

AVX

Y O U
THOUGHT
0603 WAS
ONLY AVAILABLE
IN CERAMICS

TACmicrochip TANTALUM CAPACITOR



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AVX

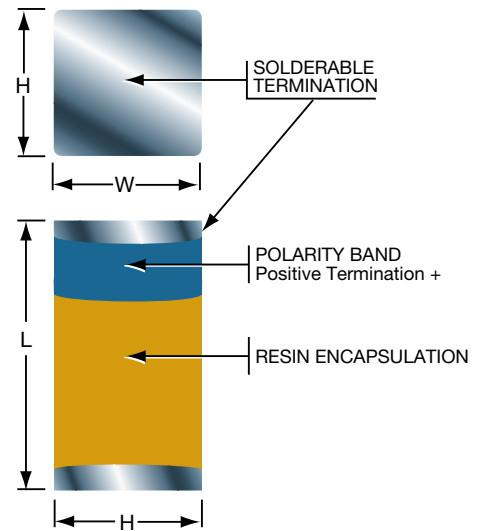
TACmicrochip—providing solutions to tomorrow's design challenges.

AVX TACmicrochip Tantalum Capacitors

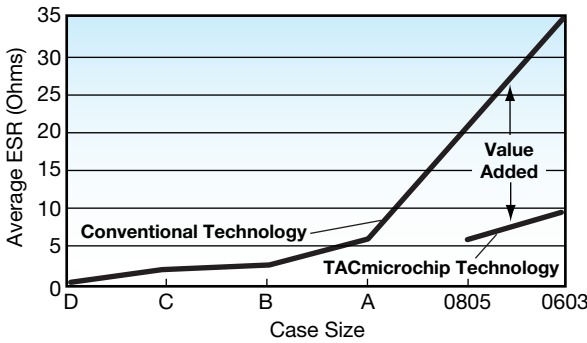
Capacitance and Voltage Matrix

Cap μ F	Code	Rated Voltage at 85°C				
		2	3	4	6.3	10
0.47	474					0603
0.68	684					0603
1.0	105				0603	0603
1.5	155			0603	0603	0603
2.2	225		0603	0603	0603	
3.3	335	0603	0603	0603		
4.7	475	0603	0603			0805
6.8	685	0603			0805	0805
10	106			0805	0805	0805
15	156		0805	0805	0805	
22	226	0805	0805	0805		
33	336	0805	0805			
47	476	0805				

Standard
 Extended Range
 Development

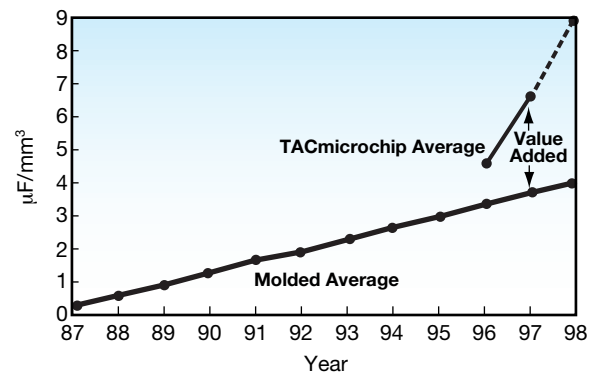


New Technology Reduces ESR



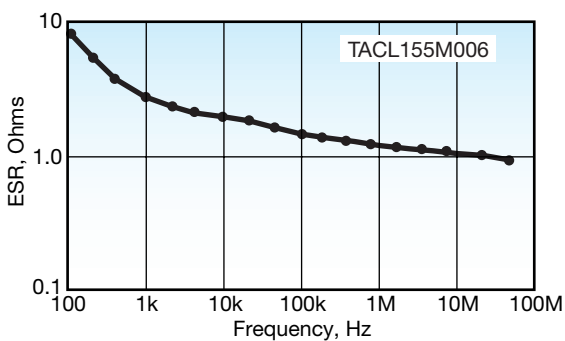
Conventional molded tantalum technology results in an increase in ESR for each reduction in case size. The graph above shows a reduction in ESR performance of the TACmicrochip compared to the same case size if conventional technology were used.

