

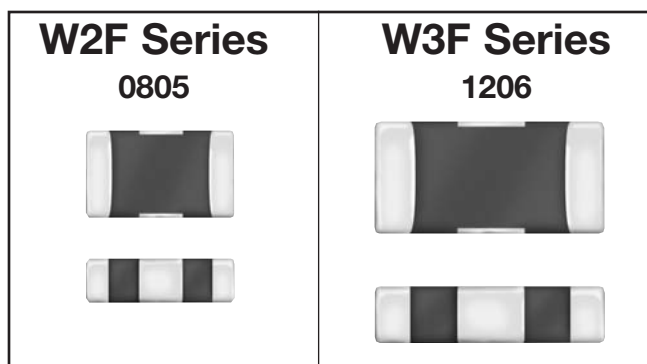
# Feedthru 0805/1206 Capacitors



## W2F/W3F Series

### GENERAL DESCRIPTION

Available in both a standard 0805 and 1206 size, AVX's line of feedthru capacitors are ideal choices for EMI suppression, broadband I/O filtering, or Vcc power line conditioning. The unique construction of a feedthru capacitor provides low parallel inductance and offers excellent decoupling capability for all high di/dt environments and provides significant noise reduction in digital circuits to <5 GHz. A large range of capacitor values are available in either NP0 or X7R ceramic dielectrics. AVX FeedThru filters are AEC Q200 qualified. High reliability screening options are available for spacecraft designs.



### CAPACITOR VALUES

| Part Number       | Size | Voltage | Dielectric | Capacitance |
|-------------------|------|---------|------------|-------------|
| W2F11A 220 8ATxx  | 0805 | 100V    | NP0        | 22pF        |
| W2F11A 470 8ATxx  | 0805 | 100V    | NP0        | 47pF        |
| W2F11A 101 8ATxx  | 0805 | 100V    | NP0        | 100pF       |
| W2F11A 221 8ATxx  | 0805 | 100V    | NP0        | 220pF       |
| W2F11A 471 8ATxx  | 0805 | 100V    | NP0        | 470pF       |
| W2F15C 102 8ATxx  | 0805 | 50V     | X7R        | 1000pF      |
| W2F15C 222 8ATxx  | 0805 | 50V     | X7R        | 2200pF      |
| W2F15C 472 8ATxx  | 0805 | 50V     | X7R        | 4700pF      |
| W2F15C 103 8ATxx  | 0805 | 50V     | X7R        | 10000pF     |
| W2F15C 223 8ATxx  | 0805 | 50V     | X7R        | 22000pF     |
| W2F15C 473 8ATxx  | 0805 | 50V     | X7R        | 47000pF     |
| W3F11A 220 8ATxx  | 1206 | 100V    | NP0        | 22pF        |
| W3F11A 470 8ATxx  | 1206 | 100V    | NP0        | 47pF        |
| W3F11A 101 8ATxx  | 1206 | 100V    | NP0        | 100pF       |
| W3F11A 221 8ATxx  | 1206 | 100V    | NP0        | 220pF       |
| W3F11A 471 8ATxx  | 1206 | 100V    | NP0        | 470pF       |
| W3F15C 102 8ATxx  | 1206 | 50V     | X7R        | 1000pF      |
| W3F15C 222 8ATxx  | 1206 | 50V     | X7R        | 2200pF      |
| W3F15C 472 8ATxx  | 1206 | 50V     | X7R        | 4700pF      |
| W3F15C 103 8ATxx  | 1206 | 50V     | X7R        | 10000pF     |
| W3F15C 223 8ATxx* | 1206 | 50V     | X7R        | 22000pF     |
| W3F15C 473 8ATxx  | 1206 | 50V     | X7R        | 47000pF     |

### PERFORMANCE CHARACTERISTICS

| Capacitance Tolerance       | NP0           | X7R        |
|-----------------------------|---------------|------------|
|                             | +50%, -20%    | +50%, -20% |
| Voltage Rating              | 100V          | 50V        |
| Current Rating              | 300mA         | 300mA      |
| Insulation Resistance       | 1000MΩ        | 1000MΩ     |
| DC Resistance               | <0.6Ω         | <0.6Ω      |
| Operating Temperature Range | -55 to +125°C |            |



