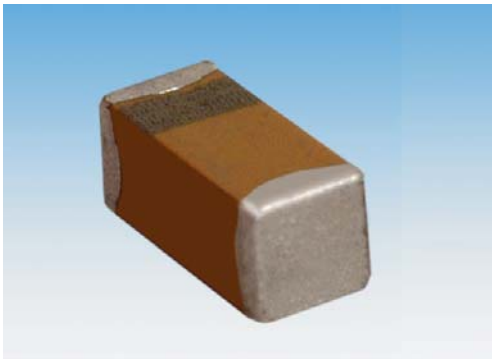
TACmicrochip™

Standard Microchip



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

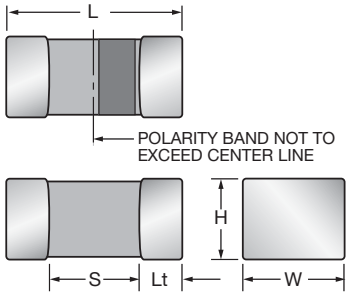
TACmicrochip™ is a major breakthrough in miniaturization without reduction in performance.

It offers you the highest energy store in a small case size down to 0402; enhanced high frequency operation through unique ESR performance with temperature and voltage stability is also offered.

LEAD-FREE

HALOGEN-FREE COMPOUNDS

ENVIRONMENTAL FRIENDLY COMPONENT



CASE DIMENSIONS: millimeters (inches)

Code	EIA Code	EIA Metric	Length (L)	Width (W)	Height (H)	Termination Spacing(S)	Minimum Termination Length (Lt)	Average Mass
J	0603	1608-08	1.00 +0.20 -0.00 (0.039 +0.008 -0.000)	0.85 +0.15 -0.00 (0.033 +0.006 -0.000)	0.75 max. (0.030 max.)	0.55 min. (0.022 min.)	0.15 (0.006)	5.8mg
K	0402	1005-07	1.00 +0.20 -0.00 (0.039 +0.008 -0.000)	0.50 +0.20 -0.00 (0.020 +0.008 -0.000)	0.50 +0.20 -0.00 (0.020 +0.008 -0.000)	0.40 min. (0.016 min.)	0.10 (0.004)	2.0mg
L	0603	1608-10	1.60 +0.20 -0.00 (0.063 +0.008 -0.000)	0.85 +0.15 -0.00 (0.033 +0.006 -0.000)	0.85 +0.15 -0.00 (0.033 +0.006 -0.000)	0.55 min. (0.022 min.)	0.15 (0.006)	8.6mg
R	0805	2012-15	2.00 +0.20 -0.00 (0.079 +0.008 -0.000)	1.35 +0.15 -0.00 +0.006 (0.053 -0.000)	1.35 +0.15 -0.00 (0.053 +0.006 -0.000)	0.70 min. (0.027 min.)	0.15 (0.006)	29.9mg
A	1206	3216-18	3.20 ±0.20 (0.126 ±0.008)	1.60 ±0.20 (0.063 ±0.008)	1.60 ±0.20 (0.063 ±0.008)	1.80 min. (0.071 min.)	0.15 (0.006)	44.6mg

HOW TO ORDER

TAC — **Type**: TACmicrochip™

L — **Case Size**: 0402=K, 0603=L, 0805=R, 1206=A

226 — **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%

004 — **Rated DC Voltage**: 002=2Vdc, 003=3Vdc, 004=4Vdc, 005=5Vdc, 006=6.3Vdc, 010=10Vdc, 016=16Vdc, 020=20Vdc, 025=25Vdc, 035=35Vdc

R — **Packaging** (see table below)

TA — **Alternative characters may be used for special requirements**

Packaging Suffix

Reel Size	Standard Tin Termination Plastic Tape	Standard Tin Termination Paper Tape	Gold Termination Plastic Tape
Case	A/R/L	K	A/R/L
7"	RTA	PTA	ATA
4¼"	XTA	QTA	FTA

