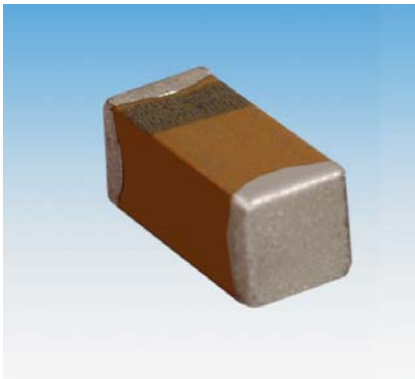


TPC Series



Low ESR TACmicrochip®

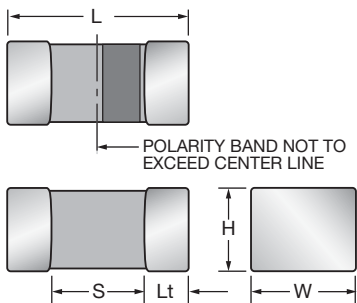


- Low ESR TACmicrochip® capacitor
- Smallest and low profile tantalum
- CV range: 1.0-100µF / 3-25V
- 4 case sizes available
- Power supply applications



CASE DIMENSIONS: millimeters (inches)

Code	EIA Code	EIA Metric	L+0.20 (0.008) -0.00 (0.000)	W+0.15 (0.008) -0.00 (0.000)	H+0.15 (0.008) -0.00 (0.000)	Termination Spacing(S)	Minimum Termination Length (Lt)
H	0805	2012-10	2.00 (0.079)	1.35 (0.053)	1.00 (0.039) max	0.70 (0.028) min	0.15 (0.006)
K	0402	1005-07	1.00 (0.039)	0.50 ^{+0.20} _{-0.00} (0.020 -0.000) ^{+0.008}	0.50 ^{+0.20} _{-0.00} (0.020 -0.000) ^{+0.008}	0.40 (0.016) min	0.10 (0.004)
L	0603	1608-10	1.60 (0.063)	0.85 (0.033)	0.85 (0.033)	0.55 (0.022) min	0.15 (0.006)
R	0805	2012-15	2.00 (0.079)	1.35 (0.053)	1.35 (0.053)	0.70 (0.028) min	0.15 (0.006)



HOW TO ORDER

TPC Type TACmicrochip®	R Case Size See table above	106 Capacitance Code pF code: 1st two digits represent significant figures, 3rd digit represents multiplier (number of zeros to follow)	M Tolerance K=±10% M=±20%	010 Rated DC Voltage 003=3Vdc 004=4Vdc 006=6.3Vdc 010=10Vdc 016=16Vdc 020=20Vdc 025=25Vdc	R Packaging R, P = 7" Standard Tin Termination Plastic Tape X, Q = 4 1/4" Standard Tin Termination Plastic Tape A, M = 7" Gold Termination Plastic Tape F, N = 4 1/4" Gold Termination Plastic Tape	1800 ESR in mΩ
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TECHNICAL SPECIFICATIONS

Technical Data:	All technical data relate to an ambient temperature of +25°C							
Capacitance Range:	1.0 µF to 100 µF							
Capacitance Tolerance:	±10%; ±20%							
Leakage Current DCL:	0.01CV or 0.5µA whichever is the greater							
Rated Voltage (V _R)	≤ +85°C:	3	4	6.3	10	16	20	25
Category Voltage (V _C)	≤ +125°C:	2	2.7	4	7	10	13	17
Surge Voltage (V _S)	≤ +85°C:	3.9	5.2	8	13	20	26	32
Surge Voltage (V _S)	≤ +125°C:	2.6	3.2	5	8	12	16	20
Temperature Range:	-55°C to +125°C							
Reliability:	1% per 1000 hours at 85°C, V _R with 0.1Ω/V series impedance, 60% confidence level							
Termination Finish:	Nickel and Tin Plating (standard), Nickel and Gold Plating option available upon request							

CAPACITANCE AND RATED VOLTAGE RANGE (LETTER DENOTES CASE SIZE)

Capacitance		Voltage Rating DC (V _R) at 85°C						
µF	Code	3.0V	4.0V	6.3V	10V	16V	20V	25V
1.0	105				L(5000)			R(3000)
1.5	155							
2.2	225			K(8000)/L(5000)	L(5000)	L(5000)		
3.3	335				L(5000)			
4.7	475	K(8000)			L(5000) ^(M)		R(1500) ^{(M)*}	
6.8	685							
10	106			L(4000) ^(M)	H(2500) L(4000) ^(M) ,R(1800)	R(1800)		
15	156			R(1800)	R(1500)			
22	226		L(5000) ^(M) /R(1800)	R(1500)	R(1500)			
33	336	R(1800)	H(1500) ^(M) /R(1500)		R(1500) ^(M)			
47	476	R(1500)		R(1800) ^(M)				
68	686							
100	107		R(1000) ^(M)					

Codes shown are examples of ESR values offered on certain CV and case size. Other codes and ESR values available upon request.

