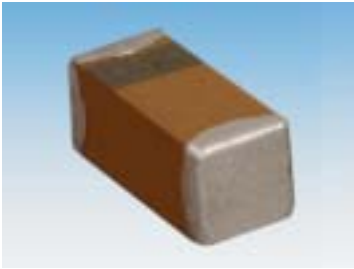


# TPC Series

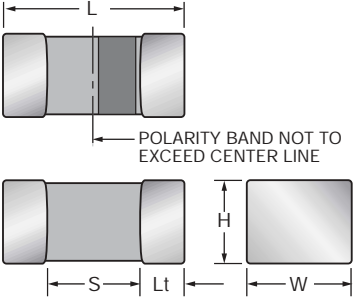
## Low ESR TACmicrochip™



The world's smallest surface mount Tantalum capacitor, small enough to create space providing room for ideas to grow.

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

It offers you the highest energy store in an 0603 or 0805 case size; enhanced high frequency operation through unique ESR performance with temperature and voltage stability.



### CASE DIMENSIONS: millimeters (inches)

Code	EIA Code	EIA Metric	Length (L)	Width (W)	Height (H)	Minimum Termination Length (Lt)	Typical Mass
L	0603	1608-08	1.60 <sup>+0.25</sup> / <sub>-0.15</sub> (0.063 <sup>+0.010</sup> / <sub>-0.006</sub> )	0.85 <sup>+0.20</sup> / <sub>-0.10</sub> (0.033 <sup>+0.008</sup> / <sub>-0.004</sub> )	0.85 <sup>+0.20</sup> / <sub>-0.10</sub> (0.033 <sup>+0.008</sup> / <sub>-0.004</sub> )	0.15 (0.006)	8.6mg
R	0805	2012-12	2.00 <sup>+0.25</sup> / <sub>-0.15</sub> (0.079 <sup>+0.010</sup> / <sub>-0.006</sub> )	1.35 <sup>+0.20</sup> / <sub>-0.10</sub> (0.053 <sup>+0.008</sup> / <sub>-0.004</sub> )	1.35 <sup>+0.20</sup> / <sub>-0.10</sub> (0.053 <sup>+0.008</sup> / <sub>-0.004</sub> )	0.15 (0.006)	29.9mg

### HOW TO ORDER

<b>TPC</b>   Type TACmicrochip™	<b>L</b>   Case Code 0603=L 0805=R	<b>226</b>   Capacitance Code pF code: 1st two digits represent significant figures, 3rd digit represents multiplier (number of zeros to follow)	<b>M</b>   Tolerance K=±10% M=±20%	<b>004</b>   Rated DC Voltage 002=2Vdc 003=3Vdc 004=4Vdc 006=6.3Vdc 010=10Vdc 016=16Vdc 020=20Vdc 025=25Vdc	<b>R</b>   Packaging (see table below)	<b>**</b>   Additional characters may be add for special requirements
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### Packaging Suffix

**RTA** – Std. termination (Nickel & Tin) supplied on plastic embossed tape on a 4mm pitch in a 7" diameter reel.  
**XTA** – Std. termination (Nickel & Tin) supplied on plastic embossed tape on a 4mm pitch in a 4.25" diameter reel.

**ATA** – Nickel & thin Gold plated termination, supplied on plastic embossed tape on a 4mm pitch in a 7" diameter reel.  
**FTA** – Nickel & thin Gold plated termination, supplied on plastic embossed tape on a 4mm pitch in a 4.25" diameter reel.

### Packaging Suffix

Reel Size	Standard Tin Termination Plastic Tape 0805/0603	Gold Termination Plastic Tape 0805/0603
7"	Rxx	Axx
4 1/4"	Xxx	Fxx