### HOW TO ORDER

| W                                     | 3                    | F        | 1                  | 5                   | C                  | 223              | 8                     | A                                    | T                                     | 3                                                             | A                                            |
|---------------------------------------|----------------------|----------|--------------------|---------------------|--------------------|------------------|-----------------------|--------------------------------------|---------------------------------------|---------------------------------------------------------------|----------------------------------------------|
| Style                                 | Size                 | Feedthru | Number of Elements | Voltage**           | Dielectric         | Capacitance Code | Capacitance Tolerance | Failure Rate                         | Termination                           | Packaging Code (Reel Size)                                    | Quantity Code (Pcs./Reel)                    |
| W = Plated Ni & Sn<br>L = Plated SnPb | 2 = 0805<br>3 = 1206 |          |                    | 1 = 100V<br>5 = 50V | A = NP0<br>C = X7R |                  | 8 = +50/-20%          | A = Not Applicable<br>4 = AUTOMOTIVE | T = Plated Ni & Sn<br>B = Plated SnPb | 1 = 7" Reel<br>Embossed Tape<br>3 = 13" Reel<br>Embossed Tape | F = 1,000<br>A = 2,000<br>4,000 or<br>10,000 |

\*AECQ-200 Qualified. Contact factory for other values.

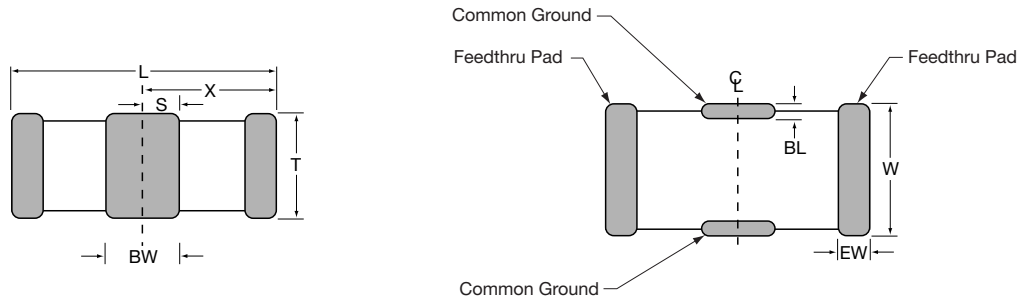
\*\*Note: NP0 available in 100V only and X7R available in 50V only.



# Feedthru 0805/1206 Capacitors

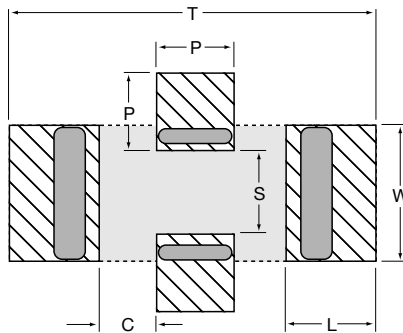


## W2F/W3F Series



### DIMENSIONS

|                         | L                              | W                              | T                         | BW                             | BL                                            | EW                             | X                              | S                              |
|-------------------------|--------------------------------|--------------------------------|---------------------------|--------------------------------|-----------------------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>0805 MM</b><br>(in.) | 2.01 ± 0.20<br>(0.079 ± 0.008) | 1.25 ± 0.20<br>(0.049 ± 0.008) | 1.14 Max.<br>(0.045 Max.) | 0.46 ± 0.10<br>(0.018 ± 0.004) | 0.18 + 0.25 - 0.08<br>(0.007 + 0.010 - 0.003) | 0.25 ± 0.13<br>(0.010 ± 0.005) | 1.02 ± 0.10<br>(0.040 ± 0.004) | 0.23 ± 0.15<br>(0.009 ± 0.006) |
| <b>1206 MM</b><br>(in.) | 3.20 ± 0.20<br>(0.126 ± 0.008) | 1.60 ± 0.20<br>(0.063 ± 0.008) | 1.27 Max.<br>(0.050 Max.) | 0.89 ± 0.10<br>(0.035 ± 0.004) | 0.18 + 0.25 - 0.08<br>(0.007 + 0.010 - 0.003) | 0.38 ± 0.18<br>(0.015 ± 0.007) | 1.60 ± 0.10<br>(0.063 ± 0.004) | 0.46 ± 0.15<br>(0.018 ± 0.006) |