TECHNICAL SPECIFICATIONS

Technical Data:	All technical data relate to an ambient temperature of +25°C										
Capacitance Range:	0.47 µF to 150 µF										
Capacitance Tolerance:	±10%; ±20%										
Leakage Current DCL:	0.01CV or 0.5µA whichever is the greater										
Rated Voltage (V_R)	≦ +85°C:	2	3	4	5	6.3	10	16	20	25	35
Category Voltage (V_C)	≦ +125°C:	1.3	2	2.7	3.3	4	7	10	13	17	23
Surge Voltage (V_S)	≦ +85°C:	2.7	3.9	5.2	6.5	8	13	20	26	32	46
Surge Voltage (V_S)	≦ +125°C:	1.7	2.6	3.2	4	5	8	12	16	20	28
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										

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STANDARD COMMERCIAL RANGE (EIA Sizes) (LETTER DENOTES CASE SIZE)

Capacitance		Voltage Rating DC (V_R) at 85°C									
µF	Code	2.0V	3.0V	4.0V	5.0V	6.3V	10V	16V	20V	25V	35V
0.33	334						K/L	L			
0.47	474						K/L	L			
0.68	684										
1.0	105					K/L	K/L	L		R	
1.5	155			L		L	L				
2.2	225		K/L	L		K/L	L	L		R	
3.3	335	K/L	K/L	L		L	L/R				
4.7	475	K/L	K/L	L		L	L/R		R		
6.8	685	L	L	L		L/R	L/R				
10	106	K/L	L	J/L/R		L/R	L/R	R			
15	156		R	L/R		L/R	R				
22	226	R	L/R	L/R	L	R	R				
33	336	R	R	R		R	R/A				
47	476	L/R	R	R		R/A	A				
68	686	R	R	A							
100	107		R/A	A		A					
150	157	A									
220	227	A									

Developmental Ratings - subject to change

Standard Height Profile: K, L, R, A Case
Low Profile: N, U, H, T, V Case
Custom Low Profile: X Case

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RATINGS & PART NUMBER REFERENCE

AVX Part No.	EIA	Case Size	Capacitance (µF)	Rated Voltage (V)	DCL (µA) Max.	DF % Max.	ESR Max. (Ω) @100kHz
TACK335M002#	0402	K	3.3	2	0.5	8	15
TACL335*002#	0603	L	3.3	2	0.5	6	7.5
TACK475M002#	0402	K	4.7	2	0.5	12	15
TACL475*002#	0603	L	4.7	2	0.5	6	7.5
TACL685*002#	0603	L	6.8	2	0.5	6	7.5
TACK106M002#	0402	K	10	2	0.5	15	15
TACL106*002#	0603	L	10	2	0.5	10	7.5
TACR226*002#	0805	R	22	2	0.5	8	5
TACR336*002#	0805	R	33	2	0.7	10	5
TACR476*002#	0805	R	47	2	0.9	10	5
TACR686M002#	0805	R	68	2	1.4	14	5
TACA157M002#	1206	A	150	2	3.0	20	1
TACK225M003#	0402	K	2.2	3	0.5	6	15
TACL225*003#	0603	L	2.2	3	0.5	6	7.5
TACK335M003#	0402	K	3.3	2	0.5	8	15
TACL335*003#	0603	L	3.3	3	0.5	6	7.5
TACK475M003#	0402	K	4.7	3	0.5	12	15
TACL475*003#	0603	L	4.7	3	0.5	6	7.5
TACL685*003#	0603	L	6.8	3	0.5	6	7.5
TACL106*003#	0603	L	10	3	0.5	10	7.5
TACR156*003#	0805	R	15	3	0.5	8	5
TACL226M003#	0603	L	22	3	0.7	20	7.5
TACR226*003#	0805	R	22	3	0.7	8	5
TACR336*003#	0805	R	33	3	1.0	10	5
TACR476*003#	0805	R	47	3	1.5	10	5
TACR686M003#	0805	R	68	3	2.0	14	5
TACA107M003#	1206	A	100	3	3.0	15	1
TACR107M003#	0805	R	100	6.3	3	30	5
TACL155*004#	0603	L	1.5	4	0.5	6	7.5
TACL225*004#	0603	L	2.2	4	0.5	6	7.5
TACL335*004#	0603	L	3.3	4	0.5	6	7.5
TACL475*004#	0603	L	4.7	4	0.5	6	7.5
TACL685*004#	0603	L	6.8	4	0.5	8	7.5
TACJ106M004#	0603	J	10	4	0.5	20	7.5
TACL106M004#	0603	L	10	4	0.5	10	7.5
TACR106*004#	0805	R	10	4	0.5	8	5
TACL156M004#	0603	L	15	4	0.6	20	7.5
TACR156*004#	0805	R	15	4	0.6	8	5
TACL226M004#	0603	L	22	4	0.9	20	7.5
TACR226*004#	0805	R	22	4	0.9	8	5
TACR336*004#	0805	R	33	4	1.3	10	5
TACR476M004#	0805	R	47	4	1.9	14	5
TACA686M004#	1206	A	68	4	2.7	15	1
TACA107M004#	1206	A	100	4	4.0	20	1
TACL226M005#	0603	L	22	5	1.1	20	7.5

