

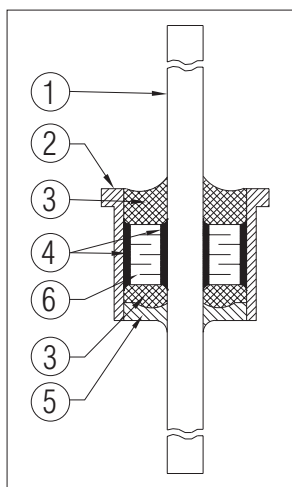
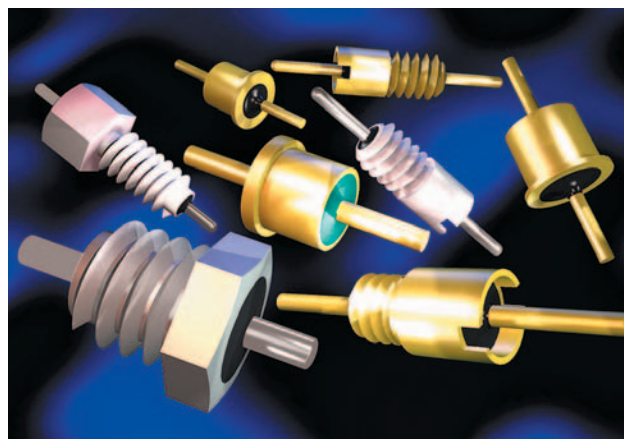
# Advanced Technology Filters



## Miniature, Subminiature & Microminiature

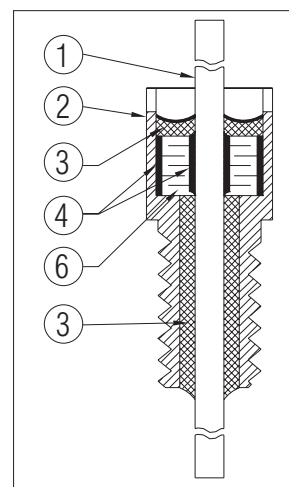
### APPLICATIONS

AVX's Miniature filter line breaks the "small" size barrier. These ultraminiature products, available as solder-in or screw-in style, have case diameters as low as .073". Threaded filters will allow substitution, flexibility of placement and simple installation, while solder-in parts will provide hermeticity of your microcircuit packages. Now, with capacitance values of up to 50,000 pF, "C", "L" or "T" circuits, superior insertion loss over on-board filtering, variety of ultra small and lightweight sizes, you can meet all "mission critical" objectives. World's smallest and most complete miniature EMI filter line is especially well suited for microwave industry, medical electronics, avionics instrumentation, satellites or other applications where space is at premium.

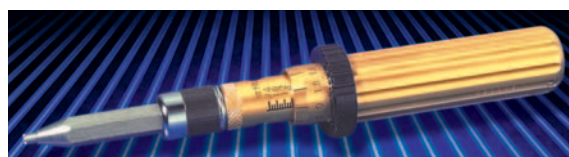


### FEATURES

- World's smallest filters, a "must" for avionics and space industry.
- Tiny size for miniaturization of microwave and telecom equipment.
- Hardware real-estate and weight reduction of up to 60%.
- Most complete product offering with solder-in or bolt installation.
- Discoidal capacitor design to meet cost/reliability goals.



- |            |                |               |
|------------|----------------|---------------|
| ① – LEAD   | ② – CASE       | ③ – EPOXY     |
| ④ – SOLDER | ⑤ – GLASS SEAL | ⑥ – CAPACITOR |



