

TACmicrochip™



Standard Microchip

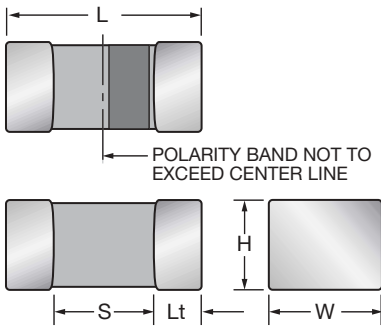


The world's smallest surface mount Tantalum capacitor, small enough to create space providing room for ideas to grow.

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

It offers you the highest energy store in 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) | Termination Spacing(S) | Termination Length (Lt) | Average Mass |
|------|----------|------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------|-------------------------|--------------|
| K | 0402 | 1005-05 | 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. | 0.10 (0.004) | 2.0mg |
| L | 0603 | 1608-08 | 1.60 ^{+0.25} _{-0.15} (0.063 ^{+0.010} _{-0.006}) | 0.85 ^{+0.20} _{-0.10} (0.033 ^{+0.008} _{-0.004}) | 0.85 ^{+0.20} _{-0.10} (0.033 ^{+0.008} _{-0.004}) | 0.65 min. | 0.15 (0.006) | 8.6mg |
| R | 0805 | 2012-12 | 2.00 ^{+0.25} _{-0.15} (0.079 ^{+0.010} _{-0.006}) | 1.35 ^{+0.20} _{-0.10} (0.053 ^{+0.008} _{-0.004}) | 1.35 ^{+0.20} _{-0.10} (0.053 ^{+0.008} _{-0.004}) | 0.85 min. | 0.15 (0.006) | 29.9mg |
| A | 1206 | 3216-16 | 3.20±0.20 (0.126±0.008) | 1.60±0.20 (0.063±0.008) | 1.60±0.20 (0.063±0.008) | 2.00 min. | 0.15 (0.006) | 44.6mg |

HOW TO ORDER

| | | | | | | |
|---------------|--------------------------------------|--------------------------------------------------------------------------------------------------------------------|------------------|--------------------------------------------------------------------------|-------------------|-----------------------------------------------------------|
| TAC | L | 226 | M | 004 | R | ** |
| Type | Case Code | Capacitance Code | Tolerance | Rated DC Voltage | Packaging | Additional characters may be add for special requirements |
| TACmicrochip™ | 0402=K 0603=L 0805=R 1206=A | pF code: 1st two digits represent significant figures, 3rd digit represents multiplier (number of zeros to follow) | K=±10% M=±20% | 002=2Vdc 003=3Vdc 004=4Vdc 006=6.3Vdc 010=10Vdc 016=16Vdc | (see table below) | |

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.

PTA – Std. termination (Nickel & Tin) supplied on punched paper tape on a 2mm pitch in a 7" diameter reel.

QTA – Std. termination (Nickel & Tin) supplied on punched paper tape on a 2mm 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 1206/0805/0603 | Standard Tin Termination Paper Tape 0402 | Gold Termination Plastic Tape 1206/0805/0603 |
|-----------|---------------------------------------------------------|---------------------------------------------|-------------------------------------------------|
| 7" | Rxx | Pxx | Axx |
| 4 1/4" | Xxx | Qxx | Fxx |

STANDARD COMMERCIAL RANGE (EIA Sizes)

(LETTER DENOTES CASE SIZE)

| Capacitance | | Voltage Rating DC (VR) at 85°C | | | | | |
|-------------|------|--------------------------------|------|------|------|-----|-----|
| Cap. (µF) | Code | 2.0V | 3.0V | 4.0V | 6.3V | 10V | 16V |
| 0.33 | 334 | | | | | | |
| 0.47 | 474 | | | | | | |
| 0.68 | 684 | | | | | | |
| 1.0 | 105 | | | | | | |
| 1.5 | 155 | | | | | | |
| 2.2 | 225 | | | | | | |
| 3.3 | 335 | | | | | | |
| 4.7 | 475 | | | | | | |
| 6.8 | 685 | | | | | | |
| 10.0 | 106 | | | | | | |
| 15.0 | 156 | | | | | | |
| 22.0 | 226 | | | | | | |
| 33.0 | 336 | | | | | | |
| 47.0 | 476 | | | | | | |
| 68.0 | 686 | | | | | | |
| 100 | 107 | | | | | | |
| 150 | 157 | | | | | | |
| 220 | 227 | | | | | | |