AVX Part No.	EIA	Case Size	Capacitance (µF)	Rated Voltage (V)	DCL (µA) Max.	DF % Max.	ESR Max. (Ω) @100kHz
TACK105M006#	0402	K	1.0	6.3	0.5	6	15
TACL105*006#	0603	L	1.0	6.3	0.5	6	7.5
TACL155*006#	0603	L	1.5	6.3	0.5	6	7.5
TACK225M006#	0402	K	2.2	6.3	0.5	8	15
TACL225*006#	0603	L	2.2	6.3	0.5	6	7.5
TACL335*006#	0603	L	3.3	6.3	0.5	6	7.5
TACL475*006#	0603	L	4.7	6.3	0.5	8	7.5
TACL685*006#	0603	L	6.8	6.3	0.5	10	7.5
TACR685*006#	0805	R	6.8	6.3	0.5	8	5
TACL106M006#	0603	L	10	6.3	0.6	10	6
TACR106*006#	0805	R	10	6.3	0.6	8	5
TACL156M006#	0603	L	15	6.3	0.9	20	7.5
TACR156*006#	0805	R	15	6.3	0.9	8	5
TACR226*006#	0805	R	22	6.3	1.4	10	5
TACR336*006#	0805	R	33	6.3	2.1	12	5
TACR476M006#	0805	R	47	6.3	3	20	5
TACA476M006#	1206	A	47	6.3	3.0	15	1
TACA107M006#	1206	A	100	6.3	6.3	20	1
TACK474M010#	0402	K	0.47	10	0.5	6	15
TACL474*010#	0603	L	0.47	10	0.5	6	7.5
TACK684M010#	0402	K	0.68	10	0.5	8	15
TACL684*010#	0603	L	0.68	10	0.5	6	7.5
TACK105M010#	0402	K	1.0	10	0.5	6	15
TACL105*010#	0603	L	1.0	10	0.5	6	7.5
TACL155*010#	0603	L	1.5	10	0.5	6	7.5
TACL225*010#	0603	L	2.2	10	0.5	6	7.5
TACL335*010#	0603	L	3.3	10	0.5	8	7.5
TACR335*010#	0805	R	3.3	10	0.5	8	5
TACL475M010#	0603	L	4.7	10	0.5	10	6
TACR475*010#	0805	R	4.7	10	0.5	8	6
TACL685*010#	0603	L	6.8	10	0.7	20	7.5
TACR685*010#	0805	R	6.8	10	0.7	8	5
TACL106M010#	0603	L	10	10	1.0	20	7.5
TACR106*010#	0805	R	10	10	1.0	8	5
TACR156*010#	0805	R	15	10	1.5	10	5
TACR226M010#	0805	R	22	10	2.2	14	5
TACA336M010#	1206	A	33	10	3.3	12	1
TACR336*010#	0805	R	33	10	3.3	20	5
TACL474*016#	0603	L	0.47	16	0.5	6	7.5
TACL684*016#	0603	L	0.68	16	0.5	6	7.5
TACL105*016#	0603	L	1.0	16	0.5	6	7.5
TACL225M016#	0603	L	2.2	16	0.5	10	7.5
TACR106*016#	0805	R	10	16	1.6	10	5
TACR475M020#	0805	R	4.7	20	0.9	8	5
TACR105*025#	0805	R	1.0	25	0.5	8	5

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

\# Refer to packaging suffix for options

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.