New Technology Increases Volumetric Efficiency



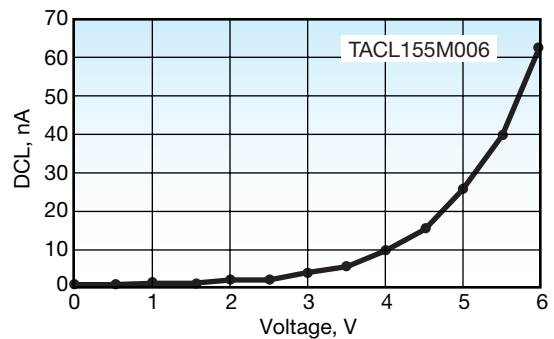
The above graph shows a major leap forward in μ F/mm³ performance. The CV values offered in the 0603 could not be achieved using conventional molded technology.

Enhanced ESR & High Frequency Operation



The new construction technique used to manufacture the TACmicrochip eliminates many of the parasitic inductance and resistance paths inherent in standard molded tantalum capacitors.

Enhanced Leakage Current & Battery Efficiency



Overall leakage current capability improvements are achieved using the unique TACmicrochip construction technology.

How to Order:

Type _____ **TAC** _____ **L** _____ **225** _____ **M** _____ **003** _____ **R** _____ ****** _____
 TACmicrochip

Case Code _____
 L=0603, R=0805

Capacitance Code _____
 pF code: 1st two digits represent significant figures, 3rd digit represents multiplier (number of zeros to follow)

Capacitance Tolerance _____
 K=±10%, M=±20%

Rated DC Voltage _____

Packaging Termination Finish _____

Preferred R=8mm x 180mm Tape & Reel Tin Plated
 X=8mm x 110mm Tape & Reel Tin Plated

Special A=8mm x 180mm Tape & Reel Gold Plated
 F=8mm x 110mm Tape & Reel Gold Plated

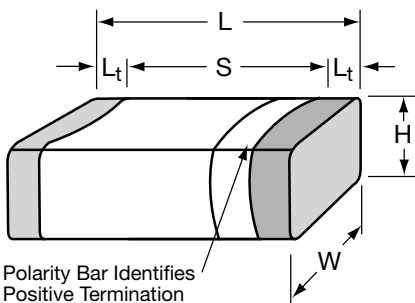
Additional characters may be added for special requirements _____

Ratings and Part Number Reference

AVX Style	Case Size	Capacitance μF@120Hz	Leakage μA (Max)	DF % Max	ESR Max @100kHz
(2 volt)					
TAC	0603	3.3	0.5	6	10
TAC	0603	4.7	0.5	6	10
TAC	0603	6.8	0.5	6	10
(3 volt)					
TAC	0603	2.2	0.5	6	10
TAC	0603	3.3	0.5	6	10
TAC	0603	4.7	0.5	6	10
(4 volt)					
TAC	0603	1.5	0.5	6	10
TAC	0603	2.2	0.5	6	10
TAC	0603	3.3	0.5	6	10
(6.3 volt)					
TAC	0603	1.0	0.5	6	10
TAC	0603	1.5	0.5	6	10
TAC	0603	2.2	0.5	6	10
(10 volt)					
TAC	0603	0.47	0.5	6	12
TAC	0603	0.68	0.5	6	10
TAC	0603	1.0	0.5	6	10
TAC	0603	1.5	0.5	6	10

Ratings and Part Number Reference

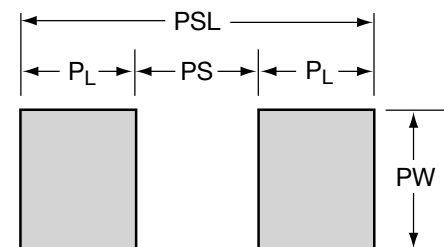
AVX Style	Case Size	Capacitance μF@120Hz	Leakage μA (Max)	DF % Max	ESR Max @100kHz
(2 volt)					
TAC	0805	22	0.5	8	6
TAC	0805	33	0.7	8	6
TAC	0805	47	1.0	8	6
(3 volt)					
TAC	0805	15	0.5	8	6
TAC	0805	22	0.7	8	6
TAC	0805	33	1.0	8	6
(4 volt)					
TAC	0805	10	0.5	8	6
TAC	0805	15	0.6	8	6
TAC	0805	22	0.9	8	6
(6.3 volt)					
TAC	0805	6.8	0.5	8	6
TAC	0805	10	0.6	8	6
TAC	0805	15	0.9	8	6
(10 volt)					
TAC	0805	4.7	0.5	8	6
TAC	0805	6.8	0.7	8	6
TAC	0805	10	1.0	8	6