### TECHNICAL SPECIFICATIONS

Technical Data:	All technical data relate to an ambient temperature of +25°C						
Capacitance Range:	3.3µF to 47µF						
Capacitance Tolerance:	±10%; ±20%						
Leakage Current DCL:	0.01CV or 0.5µA whichever is the greater						
Rated Voltage (V <sub>R</sub> )	≧ +85°C:	3	4	6.3	10	16	
Category Voltage (V <sub>C</sub> )	≧ +125°C:	2	2.7	4	7	10	
Surge Voltage (V <sub>S</sub> )	≧ +85°C:	3.9	5.2	8	13	20	
Surge Voltage (V <sub>S</sub> )	≧ +125°C:	2.6	3.2	5	8	12	
Temperature Range:	-55°C to +125°C						
Reliability:	1% per 1000 hours at 85°C, V with 0.1Ω/V series impedance, 60% confidence level						
Termination Finish:	Nickel and Tin Plating (standard), Nickel and Gold Plating option available upon request						



# TPC Series



## Low ESR TACmicrochip™

### LOW ESR RANGE

(Letter Denotes Case Size) (ESR in Ohms)

Capacitance		Voltage Rating DC (VR) at 85°C							
Cap. (µF)	Code	2.0V	3.0V	4.0V	6.3V	10V	16V	20V	25V
0.33	334								
0.47	474								
0.68	684								
1.0	105								R(3.0)
1.5	155								
2.2	225								
3.3	335					L(5.0)			
4.7	475					L(5.0)			
6.8	685								
10	106				L(4.0)	R(1.8)	R(1.8)		
15	156				R(1.8)	R(1.5)			
22	226			R(1.8)	R(1.5)				
33	336		R(1.8)						
47	476		R(1.5)						
68	686								
100	107								
150	157								
220	227								

### RATINGS & PART NUMBER REFERENCE

AVX Part No.	EIA	Case Size	Capacitance (µF)	Rated Voltage (V)	DCL (µA) Max.	DF % Max.	ESR Max. (Ω) @100kHz	100kHz Ripple Current Ratings (A)			100kHz Ripple Voltage Ratings (V)		
								25°C	85°C	125°C	25°C	85°C	125°C
TPCR336*003#	0805	R	33	3.0	1.0	10.0	1.8	0.158	0.142	0.063	0.285	0.256	0.114
TPCR476*003#	0805	R	47	3.0	1.5	10.0	1.5	0.173	0.156	0.069	0.260	0.234	0.104
TPCR226*004#	0805	R	22	1.8	0.9	8.0	1.8	0.158	0.142	0.063	0.285	0.256	0.114
TPCR336*004#	0805	R	33	1.5	1.3	10.0	1.5	0.173	0.156	0.069	0.260	0.234	0.104
TPCL106M006#	0603	L	10	6.3	0.6	10.0	4.0	0.079	0.071	0.032	0.316	0.285	0.126
TPCR156*006#	0805	R	15	6.3	0.9	8.0	1.8	0.158	0.142	0.063	0.285	0.256	0.114
TPCR226*006#	0805	R	22	6.3	1.4	10.0	1.5	0.173	0.156	0.069	0.260	0.234	0.104
TPCL335*010#	0603	L	3.3	10.0	0.5	8.0	5.0	0.071	0.064	0.028	0.354	0.318	0.141
TPCL475M010#	0603	L	4.7	10.0	0.5	10.0	5.0	0.071	0.064	0.028	0.354	0.318	0.141
TPCR106*010#	0805	R	10	10.0	1.0	8.0	1.8	0.158	0.142	0.063	0.285	0.256	0.114
TPCR156*010#	0805	R	15	10.0	1.5	10.0	1.5	0.173	0.156	0.069	0.260	0.234	0.104
TPCR106*016#	0805	R	10	16.0	1.6	10.0	1.8	0.158	0.142	0.063	0.285	0.256	0.114
TPCR105*025#	0805	R	1.0	25.0	0.5	8.0	3.0	0.122	0.110	0.049	0.367	0.331	0.147

All technical data relates to an ambient temperature of +25°C. Capacitance and DF are measured at 120Hz, 0.5V RMS with a maximum DC bias of 2.2 volts. DCL is measured at rated voltage after 5 minutes.

\* Insert K for ±10% and M for ±20% Capacitance Tolerance

**NOTE: AVX reserves the right to supply a higher voltage rating or tighter tolerance part in the same case size, to the same reliability standards.**

The EIA & CECC standards for Low ESR Solid Tantalum Capacitors allow an ESR movement to 1.25 times catalog limit post mounting.

