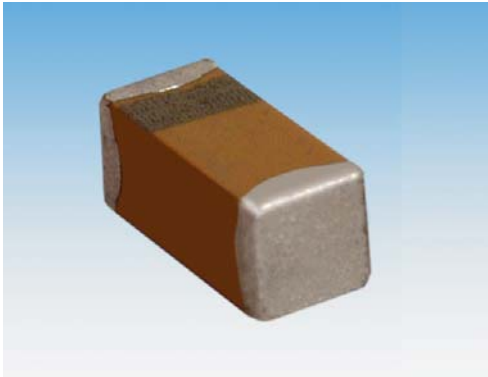


Standard Microchip



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.

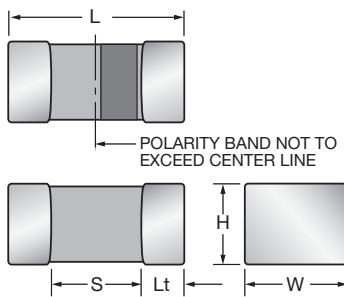


LEAD-FREE



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 |
|------|----------|------------|---|---|---|------------------------|---------------------------------|--------------|
| K | 0402 | 1005-07 | 1.00 ^{+0.20} _{-0.00} ^{+0.008} _{-0.000} (0.039 ^{+0.008} _{-0.000}) | 0.50 ^{+0.20} _{-0.00} ^{+0.008} _{-0.000} (0.020 ^{+0.008} _{-0.000}) | 0.50 ^{+0.20} _{-0.00} ^{+0.008} _{-0.000} (0.020 ^{+0.008} _{-0.000}) | 0.40 min. | 0.10 (0.004) | 2.0mg |
| L | 0603 | 1608-10 | 1.60 ^{+0.20} _{-0.00} ^{+0.008} _{-0.000} (0.063 ^{+0.008} _{-0.000}) | 0.85 ^{+0.15} _{-0.00} ^{+0.006} _{-0.000} (0.033 ^{+0.006} _{-0.000}) | 0.85 ^{+0.15} _{-0.00} ^{+0.006} _{-0.000} (0.033 ^{+0.006} _{-0.000}) | 0.65 min. | 0.15 (0.006) | 8.6mg |
| R | 0805 | 2012-15 | 2.00 ^{+0.20} _{-0.00} ^{+0.008} _{-0.000} (0.079 ^{+0.008} _{-0.000}) | 1.35 ^{+0.15} _{-0.00} ^{+0.006} _{-0.000} (0.053 ^{+0.006} _{-0.000}) | 1.35 ^{+0.15} _{-0.00} ^{+0.006} _{-0.000} (0.053 ^{+0.006} _{-0.000}) | 0.85 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) | 2.00 min. | 0.15 (0.006) | 44.6mg |

HOW TO ORDER

| | | | | | | |
|-----------------------|---|---|-------------------------------|---|--------------------------------|---|
| TAC | L | 226 | M | 004 | R | TA |
| Type TACmicrochip™ | Case Code 0402=K 0603=L 0805=R 1206=A | Capacitance Code pF code: 1st two digits represent significant figures, 3rd digit represents multiplier (number of zeros to follow) | Tolerance K=±10% M=±20% | Rated DC Voltage 002=2Vdc 003=3Vdc 004=4Vdc 006=6.3Vdc 010=10Vdc 016=16Vdc 020=20Vdc 025=25Vdc 035=35Vdc | Packaging (see table below) | 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 |
| 4 1/4" | XTA | QTA | FTA |

TECHNICAL SPECIFICATIONS

| | | | | | | | | | | |
|------------------------------------|--|-----|-----|-----|-----|----|----|----|----|----|
| Technical Data: | All technical data relate to an ambient temperature of +25°C | | | | | | | | | |
| Capacitance Range: | 0.47µF to 150µF | | | | | | | | | |
| 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 | 6.3 | 10 | 16 | 20 | 25 | 35 |
| Category Voltage (V _C) | ≧ +125°C: | 1.3 | 2 | 2.7 | 4 | 7 | 10 | 13 | 17 | 23 |
| Surge Voltage (V _S) | ≧ +85°C: | 2.7 | 3.9 | 5.2 | 8 | 13 | 20 | 26 | 32 | 46 |
| Surge Voltage (V _S) | ≧ +125°C: | 1.7 | 2.6 | 3.2 | 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 | | | | | | | | | |