Unit: mm (inches)

Case Size	L + 0.25(.010) - 0.15(.006)	S (min)	W + 0.20(.008) - 0.10(.004)	H + 0.20(.008) - 0.10(.004)
0603	1.6 (.063)	0.8 (.030)	0.85 (.030)	0.85 (.030)
0805	2.0 (.080)	1.1 (.040)	1.35 (.050)	1.35 (.050)

Recommended Pad Size



Unit: mm (inches)

Case Size	PL	PS (min)	PW	PSL
0603	0.9 (.035)	0.7 (.028)	1.0 (.040)	2.5 (.100)
0805	1.0 (.040)	1.0 (.040)	1.5 (.060)	3.0 (.120)

Fax Back



For further information and sample availability.

AVX USA: 843-626-5186
 AVX EUROPE: ++44-1252-770004
 AVX ASIA: ++65-3504-880

Name: _____
 Company: _____
 Address: _____
 _____ Zip Code: _____
 Tel. No: _____
 Fax No: _____

Project launch date:
 0-3mths 3-6mths 6-12mths >12mths

Circuit Application:
 Decoupling Timing Filtering DC Blocking Other

Market Sector:
 Telecoms Auto PC Storage Power Supply Industrial
 Cellular Other

Please rank your critical design factors between 1-6 (1 most critical)
 Size Max Capacitance Impedance Temperature Stability Leakage Current Height

Please specify any CV ratings required outside of current matrix:

What other SMD products are used in this project:
 Ceramic Aluminum Film Chip Arrays Conductive Polymer Os-con

Please specify any non standard special requirements:
 Non Std Cap Low ESR Temp Cap Tolerance Interest in specials shown overleaf of Short Form Catalog

Forecast usage of Tantalum:	1998	1999	2000
Standard SMD Tantalum	<input type="text"/>	<input type="text"/>	<input type="text"/>
TACmicrochip	<input type="text"/>	<input type="text"/>	<input type="text"/>

Favored Supplier, Please rank 1-5 (1 most favorable):
 AVX Hitachi Kemet NEC Sprague Other

Other engineers in your company who would like information:

Please specify sample requirements:

CAPACITANCE

VOLTAGE



TACmicrochip Tantalum Capacitor



Continued investment in R&D has resulted in AVX introducing revolutionary technology to the tantalum capacitor market.

The world's smallest surface mount tantalum capacitor developed by the world leader in Tantalum Technology.

TACmicrochip is a major breakthrough in miniaturization without a reduction of performance.

It gives you: the highest bulk energy storage in an 0603 case size; enhanced high frequency operation through unique ESR performance; temperature and voltage stability and, of course, component count reduction.

The new TACmicrochip breaks new ground with the unique structure allowing 10 times more capacitance to be packaged in the 0603 case size than is possible with traditional tantalum technology.

These features coupled with the temperature and voltage stability of tantalum, enable system designers to achieve equipment miniaturization without compromising performance. Making TACmicrochip the only choice for size critical applications.

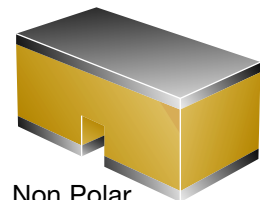
Combining existing tantalum manufacturing processes with semiconductor technology enables a highly versatile production capability which can be used for the production of specialized circuit requirements.

Examples of special tantalum capacitor configurations are shown below.

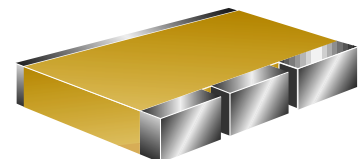
Please complete fax back on inside panel for more information.



0805 High Capacitance



Non Polar



Capacitor Array

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FAX: 360-699-8751

AVX North Central, IN

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FAX: 317-844-9314

AVX Northeast, MA

Tel: 508-485-8114
FAX: 508-485-8471

AVX Mid-Pacific, CA

Tel: 408-436-5400
FAX: 408-437-1500

AVX Southwest, AZ

Tel: 602-539-1496
FAX: 602-539-1501

AVX South Central, TX

Tel: 972-669-1223
FAX: 972-669-2090

AVX Southeast, NC

Tel: 919-878-6357
FAX: 919-878-6462

AVX Canada

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FAX: 905-564-9728

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