**NOTE:** Torque limiting tool with custom adapter available upon request.

### SPECIFICATIONS

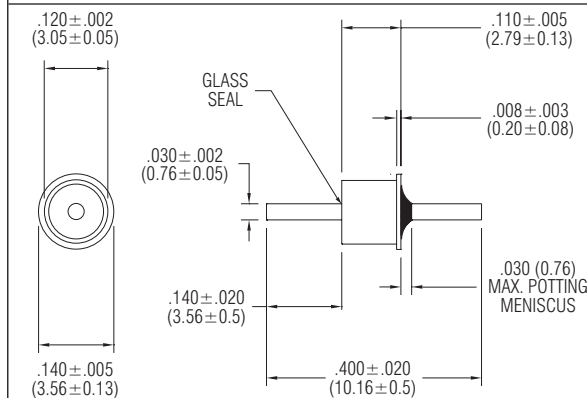
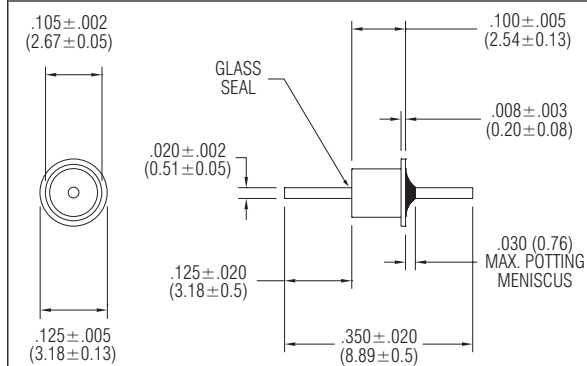
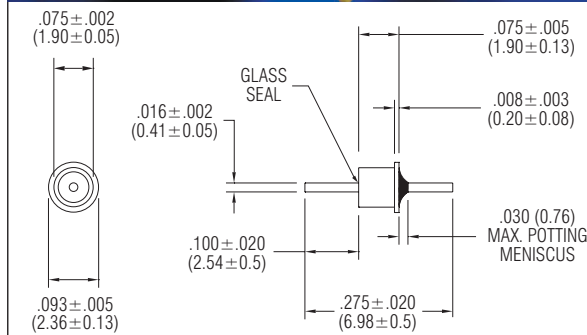
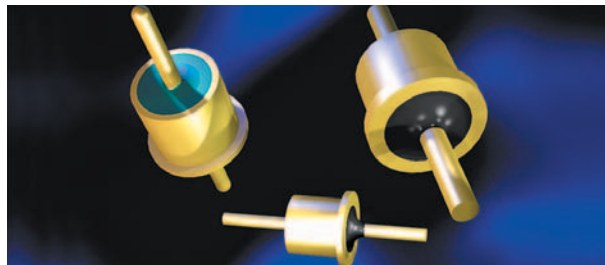
#### Mechanical

Material: Solder-In: Case and Leads:  
Kovar per ASTM F-15  
Screw-in: Case: CRS per ASTM-108  
Leads: Copper clad steel  
(1-64 & 2-56 Thd.)  
Copper (4-40 & 8-36 Thd.)  
Finish: Solder-in: Gold per Mil-G-45204  
Screw-in: Gold per Mil-G-45204 (standard)  
Silver optional (1-64 & 2-56 Thd.)  
Silver per QQ-S-365 (standard)  
Gold optional (4-40 & 8-36 Thd.)

#### Electrical

Capacitance: measured @ 1KHz and .1 to 1 VRMS, 25°C  
Dissipation factor: 3% max.  
Insulation resistance: 10,000 Mohms min. @ 25°C, WVDC;  
1000 Mohms min. @ 125°C, WVDC  
DC resistance: .02 ohm max.  
Dielectric withstanding voltage: 200% of WVDC min.

