SPECTRUM CONTROL INC.

# Solder-in Filters

Solder-in filters are ideal for use in critical areas where space does not allow use of mounting tools or hardware. The solder-in feature also allows installation in unison with other board mounted components. Primarily used in filtering signal/data lines and DC power lines.

## Features

- Small size to allow effective use of space
- Voltage ratings to 750 VDC
- Multiple circuit configurations: C, L & Pi available
- High temperature construction to prevent reflow during installation
- MIL-F-15733 QPL versions available



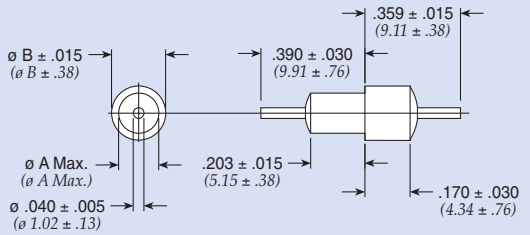


Figure 1

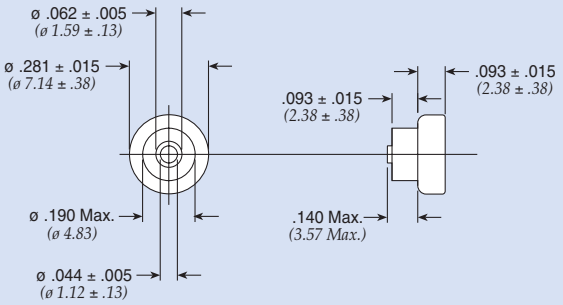


Figure 2

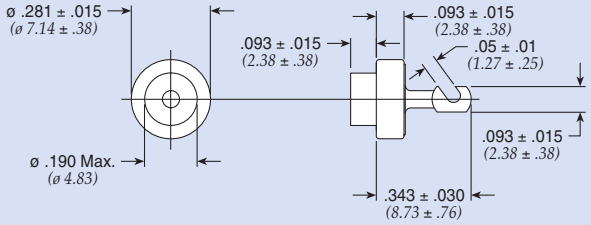


Figure 3

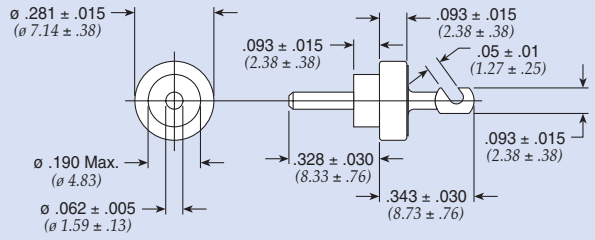


Figure 4

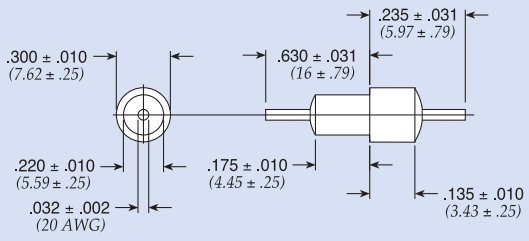


Figure 5

Dimensions in inches *(mm)*



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# Solder-in Filters

## Solder-in C Circuit

| Part Number | See Pg. 64 for Fig. | A In | A (mm) | B In | B (mm) | Rated Voltage 125°C DC | I Amp | Cap* | Minimum Insertion Loss (dB) 1 MHz | 10 MHz | 30 MHz | 100 MHz | 300 MHz | 1 GHz | 10 GHz |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **54-786-003** | 1 | 0.156 | *(3.96)* | 0.203 | *(5.16)* | 50 | 10 | 0.30 µF | 32 | 47 | 54 | 60 | 66 | 70 | 70 |
| **54-785-002** | 1 | 0.125 | *(3.18)* | 0.184 | *(4.67)* | 100 | 10 | 0.05 µF (min) | 16 | 33 | 41 | 45 | 48 | 50 | 50 |
| **54794002X5R101M** | 4 | — | — | — | — | 250 | 25 | 100 pF ± 20% | — | — | — | — | 10 | 20 | 20 |
| **54803004X5R101M** | 3 | — | — | — | — | 250 | 25 | 100 pF ± 20% | — | — | — | — | 10 | 20 | 20 |
| **54802002X5R101M** | 2 | — | — | — | — | 250 | 25 | 100 pF ± 20% | — | — | — | — | 10 | 20 | 20 |
| †**54794002X5R471M** | 4 | — | — | — | — | 250 | 25 | 470 pF ± 20% | — | — | — | 12 | 22 | 25 | 25 |
| †**54803004X5R471M** | 3 | — | — | — | — | 250 | 25 | 470 pF ± 20% | — | — | — | 12 | 22 | 25 | 25 |
| **54802002X5R471M** | 2 | — | — | — | — | 250 | 25 | 470 pF ± 20% | — | — | — | 12 | 22 | 25 | 25 |
| †**54802002X5V102P** | 2 | — | — | — | — | 250 | 25 | 1000 pF | — | — | — | 15 | 25 | 35 | 40 |
| †**54803004X5V102P** | 3 | — | — | — | — | 250 | 25 | 1000 pF | — | — | — | 15 | 25 | 35 | 40 |
| †**54794002X5V102P** | 4 | — | — | — | — | 250 | 25 | 1000 pF | — | — | — | 15 | 25 | 35 | 40 |
| †**54-786-077** | 5 | — | — | — | — | 750 | 10 | 1000pF | — | 4 | — | 20 | 25 | 35 | 40 |