Released codes ^(M tolerance only)

*Code under development – subject to change

Note: Voltage ratings are minimum values. AVX reserves the right to supply higher ratings in the same case size, to the same reliability standards

RATINGS & PART NUMBER REFERENCE

AVX Part No.	EIA	Case Size	Cap (µF)	Rated Voltage (V)	DCL (µA) Max.	DF % Max.	ESR Max. (mΩ) @100kHz	MSL	100kHz Ripple Current Ratings (A)			100kHz Ripple Voltage Ratings (V)		
									25°C	85°C	125°C	25°C	85°C	125°C
3 Volt @ 85°C (2 Volt @ 125°C)														
TPCK475*003#8000	0402	K	4.7	3	0.5	12	8000	1	0.043	0.039	0.017	0.346	0.312	0.139
TPCR336*003#1800	0805	R	33	3	1.0	10	1800	1	0.158	0.142	0.063	0.285	0.256	0.114
TPCR476*003#1500	0805	R	47	3	1.5	10	1500	1	0.173	0.156	0.069	0.260	0.234	0.104
4 Volt @ 85°C (2.7 Volt @ 125°C)														
TPCL226M004#5000	0603	L	22	4	0.9	6	5000	1	0.071	0.064	0.028	0.354	0.318	0.141
TPCR226*004#1800	0805	R	22	4	0.9	8	1800	1	0.158	0.142	0.063	0.285	0.256	0.114
TPCH336M004#1500	0805	H	33	4	1.3	14	1500	1	0.163	0.147	0.065	0.245	0.221	0.098
TPCR336*004#1500	0805	R	33	4	1.3	10	1500	1	0.173	0.156	0.069	0.260	0.234	0.104
TPCR107M004#1000	0805	R	100	4	4.0	30	1000	1	0.212	0.191	0.085	0.212	0.191	0.085
6.3 Volt @ 85°C (4 Volt @ 125°C)														
TPCK225*006#8000	0402	K	2.2	6.3	0.5	8	8000	1	0.043	0.039	0.017	0.346	0.312	0.139
TPCL225*006#5000	0603	L	2.2	6.3	0.5	6	5000	1	0.071	0.064	0.028	0.354	0.318	0.141
TPCL106M006#4000	0603	L	10	6.3	0.6	10	4000	1	0.079	0.071	0.032	0.316	0.285	0.126
TPCR156*006#1800	0805	R	15	6.3	0.9	8	1800	1	0.158	0.142	0.063	0.285	0.256	0.114
TPCR226*006#1500	0805	R	22	6.3	1.4	10	1500	1	0.173	0.156	0.069	0.260	0.234	0.104
TPCR476M006#1800	0805	R	47	6.3	3.0	20	1800	1	0.158	0.142	0.063	0.285	0.256	0.114
10 Volt @ 85°C (7 Volt @ 125°C)														
TPCL105*010#5000	0603	L	1.0	10	0.5	6	5000	1	0.071	0.064	0.028	0.354	0.318	0.141
TPCL225*010#5000	0603	L	2.2	10	0.5	6	5000	1	0.071	0.064	0.028	0.354	0.318	0.141
TPCL335*010#5000	0603	L	3.3	10	0.5	8	5000	1	0.071	0.064	0.028	0.354	0.318	0.141
TPCL475M010#5000	0603	L	4.7	10	0.5	10	5000	1	0.071	0.064	0.028	0.354	0.318	0.141
TPCH106*010#2500	0805	H	10	10	1.0	8	2500	1	0.126	0.113	0.050	0.100	0.09	0.040
TPCL106M010#4000	0603	L	10	10	1.0	20	4000	1	0.079	0.071	0.032	0.316	0.285	0.126
TPCR106*010#1800	0805	R	10	10	1.0	8	1800	1	0.158	0.142	0.063	0.285	0.256	0.114
TPCR156*010#1500	0805	R	15	10	1.5	10	1500	1	0.173	0.156	0.069	0.260	0.234	0.104
TPCR226*010#1500	0805	R	22	10	2.2	14	1500	1	0.173	0.156	0.069	0.260	0.234	0.104
TPCR336M010#1500	0805	R	33	10	3.3	20	1500	1	0.173	0.156	0.069	0.260	0.234	0.104
16 Volt @ 85°C (10 Volt @ 125°C)														
TPCL225*016#5000	0603	L	2.2	16	0.5	10	5000	1	0.071	0.064	0.028	0.354	0.318	0.141
TPCR106*016#1800	0805	R	10	16	1.6	10	1800	1	0.158	0.142	0.063	0.285	0.256	0.114
20 Volt @ 85°C (13 Volt @ 125°C)														
TPCR475M020#1500	0805	R	4.7	20	0.9	8	1500	1	0.173	0.156	0.069	0.260	0.234	0.104
25 Volt @ 85°C (17 Volt @ 125°C)														
TPCR105*025#3000	0805	R	1.0	25	0.5	8	3000	1	0.122	0.110	0.049	0.367	0.331	0.147

Moisture Sensitivity Level (MSL) is defined according to J-STD-020.

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.

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

For typical weight and composition see page 162.

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.