### SOLDER-IN STYLE, C TYPE

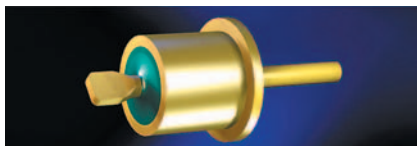


| SPECIFICATIONS        |                       |                     |                       |                                                               |           |            |            |          |           |
|-----------------------|-----------------------|---------------------|-----------------------|---------------------------------------------------------------|-----------|------------|------------|----------|-----------|
| AVX<br>Part<br>Number | Voltage<br>Vdc<br>(V) | Min.<br>Cap<br>(pF) | Current<br>Idc<br>(A) | MINIMUM NO LOAD INSERTION LOSS<br>(db) @ 25°C PER MIL-STD-220 |           |            |            |          |           |
|                       |                       |                     |                       | 10<br>MHZ                                                     | 30<br>MHZ | 100<br>MHZ | 300<br>MHZ | 1<br>GHZ | 10<br>GHZ |
| ZXS1C3-502            | 50                    | 5000                | 1.5                   | 15                                                            | 22        | 35         | 45         | 55       | 60        |
| ZXS1C3-272            | 50                    | 2700                | 1.5                   | 10                                                            | 17        | 30         | 38         | 50       | 60        |
| ZXS1A3-152            | 100                   | 1500                | 1.5                   | 5                                                             | 12        | 25         | 33         | 45       | 55        |
| ZXS1A3-102            | 100                   | 1000                | 1.5                   | 4                                                             | 10        | 22         | 30         | 42       | 55        |
| ZXS1A3-501            | 100                   | 500                 | 1.5                   | –                                                             | –         | 15         | 25         | 35       | 50        |
| ZXS1A3-251            | 100                   | 250                 | 1.5                   | –                                                             | –         | 10         | 17         | 27       | 40        |
| ZXS1B3-101            | 200                   | 100                 | 1.5                   | –                                                             | –         | 3          | 10         | 20       | 30        |
| ZXS1B3-500            | 200                   | 50                  | 1.5                   | –                                                             | –         | 1          | 6          | 15       | 25        |
| ZXS1B3-250            | 200                   | 25                  | 1.5                   | –                                                             | –         | –          | 1          | 10       | 22        |
| ZXS1B3-100            | 200                   | 10                  | 1.5                   | –                                                             | –         | –          | –          | 3        | 20        |
| ZXS1B3-5R0            | 200                   | 5                   | 1.5                   | –                                                             | –         | –          | –          | –        | 15        |
| ZXS1B3-000            | 200                   | 2 max.              | 1.5                   | –                                                             | –         | –          | –          | –        | –         |
|                       |                       |                     |                       |                                                               |           |            |            |          |           |
| ZYS1C3-273            | 50                    | 27000               | 2.5                   | 30                                                            | 37        | 43         | 53         | 65       | 70        |
| ZYS1C3-103            | 50                    | 10000               | 2.5                   | 20                                                            | 27        | 37         | 47         | 60       | 65        |
| ZYS1A3-502            | 100                   | 5000                | 2.5                   | 15                                                            | 22        | 35         | 45         | 55       | 60        |
| ZYS1A3-272            | 100                   | 2700                | 2.5                   | 10                                                            | 17        | 30         | 38         | 50       | 60        |
| ZYS1A3-152            | 100                   | 1500                | 2.5                   | 5                                                             | 12        | 25         | 33         | 45       | 55        |
| ZYS1B3-102            | 200                   | 1000                | 2.5                   | 4                                                             | 10        | 22         | 30         | 42       | 55        |
| ZYS1B3-501            | 200                   | 500                 | 2.5                   | –                                                             | –         | 15         | 25         | 35       | 50        |
| ZYS1B3-251            | 200                   | 250                 | 2.5                   | –                                                             | –         | 10         | 17         | 27       | 40        |
| ZYS1B3-101            | 200                   | 100                 | 2.5                   | –                                                             | –         | 3          | 10         | 20       | 30        |
| ZYS1B3-500            | 200                   | 50                  | 2.5                   | –                                                             | –         | 1          | 6          | 15       | 25        |
| ZYS1B3-250            | 200                   | 25                  | 2.5                   | –                                                             | –         | –          | 1          | 10       | 22        |
| ZYS1B3-100            | 200                   | 10                  | 2.5                   | –                                                             | –         | –          | –          | 3        | 20        |
| ZYS1B3-5R0            | 200                   | 5                   | 2.5                   | –                                                             | –         | –          | –          | –        | 15        |
| ZYS1B3-000            | 200                   | 2 max.              | 2.5                   | –                                                             | –         | –          | –          | –        | –         |
|                       |                       |                     |                       |                                                               |           |            |            |          |           |
| ZZS1C3-503            | 50                    | 50000               | 5                     | 35                                                            | 40        | 45         | 55         | 70       | 70        |
| ZZS1C3-273            | 50                    | 27000               | 5                     | 30                                                            | 37        | 43         | 53         | 65       | 70        |
| ZZS1A3-103            | 100                   | 10000               | 5                     | 20                                                            | 27        | 37         | 47         | 60       | 65        |
| ZZS1B3-502            | 200                   | 5000                | 5                     | 15                                                            | 22        | 35         | 45         | 55       | 60        |
| ZZS1B3-272            | 200                   | 2700                | 5                     | 10                                                            | 17        | 30         | 38         | 50       | 60        |
| ZZS1B3-152            | 200                   | 1500                | 5                     | 5                                                             | 12        | 25         | 33         | 45       | 55        |
| ZZS1B3-102            | 200                   | 1000                | 5                     | 4                                                             | 10        | 22         | 30         | 42       | 55        |
| ZZS1B3-501            | 200                   | 500                 | 5                     | –                                                             | –         | 15         | 25         | 35       | 50        |
| ZZS1B3-251            | 200                   | 250                 | 5                     | –                                                             | –         | 10         | 17         | 27       | 40        |
| ZZS1B3-101            | 200                   | 100                 | 5                     | –                                                             | –         | 3          | 10         | 20       | 30        |
| ZZS1B3-500            | 200                   | 50                  | 5                     | –                                                             | –         | 1          | 6          | 15       | 25        |
| ZZS1B3-250            | 200                   | 25                  | 5                     | –                                                             | –         | –          | 1          | 10       | 22        |
| ZZS1B3-100            | 200                   | 10                  | 5                     | –                                                             | –         | –          | –          | 3        | 20        |
| ZZS1B3-5R0            | 200                   | 5                   | 5                     | –                                                             | –         | –          | –          | –        | 15        |
| ZZS1B3-000            | 200                   | 2 max.              | 5                     | –                                                             | –         | –          | –          | –        | –         |

