V_{DC}$ and 24 $V_{DC}$	E	-55 $^{\circ}$ C to +200 $^{\circ}$ C	
Molded case; HI TMP <sup>®</sup> ; very high temperature 200 $^{\circ}$ C						





# TANTALUM CAPACITORS

## Focus Products

Wet Tantalum Capacitors							
Series	Qualification	Capacitance Range	Voltage Range	Case Size	Operating Temperature	Termination Style	
 <a href="#">STE</a>	DLA 10004	18 $\mu$ F to 10 000 $\mu$ F	10 V <sub>DC</sub> to 125 V <sub>DC</sub>	T1, T2, T3, T4	-55 °C to +125 °C	Axial leaded	Tantalum case; extended capacitance
 <a href="#">T16</a>	DLA 13017	10 $\mu$ F to 1800 $\mu$ F	25 V <sub>DC</sub> to 125 V <sub>DC</sub>	T1, T2, T3, T4	-55 °C to +125 °C	Axial leaded	Tantalum case; high capacitance; high performance
 <a href="#">T18</a>	DLA 15005	10 $\mu$ F to 2200 $\mu$ F	50 V <sub>DC</sub> to 125 V <sub>DC</sub>	T1, T2, T3, T4	-55 °C to +125 °C	Axial leaded	Tantalum case; extended capacitance; high performance
 <a href="#">134D</a>		10 $\mu$ F to 680 $\mu$ F	50 V <sub>DC</sub> to 125 V <sub>DC</sub>	T1, T2, T3, T4	-55 °C to +200 °C	Axial leaded	Tantalum case; high capacitance; high temperature
 <a href="#">HE3</a>	DLA 10011	1100 $\mu$ F to 72 000 $\mu$ F	25 V <sub>DC</sub> to 125 V <sub>DC</sub>	A, B, C	-55 °C to +125 °C	Radial leaded	Tantalum case; ultra-high capacitance; high energy
 <a href="#">HE5</a>		1100 $\mu$ F to 72 000 $\mu$ F	25 V <sub>DC</sub> to 125 V <sub>DC</sub>	A, B, C	-55 °C to +125 °C	Radial leaded	Tantalum case; ultra-high capacitance; high energy; low ESR

Conformal Coated						
Series	Capacitance Range	Voltage	ESR	Case Sizes	Operating Temperature	
 <a href="#">597D, Hi-Rel COTS T97</a>	10 $\mu$ F to 1500 $\mu$ F	4 V <sub>DC</sub> to 75 V <sub>DC</sub>	18 m $\Omega$ to 100 m $\Omega$	7.6 mm x 4.4 mm 7.6 mm x 6 mm 8.0 mm x 6 mm height: 2 mm up to 6 mm	-55 °C to +125 °C	Highest capacitance and voltages available in SMD tantalum; Hi-Rel COTS T97 also available as DLA 13008
 <a href="#">595D, Low-ESR 594D</a>	0.1 $\mu$ F to 1500 $\mu$ F	4 V <sub>DC</sub> to 50 V <sub>DC</sub>	0.03 $\Omega$ to 10 $\Omega$	2.2 mm x 1.1 mm up to 7.2 mm x 6.0 mm	-55 °C to +125 °C	Wide range of capacitance and voltages; low-ESR 594D
 <a href="#">Hi-Rel COTS T95</a>	0.1 $\mu$ F to 1500 $\mu$ F	4 V <sub>DC</sub> to 50 V <sub>DC</sub>	0.03 $\Omega$ to 10 $\Omega$	2.2 mm x 1.1 mm up to 7.2 mm x 6.0 mm	-55 °C to +125 °C	High-reliability version of 595D / 594D series; also available as DLA 14002
 <a href="#">Low-Profile 592D</a>	1 $\mu$ F to 2200 $\mu$ F	4 V <sub>DC</sub> to 50 V <sub>DC</sub>	0.04 $\Omega$ to 8 $\Omega$	3.5 mm x 1.6 mm up to 14.5 mm x 7.4 mm height: 2 mm and below	-55 °C to +125 °C	Low profile; maximum capacitance

Hermetic Solid Tantalum Surface-Mount Chip Capacitors						
Series	Capacitance Range	Voltage	ESR	Case Sizes	Operating Temperature	
 <a href="#">T25</a>	22 $\mu$ F to 330 $\mu$ F	16 V <sub>DC</sub> to 50 V <sub>DC</sub>	180 m $\Omega$ to 500 m $\Omega$	D	-55 °C to +125 °C	Metal case; hermetically sealed; SMD; solid tantalum; low ESR

Hermetic Wet Tantalum Surface-Mount Chip Capacitors						
Series	Capacitance Range	Voltage	ESR	Case Sizes	Operating Temperature	
 <a href="#">T22</a>	10 $\mu$ F to 68 $\mu$ F	50 V <sub>DC</sub> to 125 V <sub>DC</sub>	1.5 $\Omega$ to 5.5 $\Omega$	C	-55 °C to +125 °C	Tantalum case; hermetically sealed; SMD; enhanced performance; high reliability

# TANTALUM CAPACITORS OFFER STABLE PERFORMANCE AND RELIABILITY FOR THE MOST DEMANDING APPLICATIONS



## Advantages of Vishay Tantalum Capacitors

- Stable performance over operating temperature, voltage range, and life (no wear-out)
- Specialized for key applications: commercial, industrial, military, medical, automotive, and space
- Wide range of capacitance and voltages
- Large selection of styles and sizes



## For the Following Applications

- Power conversion and distribution
- Energy storage; bulk capacitance
- Filtering



When reliability and performance are critical, Vishay's tantalum capacitors deliver



AEC-Q200 tantalum capacitors are the industry's choice for high-capacitance solutions in automotive applications



## Useful Links

- FIT calculator program:  
[www.vishay.com/capacitors/tantalum-reliability-calculator-list/](http://www.vishay.com/capacitors/tantalum-reliability-calculator-list/)
- Solid tantalum capacitor selector guide:  
[www.vishay.com/doc?49053](http://www.vishay.com/doc?49053)

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