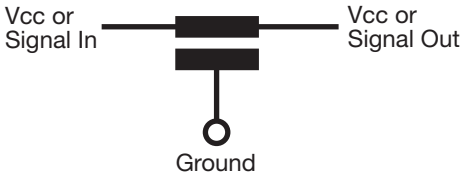


### RECOMMENDED SOLDER PAD LAYOUT (TYPICAL DIMENSIONS)

|                         | T               | P               | S               | W               | L               | C               |
|-------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| <b>0805 MM</b><br>(in.) | 3.45<br>(0.136) | 0.51<br>(0.020) | 0.76<br>(0.030) | 1.27<br>(0.050) | 1.02<br>(0.040) | 0.46<br>(0.018) |
| <b>1206 MM</b><br>(in.) | 4.54<br>(0.179) | 0.94<br>(0.037) | 1.02<br>(0.040) | 1.65<br>(0.065) | 1.09<br>(0.043) | 0.71<br>(0.028) |

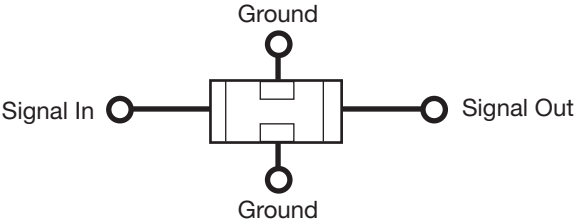
### TYPICAL FEEDTHRU CHIP CAP CONNECTION

#### Feedthru Chip Component Model

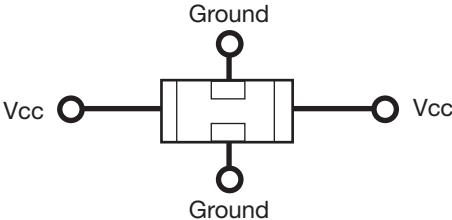


The terminals are connected internally side to side. Left side and right side are connected and front and back are connected internally. For Decoupling, the chip is usually surrounded by four vias, two for Vcc and two for GND. For Signal Filtering, the in and out lines need to be separated on the circuit board.