NOTE: Dimensions in inches (millimeters).

### CONFIGURATION OPTIONS

#### Terminals

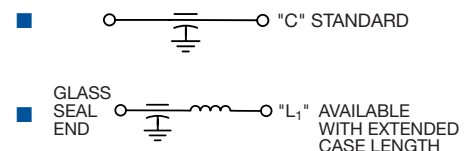


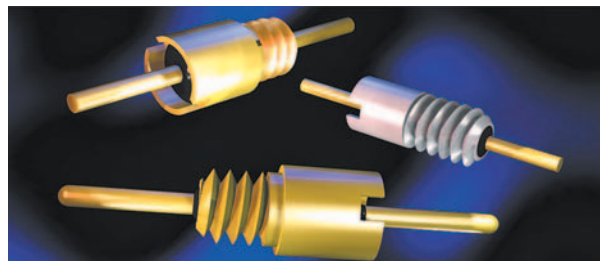
Flattened at Glass Seal End Only

#### Glass Seal

- Opposite Flange End – Standard
  - At Flange End – Reversed
- Change 3rd letter of part number from "S" to "R" for reversed configuration

#### Schematic

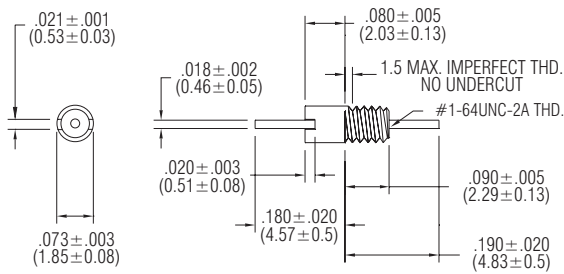




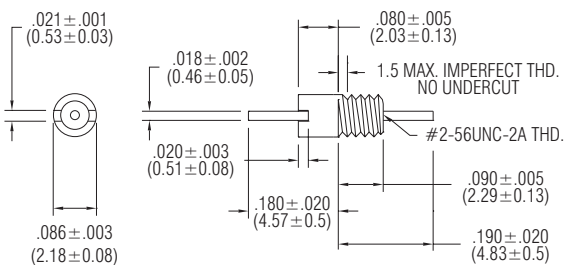
### SCREW-IN STYLE, C TYPE <sup>1-64</sup>/<sub>2-56</sub> THD.