Standard Microchip

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

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

Developmental Ratings - subject to change

Standard Height Profile: K, L, R, A Case

Low Profile: N, U, H, T Case

Custom Low Profile: X Case

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 | 0.5 | 8 | 15 |
| TACL335*002# | 0603 | L | 3.3 | 2.0 | 0.5 | 6 | 7.5 |
| TACK475M002# | 0402 | K | 4.7 | 2.0 | 0.5 | 12 | 15 |
| TACL475*002# | 0603 | L | 4.7 | 2.0 | 0.5 | 6 | 7.5 |
| TACL685*002# | 0603 | L | 6.8 | 2.0 | 0.5 | 6 | 7.5 |
| TACK106M002# | 0402 | K | 10 | 2.0 | 0.5 | 15 | 15 |
| TACL106*002# | 0603 | L | 10 | 2.0 | 0.5 | 10 | 7.5 |
| TACR226*002# | 0805 | R | 22 | 2.0 | 0.7 | 8 | 5 |
| TACK336*002# | 0805 | R | 33 | 2.0 | 1.0 | 10 | 5 |
| TACR476*002# | 0805 | R | 47 | 2.0 | 1.5 | 10 | 5 |
| TACR686M002# | 0805 | R | 68 | 2.0 | 1.4 | 14 | 5 |
| TACA157M002# | 1206 | A | 150 | 2.0 | 3.0 | 20 | 1 |
| TACK225M003# | 0402 | K | 2.2 | 3.0 | 0.5 | 6 | 15 |
| TACL225*003# | 0603 | L | 2.2 | 3.0 | 0.5 | 6 | 7.5 |
| TACK335M003# | 0402 | K | 3.3 | 2.0 | 0.5 | 8 | 15 |
| TACL335*003# | 0603 | L | 3.3 | 3.0 | 0.5 | 6 | 7.5 |
| TACK475M003# | 0402 | K | 4.7 | 3.0 | 0.5 | 12 | 15 |
| TACL475*003# | 0603 | L | 4.7 | 3.0 | 0.5 | 6 | 7.5 |
| TACL685*003# | 0603 | L | 6.8 | 3.0 | 0.5 | 6 | 7.5 |
| TACK106M003# | 0402 | K | 10 | 3.0 | 0.5 | 15 | 15 |
| TACL106*003# | 0603 | L | 10 | 3.0 | 0.5 | 10 | 7.5 |
| TACR156*003# | 0805 | R | 15 | 3.0 | 0.5 | 8 | 5 |
| TACL226M003# | 0603 | L | 22 | 3.0 | 0.7 | 20 | 7.5 |
| TACR226*003# | 0805 | R | 22 | 3.0 | 0.7 | 8 | 5 |
| TACK336*003# | 0805 | R | 33 | 3.0 | 1.0 | 10 | 5 |
| TACR476*003# | 0805 | R | 47 | 3.0 | 1.5 | 10 | 5 |
| TACR686M003# | 0805 | R | 68 | 3.0 | 2.0 | 14 | 5 |
| TACA107M003# | 1206 | A | 100 | 3.0 | 3.0 | 15 | 1 |
| TACL156*004# | 0603 | L | 1.5 | 4.0 | 0.5 | 6 | 7.5 |
| TACL225*004# | 0603 | L | 2.2 | 4.0 | 0.5 | 6 | 7.5 |
| TACL335*004# | 0603 | L | 3.3 | 4.0 | 0.5 | 6 | 7.5 |
| TACK475M004# | 0402 | K | 4.7 | 4.0 | 0.5 | 15 | 15 |
| TACL475*004# | 0603 | L | 4.7 | 4.0 | 0.5 | 6 | 7.5 |
| TACL685*004# | 0603 | L | 6.8 | 4.0 | 0.5 | 8 | 7.5 |
| TACL106M004# | 0603 | L | 10 | 4.0 | 0.5 | 10 | 7.5 |
| TACR106*004# | 0805 | R | 10 | 4.0 | 0.5 | 8 | 5 |
| TACL156M004# | 0603 | L | 15 | 4.0 | 0.6 | 20 | 7.5 |
| TACR156*004# | 0805 | R | 15 | 4.0 | 0.6 | 8 | 5 |
| TACL226M004# | 0603 | L | 22 | 4.0 | 0.9 | 20 | 7.5 |
| TACR226*004# | 0805 | R | 22 | 4.0 | 0.9 | 8 | 5 |
| TACK336*004# | 0805 | R | 33 | 4.0 | 1.3 | 10 | 5 |
| TACR476M004# | 0805 | R | 47 | 4.0 | 1.9 | 14 | 5 |
| TACA686M004# | 1206 | A | 68 | 4.0 | 2.7 | 15 | 1 |
| TACA107M004# | 1206 | A | 100 | 4.0 | 4.0 | 20 | 1 |