#### Physical Layout - A



#### Physical Layout - B



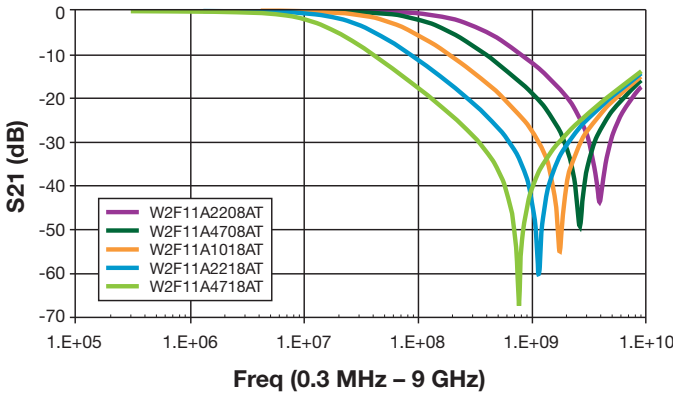
# Feedthru 0805/1206 Capacitors



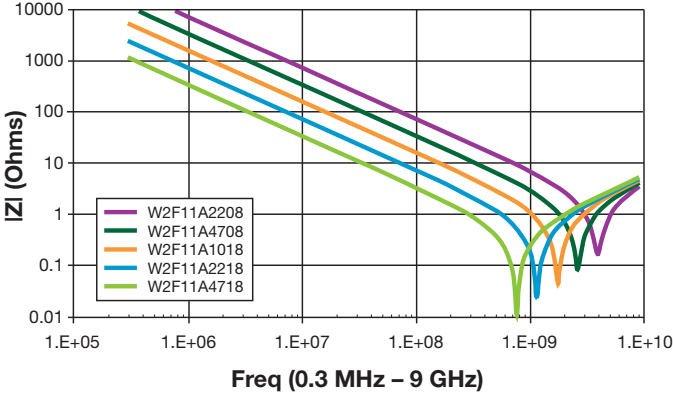
## W2F/W3F Series

### PERFORMANCE CHARACTERISTICS

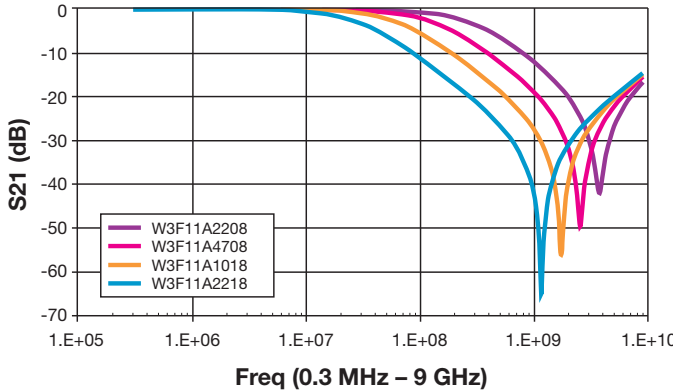
**S21 0805 – 100V**



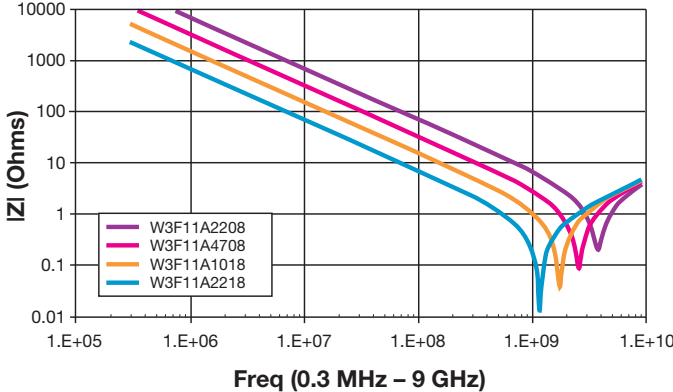
**IMPEDANCE 0805 – 100V**



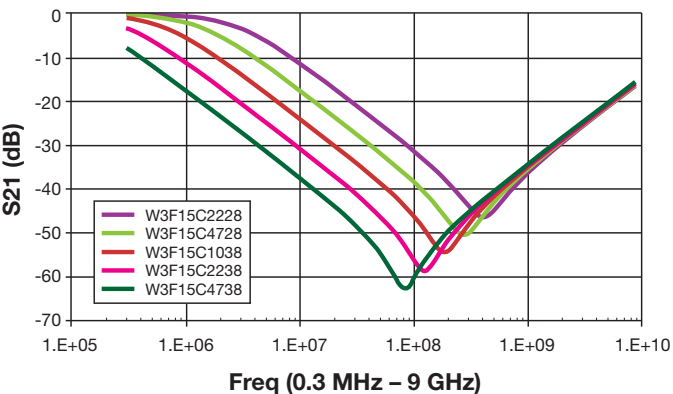
**S21 1206 – 100V**



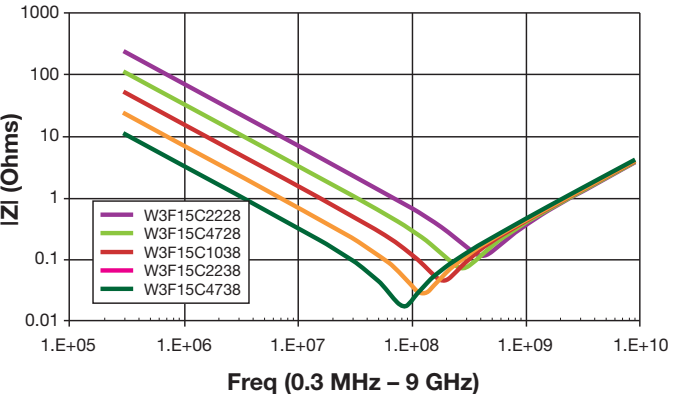