#### SPECIFICATIONS

| AVX Part Number | Voltage Vdc (V) | Min. Cap (pF) | Current Idc (A) | MINIMUM NO LOAD INSERTION LOSS (db) @ 25°C PER MIL-STD-220 |        |         |         |       |        |
|-----------------|-----------------|---------------|-----------------|------------------------------------------------------------|--------|---------|---------|-------|--------|
|                 |                 |               |                 | 10 MHZ                                                     | 30 MHZ | 100 MHZ | 300 MHZ | 1 GHZ | 10 GHZ |
| SXD1C3-502      | 50              | 5000          | 3               | 15                                                         | 22     | 35      | 45      | 55    | 60     |
| SXD1C3-272      | 50              | 2700          | 3               | 10                                                         | 17     | 30      | 38      | 50    | 60     |
| SXD1A3-152      | 100             | 1500          | 3               | 5                                                          | 12     | 25      | 33      | 45    | 55     |
| SXD1A3-102      | 100             | 1000          | 3               | 4                                                          | 10     | 22      | 30      | 42    | 55     |
| SXD1A3-501      | 100             | 500           | 3               | -                                                          | -      | 15      | 25      | 35    | 50     |
| SXD1A3-251      | 100             | 250           | 3               | -                                                          | -      | 10      | 17      | 27    | 40     |
| SXD1B3-101      | 200             | 100           | 3               | -                                                          | -      | 3       | 10      | 20    | 30     |
| SXD1B3-500      | 200             | 50            | 3               | -                                                          | -      | 1       | 6       | 15    | 25     |
| SXD1B3-250      | 200             | 25            | 3               | -                                                          | -      | -       | 1       | 10    | 22     |
| SXD1B3-100      | 200             | 10            | 3               | -                                                          | -      | -       | -       | 3     | 20     |
| SXD1B3-5R0      | 200             | 5             | 3               | -                                                          | -      | -       | -       | -     | 15     |

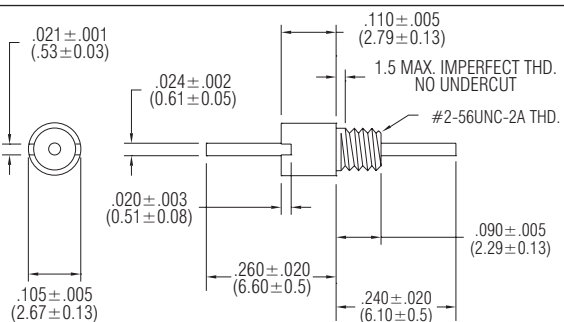


MOUNTING TORQUE: 7 ± 1 oz-in



MOUNTING TORQUE: 14 ± 2 oz-in

|            |     |      |   |    |    |    |    |    |    |
|------------|-----|------|---|----|----|----|----|----|----|
| SYD1C3-502 | 50  | 5000 | 3 | 15 | 22 | 35 | 45 | 55 | 60 |
| SYD1C3-272 | 50  | 2700 | 3 | 10 | 17 | 30 | 38 | 50 | 60 |
| SYD1A3-152 | 100 | 1500 | 3 | 5  | 12 | 25 | 33 | 45 | 55 |
| SYD1A3-102 | 100 | 1000 | 3 | 4  | 10 | 22 | 30 | 42 | 55 |
| SYD1A3-501 | 100 | 500  | 3 | -  | -  | 15 | 25 | 35 | 50 |
| SYD1A3-251 | 100 | 250  | 3 | -  | -  | 10 | 17 | 27 | 40 |
| SYD1B3-101 | 200 | 100  | 3 | -  | -  | 3  | 10 | 20 | 30 |
| SYD1B3-500 | 200 | 50   | 3 | -  | -  | 1  | 6  | 15 | 25 |
| SYD1B3-250 | 200 | 25   | 3 | -  | -  | -  | 1  | 10 | 22 |
| SYD1B3-100 | 200 | 10   | 3 | -  | -  | -  | -  | 3  | 20 |
| SYD1B3-5R0 | 200 | 5    | 3 | -  | -  | -  | -  | -  | 15 |