† Also available through Spectrum Control's authorized distributors.

* Tolerances are +100/-0% unless noted.

# Solder-in Filters

## Solder-in Pi Circuit



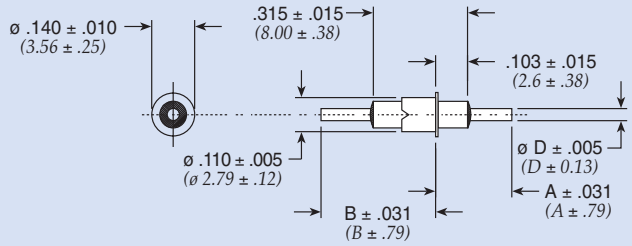


Figure 1

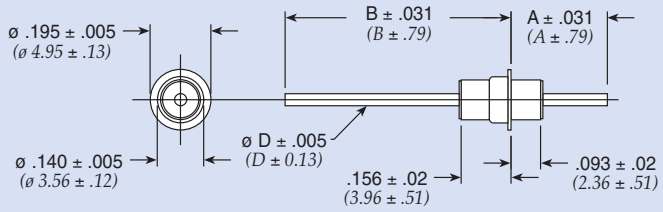


Figure 2

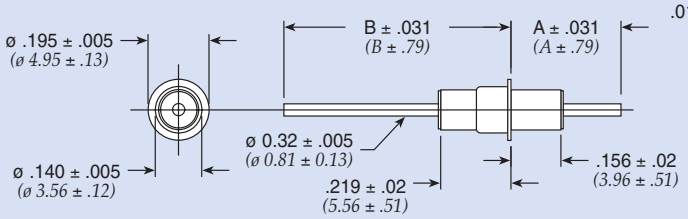


Figure 3

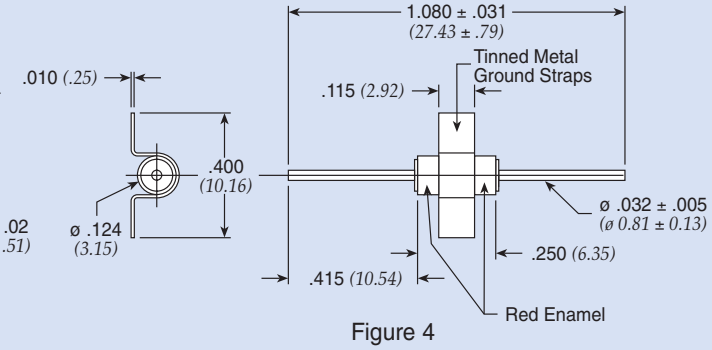


Figure 4

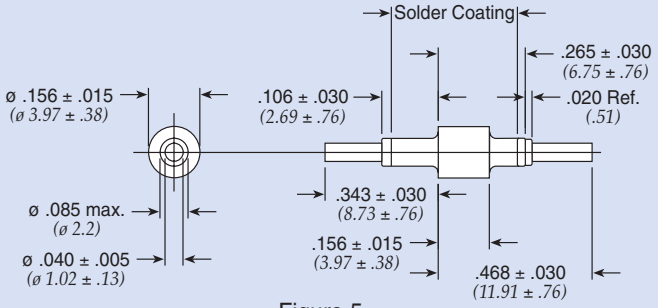


Figure 5

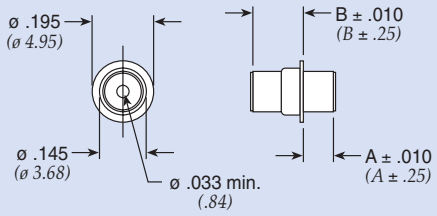


Figure 6

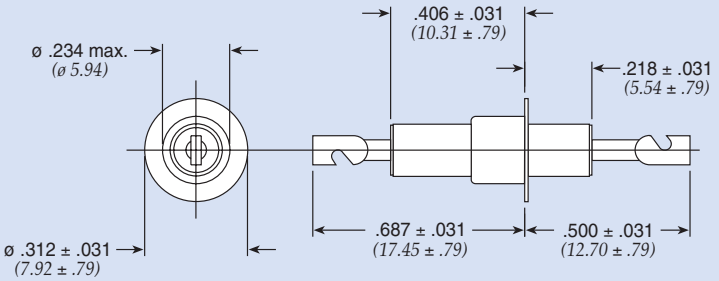


Figure 7

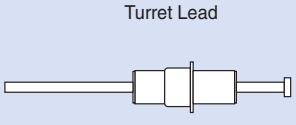


Figure 8

Dimensions in inches *(mm)*



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# Solder-in Filters

## Solder-in Pi Circuit

| Part Number | M15733 MIL Number | See Pg. 66 for Fig. | A | | B | | D | | Rated Voltage 125°C | | I Amp | Min Cap | Minimum Insertion Loss (dB) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | In | (mm) | In | (mm) | In | (mm) | DC | AC | | | 1 MHz | 10 MHz | 30 MHz | 100 MHz | 300 MHz | 1 GHz | 10 GHz |
| **51-703-013*** | /62-0003 | 3 | 0.312 | *(7.92)* | 0.469 | *(11.91)* | 0.032 | *(0.81)* | 70 | — | 10 | 1500 pF | — | 5 | 12 | 50 | 50 | 65 | 65 |
| **51-750-309*** | /62-0004 | 2 | 0.268 | *(6.81)* | 0.780 | *(19.81)* | 0.032 | *(0.81)* | 70 | — | 10 | 0.012 µF | 5 | 22 | 50 | 70 | 70 | 65 | 65 |
| †**1234-000*** € | — | 2 | 0.257 | *(6.53)* | 0.780 | *(19.81)* | 0.032 | *(0.81)* | 70 | — | 10 | 0.012 µF | 5 | 25 | 50 | 70 | 70 | 70 | 70 |
| **51-749-304** | — | 4 | — | — | — | — | — | — | 70 | — | 10 | 0.012 µF | 5 | 25 | 50 | 70 | 70 | 65 | 65 |