**IMPEDANCE 1206 – 100V**



**S21 1206 – 50V**



**IMPEDANCE 1206 – 50V**



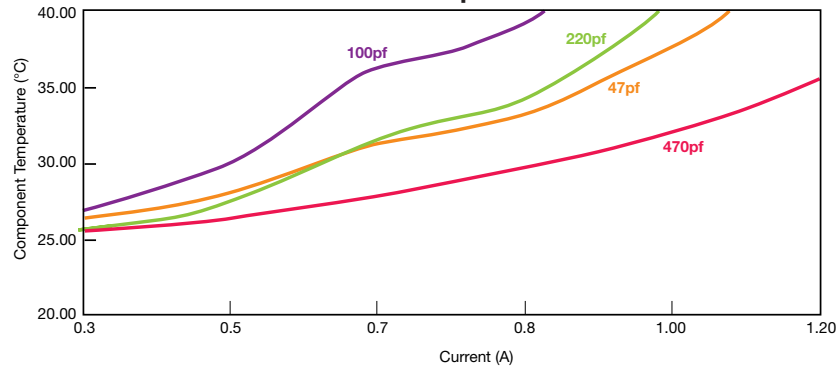
# Feedthru 0805/1206 Capacitors



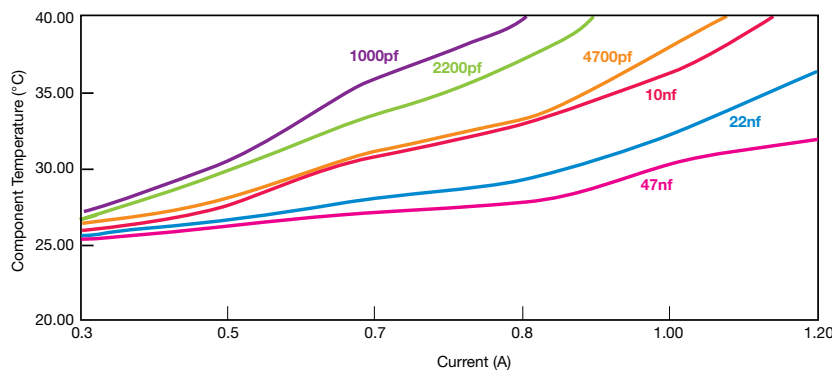
## W2F/W3F Series

### PERFORMANCE CHARACTERISTICS

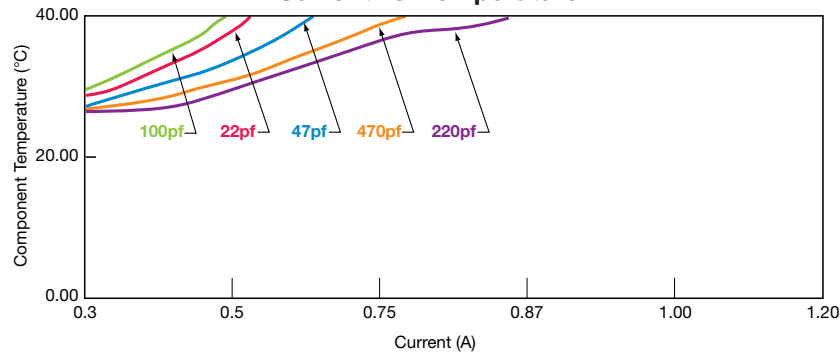
**0805 NP0**  
**Current vs. Temperature**



**0805 X7R**  
**Current vs. Temperature**



**1206 NP0**  
**Current vs. Temperature**



**1206 X7R**  
**Current vs. Temperature**