MOUNTING TORQUE: 14 ± 2 oz-in

|            |     |       |   |    |    |    |    |    |    |
|------------|-----|-------|---|----|----|----|----|----|----|
| SZD1C3-273 | 50  | 27000 | 5 | 30 | 37 | 43 | 53 | 65 | 70 |
| SZD1C3-103 | 50  | 10000 | 5 | 20 | 27 | 37 | 47 | 60 | 65 |
| SZD1A3-502 | 100 | 5000  | 5 | 15 | 22 | 35 | 45 | 55 | 60 |
| SZD1A3-272 | 100 | 2700  | 5 | 10 | 17 | 30 | 38 | 50 | 60 |
| SZD1A3-152 | 100 | 1500  | 5 | 5  | 12 | 25 | 33 | 45 | 55 |
| SZD1B3-102 | 200 | 1000  | 5 | 4  | 10 | 22 | 30 | 42 | 55 |
| SZD1B3-501 | 200 | 500   | 5 | -  | -  | 15 | 25 | 35 | 50 |
| SZD1B3-251 | 200 | 250   | 5 | -  | -  | 10 | 17 | 27 | 40 |
| SZD1B3-101 | 200 | 100   | 5 | -  | -  | 3  | 10 | 20 | 30 |
| SZD1B3-500 | 200 | 50    | 5 | -  | -  | 1  | 6  | 15 | 25 |
| SZD1B3-250 | 200 | 25    | 5 | -  | -  | -  | 1  | 10 | 22 |
| SZD1B3-100 | 200 | 10    | 5 | -  | -  | -  | -  | 3  | 20 |
| SZD1B3-5R0 | 200 | 5     | 5 | -  | -  | -  | -  | -  | 15 |

**NOTE:** Dimensions in inches (millimeters). Torque limiting tool with custom adapter required for proper installation (see page 2)

### CONFIGURATION OPTIONS

#### Terminals



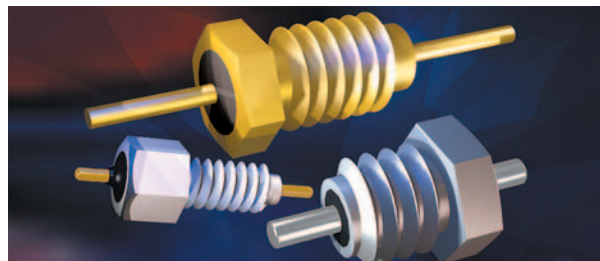
"SZD" and "SYD" Parts Only  
Slotted terminal available  
on one or both sides

#### Mounting

- .090 Thd. Length Standard, intended for tapped hole feed through mounting
- .140 Thd. Length available for through hole mounting with hex nut