Developmental Ratings - subject to change

Available Ratings



RATINGS & PART NUMBER REFERENCE

| AVX Part No. | EIA | CODE | Capacitance (μF) | Rated Voltage (V) | DCL (μA) Max. | DF % Max. | ESR Max. (Ω) @100kHz |
|--------------|------|------|------------------|-------------------|---------------|-----------|----------------------|
| TACK475M002# | 0402 | K | 4.7 | 2.0 | 0.5 | 12.0 | 20.0 |
| TACK225M003# | 0402 | K | 2.2 | 3.0 | 0.5 | 6.0 | 20.0 |
| TACK475M003# | 0402 | K | 4.7 | 3.0 | 0.5 | 12.0 | 20.0 |
| TACK105M006# | 0402 | K | 1.0 | 6.3 | 0.5 | 6.0 | 20.0 |
| TACK225M006# | 0402 | K | 2.2 | 6.3 | 0.5 | 8.0 | 20.0 |
| TACK474M010# | 0402 | K | 0.47 | 10.0 | 0.5 | 6.0 | 20.0 |
| TACL335*002# | 0603 | L | 3.3 | 2.0 | 0.5 | 6.0 | 10.0 |
| TACL475*002# | 0603 | L | 4.7 | 2.0 | 0.5 | 6.0 | 10.0 |
| TACL685*002# | 0603 | L | 6.8 | 2.0 | 0.5 | 6.0 | 10.0 |
| TACL106*002# | 0603 | L | 10 | 2.0 | 0.5 | 10.0 | 10.0 |
| TACL225*003# | 0603 | L | 2.2 | 3.0 | 0.5 | 6.0 | 10.0 |
| TACL335*003# | 0603 | L | 3.3 | 3.0 | 0.5 | 6.0 | 10.0 |
| TACL475*003# | 0603 | L | 4.7 | 3.0 | 0.5 | 6.0 | 10.0 |
| TACL685*003# | 0603 | L | 6.8 | 3.0 | 0.5 | 6.0 | 10.0 |
| TACL106*003# | 0603 | L | 10 | 3.0 | 0.5 | 10.0 | 10.0 |
| TACL226M003# | 0603 | L | 22 | 3.0 | 0.7 | 20.0 | 10.0 |
| TACL155*004# | 0603 | L | 1.5 | 4.0 | 0.5 | 6.0 | 10.0 |
| TACL225*004# | 0603 | L | 2.2 | 4.0 | 0.5 | 6.0 | 10.0 |
| TACL335*004# | 0603 | L | 3.3 | 4.0 | 0.5 | 6.0 | 10.0 |
| TACL475*004# | 0603 | L | 4.7 | 4.0 | 0.5 | 6.0 | 10.0 |
| TACL685*004# | 0603 | L | 6.8 | 4.0 | 0.5 | 8.0 | 10.0 |
| TACL106M004# | 0603 | L | 10 | 4.0 | 0.5 | 10.0 | 10.0 |
| TACL226M004# | 0603 | L | 22 | 4.0 | 0.9 | 20.0 | 10.0 |
| TACL105*006# | 0603 | L | 1.0 | 6.3 | 0.5 | 6.0 | 10.0 |
| TACL155*006# | 0603 | L | 1.5 | 6.3 | 0.5 | 6.0 | 10.0 |
| TACL225*006# | 0603 | L | 2.2 | 6.3 | 0.5 | 6.0 | 10.0 |
| TACL335*006# | 0603 | L | 3.3 | 6.3 | 0.5 | 6.0 | 10.0 |
| TACL475*006# | 0603 | L | 4.7 | 6.3 | 0.5 | 8.0 | 10.0 |
| TACL106M006# | 0603 | L | 10 | 6.3 | 0.6 | 10.0 | 6.0 |
| TACL474*010# | 0603 | L | 0.47 | 10.0 | 0.5 | 6.0 | 12.0 |
| TACL684*010# | 0603 | L | 0.68 | 10.0 | 0.5 | 6.0 | 10.0 |
| TACL105*010# | 0603 | L | 1.0 | 10.0 | 0.5 | 6.0 | 10.0 |
| TACL155*010# | 0603 | L | 1.5 | 10.0 | 0.5 | 6.0 | 10.0 |
| TACL225*010# | 0603 | L | 2.2 | 10.0 | 0.5 | 6.0 | 10.0 |
| TACL335*010# | 0603 | L | 3.3 | 10.0 | 0.5 | 8.0 | 10.0 |
| TACL475M010# | 0603 | L | 4.7 | 10.0 | 0.5 | 10.0 | 6.0 |
| TACL105*016# | 0603 | L | 1.0 | 16.0 | 0.5 | 6.0 | 10.0 |