| 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 | 6.0 | 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 |
| TACK336*006# | 0805 | R | 33 | 6.3 | 2.1 | 12 | 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 | 0.5 | 6 | 15 |
| TACL474*010# | 0603 | L | 0.47 | 10.0 | 0.5 | 6 | 7.5 |
| TACK684M010# | 0402 | K | 0.68 | 10.0 | 0.5 | 8 | 15 |
| TACL684*010# | 0603 | L | 0.68 | 10.0 | 0.5 | 6 | 7.5 |
| TACK105M010# | 0402 | K | 1.0 | 10.0 | 0.5 | 6 | 15 |
| TACL105*010# | 0603 | L | 1.0 | 10.0 | 0.5 | 6 | 7.5 |
| TACL155*010# | 0603 | L | 1.5 | 10.0 | 0.5 | 6 | 7.5 |
| TACL225*010# | 0603 | L | 2.2 | 10.0 | 0.5 | 6 | 7.5 |
| TACL335*010# | 0603 | L | 3.3 | 10.0 | 0.5 | 8 | 7.5 |
| TACK335*010# | 0805 | R | 3.3 | 10.0 | 0.5 | 8 | 5 |
| TACL475M010# | 0603 | L | 4.7 | 10.0 | 0.5 | 10 | 6 |
| TACR475*010# | 0805 | R | 4.7 | 10.0 | 0.5 | 8 | 6 |
| TACR685*010# | 0805 | R | 6.8 | 10.0 | 0.7 | 8 | 5 |
| TACL106M010# | 0603 | L | 10 | 10.0 | 1.0 | 20 | 7.5 |
| TACR106*010# | 0805 | R | 10 | 10.0 | 1.0 | 8 | 5 |
| TACR156*010# | 0805 | R | 15 | 10.0 | 1.5 | 10 | 5 |
| TACR226M010# | 0805 | R | 22 | 10.0 | 2.2 | 14 | 5 |
| TACA226M010# | 1206 | A | 22 | 10.0 | 2.2 | 10 | 1 |
| TACA336M010# | 1206 | A | 33 | 10.0 | 3.3 | 12 | 1 |
| TACL474*016# | 0603 | L | 0.47 | 16.0 | 0.5 | 6 | 7.5 |
| TACL684*016# | 0603 | L | 0.68 | 16.0 | 0.5 | 6 | 7.5 |
| TACL105*016# | 0603 | L | 1.0 | 16.0 | 0.5 | 6 | 7.5 |
| TACL225M016# | 0603 | L | 2.2 | 16.0 | 0.5 | 10 | 7.5 |
| TACR106*016# | 0805 | R | 10 | 16.0 | 1.6 | 10 | 5 |
| TACR475M020# | 0805 | R | 4.7 | 20.0 | 0.9 | 8 | 5 |
| TACR105*025# | 0805 | R | 1.0 | 25.0 | 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.