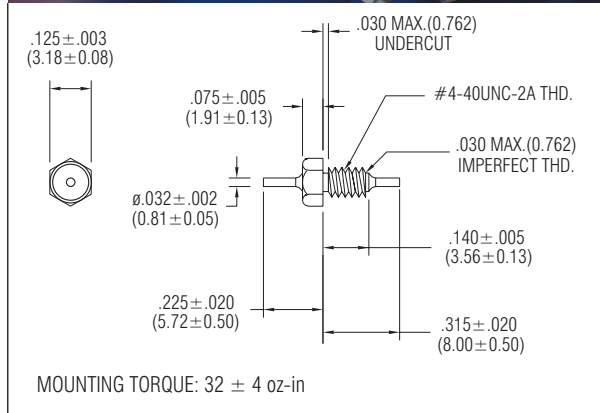
#### Schematic

- "C" STANDARD
  - THD. END "L1"
  - "T"
- AVAILABLE WITH EXTENDED CASE LENGTH

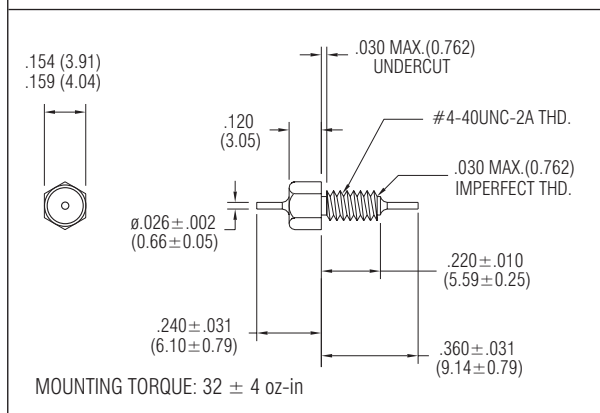


### SCREW-IN STYLE, C TYPE <sup>4-40</sup>/<sub>8-36</sub> THD.

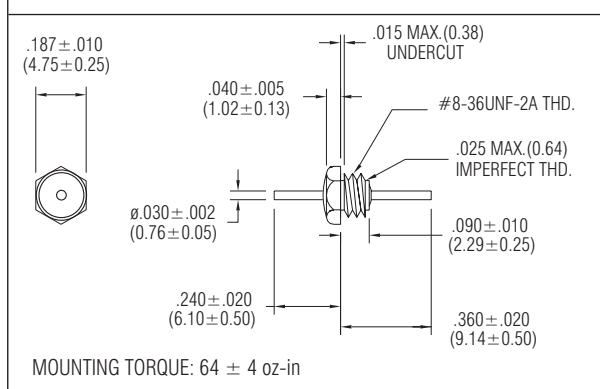
#### SPECIFICATIONS



| AVX Part Number | Voltage Vdc (V) | Min. Cap (pF) | Current Idc (A) | MINIMUM NO LOAD INSERTION LOSS (db) @ 25°C PER MIL-STD-220 |        |         |         |       |        |
|-----------------|-----------------|---------------|-----------------|------------------------------------------------------------|--------|---------|---------|-------|--------|
|                 |                 |               |                 | 1 MHZ                                                      | 10 MHZ | 100 MHZ | 300 MHZ | 1 GHZ | 10 GHZ |
| SA1C3-503       | 50              | 50000         | 10              | 15                                                         | 35     | 45      | 55      | 70    | 70     |
| SA1A3-273       | 100             | 27000         | 10              | 10                                                         | 30     | 43      | 53      | 65    | 70     |
| SA1A3-103       | 100             | 10000         | 10              | 4                                                          | 20     | 37      | 47      | 60    | 65     |
| SA1B3-502       | 200             | 5000          | 10              | -                                                          | 15     | 35      | 45      | 55    | 60     |
| SA1B3-272       | 200             | 2700          | 10              | -                                                          | 10     | 30      | 38      | 50    | 60     |
| SA1B3-152       | 200             | 1500          | 10              | -                                                          | 5      | 25      | 33      | 45    | 55     |
| SA1B3-102       | 200             | 1000          | 10              | -                                                          | 4      | 22      | 30      | 42    | 55     |
| SA1B3-501       | 200             | 500           | 10              | -                                                          | -      | 15      | 25      | 35    | 50     |
| SA1B3-251       | 200             | 250           | 10              | -                                                          | -      | 10      | 17      | 27    | 40     |
| SA1B3-101       | 200             | 100           | 10              | -                                                          | -      | 3       | 10      | 20    | 30     |
| SA1B3-500       | 200             | 50            | 10              | -                                                          | -      | 1       | 6       | 15    | 25     |
| SA1B3-250       | 200             | 25            | 10              | -                                                          | -      | -       | 1       | 10    | 22     |
| SA1B3-100       | 200             | 10            | 10              | -                                                          | -      | -       | -       | 3     | 20     |
| SA1B3-5R0       | 200             | 5             | 10              | -                                                          | -      | -       | -       | -     | 15     |