| AVX Part No. | EIA | CODE | Capacitance (μF) | Rated Voltage (V) | DCL (μA) Max. | DF % Max. | ESR Max. (Ω) @100kHz |
|--------------|------|------|------------------|-------------------|---------------|-----------|----------------------|
| TACR226*002# | 0805 | R | 22 | 2.0 | 0.7 | 8.0 | 6.0 |
| TACR336*002# | 0805 | R | 33 | 2.0 | 1.0 | 10.0 | 6.0 |
| TACR476*002# | 0805 | R | 47 | 2.0 | 1.5 | 10.0 | 6.0 |
| TACR686M002# | 0805 | R | 68 | 2.0 | 1.4 | 14.0 | 6.0 |
| TACR156*003# | 0805 | R | 15 | 3.0 | 0.5 | 8.0 | 6.0 |
| TACR226*003# | 0805 | R | 22 | 3.0 | 0.7 | 8.0 | 6.0 |
| TACR336*003# | 0805 | R | 33 | 3.0 | 1.0 | 10.0 | 6.0 |
| TACR476*003# | 0805 | R | 47 | 3.0 | 1.5 | 10.0 | 6.0 |
| TACR686M003# | 0805 | R | 68 | 3.0 | 2.0 | 14.0 | 6.0 |
| TACR106*004# | 0805 | R | 10 | 4.0 | 0.5 | 8.0 | 6.0 |
| TACR156*004# | 0805 | R | 15 | 4.0 | 0.6 | 8.0 | 6.0 |
| TACR226*004# | 0805 | R | 22 | 4.0 | 0.9 | 8.0 | 6.0 |
| TACR336*004# | 0805 | R | 33 | 4.0 | 1.3 | 10.0 | 6.0 |
| TACR685*006# | 0805 | R | 6.8 | 6.3 | 0.5 | 8.0 | 6.0 |
| TACR106*006# | 0805 | R | 10 | 6.3 | 0.6 | 8.0 | 6.0 |
| TACR156*006# | 0805 | R | 15 | 6.3 | 0.9 | 8.0 | 6.0 |
| TACR226*006# | 0805 | R | 22 | 6.3 | 1.4 | 10.0 | 6.0 |
| TACR335*010# | 0805 | R | 3.3 | 10.0 | 0.5 | 8.0 | 6.0 |
| TACR475*010# | 0805 | R | 4.7 | 10.0 | 0.5 | 8.0 | 6.0 |
| TACR685*010# | 0805 | R | 6.8 | 10.0 | 0.7 | 8.0 | 6.0 |
| TACR106*010# | 0805 | R | 10 | 10.0 | 1.0 | 8.0 | 6.0 |
| TACR156*010# | 0805 | R | 15 | 10.0 | 1.5 | 10.0 | 6.0 |
| TACA157M002# | 1206 | A | 150 | 2.0 | 3.0 | 20.0 | 1.0 |
| TACA107M003# | 1206 | A | 100 | 3.0 | 3.0 | 15.0 | 1.0 |
| TACA686M004# | 1206 | A | 68 | 4.0 | 2.7 | 15.0 | 1.0 |
| TACA107M004# | 1206 | A | 100 | 4.0 | 4.0 | 20.0 | 1.0 |

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

Available Ratings

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.