|           |     |        |    |    |    |    |    |    |    |
|-----------|-----|--------|----|----|----|----|----|----|----|
| SA1C1-104 | 50  | 100000 | 10 | 20 | 40 | 50 | 60 | 70 | 70 |
| SA1A1-503 | 100 | 50000  | 10 | 15 | 35 | 45 | 55 | 70 | 70 |
| SA1A1-273 | 100 | 27000  | 10 | 10 | 30 | 43 | 53 | 65 | 70 |
| SA1B1-103 | 200 | 10000  | 10 | 4  | 20 | 37 | 47 | 60 | 65 |
| SA1B1-502 | 200 | 5000   | 10 | -  | 15 | 35 | 45 | 55 | 60 |
| SA1B1-272 | 200 | 2700   | 10 | -  | 10 | 30 | 38 | 50 | 60 |
| SA1B1-102 | 200 | 1000   | 10 | -  | 4  | 22 | 30 | 42 | 55 |
| SA1B1-501 | 200 | 500    | 10 | -  | -  | 15 | 25 | 35 | 50 |
| SA1B1-251 | 200 | 250    | 10 | -  | -  | 10 | 17 | 27 | 40 |
| SA1B1-101 | 200 | 100    | 10 | -  | -  | 3  | 10 | 20 | 30 |
| SA1B1-500 | 200 | 50     | 10 | -  | -  | 1  | 6  | 15 | 25 |
| SA1B1-250 | 200 | 25     | 10 | -  | -  | -  | 1  | 10 | 22 |
| SA1B1-100 | 200 | 10     | 10 | -  | -  | -  | -  | 3  | 20 |
| SA1B1-5R0 | 200 | 5      | 10 | -  | -  | -  | -  | -  | 15 |



|           |     |       |    |    |    |    |    |    |    |
|-----------|-----|-------|----|----|----|----|----|----|----|
| SZ1C1-503 | 50  | 50000 | 10 | 15 | 35 | 45 | 55 | 70 | 70 |
| SZ1A1-273 | 100 | 27000 | 10 | 10 | 30 | 43 | 53 | 65 | 70 |
| SZ1A1-103 | 100 | 10000 | 10 | 4  | 20 | 37 | 47 | 60 | 65 |
| SZ1B1-502 | 200 | 5000  | 10 | -  | 15 | 35 | 45 | 55 | 60 |
| SZ1B1-272 | 200 | 2700  | 10 | -  | 10 | 30 | 38 | 50 | 60 |
| SZ1B1-152 | 200 | 1500  | 10 | -  | 5  | 25 | 33 | 45 | 55 |
| SZ1B1-102 | 200 | 1000  | 10 | -  | 4  | 22 | 30 | 42 | 55 |
| SZ1B1-501 | 200 | 500   | 10 | -  | -  | 15 | 25 | 35 | 50 |
| SZ1B1-251 | 200 | 250   | 10 | -  | -  | 10 | 17 | 27 | 40 |
| SZ1B1-101 | 200 | 100   | 10 | -  | -  | 3  | 10 | 20 | 30 |
| SZ1B1-500 | 200 | 50    | 10 | -  | -  | 1  | 6  | 15 | 25 |
| SZ1B1-250 | 200 | 25    | 10 | -  | -  | -  | 1  | 10 | 22 |
| SZ1B1-100 | 200 | 10    | 10 | -  | -  | -  | -  | 3  | 20 |
| SZ1B1-5R0 | 200 | 5     | 10 | -  | -  | -  | -  | -  | 15 |

NOTE: Dimensions in inches (millimeters).

#### Leads

#### CONFIGURATION OPTIONS

#### Schematic

- Custom lead lengths and materials available
- Chamfered or rounded lead tips for mating with connectors