| **1234-001** | — | 4 | — | — | — | — | — | — | 70 | — | 10 | 0.012 µF | 5 | 25 | 50 | 70 | 70 | 65 | 65 |
| †**51-750-301*** | — | 2 | 0.250 | *(6.35)* | 0.780 | *(19.81)* | 0.032 | *(0.81)* | 70 | — | 10 | 0.012 µF | 5 | 25 | 50 | 70 | 70 | 70 | 70 |
| †**1233-000*** € | — | 3 | 0.312 | *(7.92)* | 0.780 | *(19.81)* | 0.032 | *(0.81)* | 70 | — | 10 | 0.022 µF | 7 | 35 | 60 | 70 | 70 | 70 | 70 |
| †**51-750-302*** | — | 3 | 0.312 | *(7.92)* | 0.780 | *(19.81)* | 0.032 | *(0.81)* | 70 | — | 10 | 0.022 µF | 7 | 25 | 60 | 70 | 70 | 70 | 70 |
| **51-750-313** | /51-0002 | 3 | 0.312 | *(7.92)* | 0.780 | *(19.81)* | 0.032 | *(0.81)* | 70 | — | 10 | 0.022 µF | 7 | 25 | 60 | 70 | 70 | 70 | 70 |
| †**51-723-303** | — | 5 | — | — | — | — | — | — | 200 | — | 10 | 1300 pF | — | 5 | 15 | 30 | 45 | 55 | 55 |
| **51-713-010** | /62-0002 | 1 | 1.140 | *(28.96)* | 1.277 | *(32.44)* | 0.032 | *(0.81)* | 200 | — | 10 | 1500 pF | — | 5 | 12 | 45 | 50 | 70 | 70 |
| †**1251-001** € | — | 1 | 1.109 | *(28.17)* | 1.206 | *(30.63)* | 0.032 | *(0.81)* | 200 | — | 10 | 1500 pF | — | 5 | 15 | 40 | 50 | 70 | 70 |
| **51-703-001*** | — | 3 | 0.312 | *(7.92)* | 0.406 | *(10.31)* | 0.032 | *(0.81)* | 200 | — | 10 | 1500 pF | — | 8 | 17 | 45 | 65 | 70 | 70 |
| †**1203-050** € | — | 3 | 0.312 | *(7.92)* | 0.406 | *(10.31)* | 0.032 | *(0.81)* | 200 | — | 10 | 1500 pF | — | 5 | 15 | 45 | 50 | 70 | 70 |
| **51-703-012*** | /62-0001 | 3 | 0.312 | *(7.92)* | 0.406 | *(10.31)* | 0.032 | *(0.81)* | 200 | 140 | 10 | 1500 pF | — | 3 | 15 | 45 | 50 | 70 | 70 |
| **51-713-002** | — | 1 | 1.103 | *(28.01)* | 1.212 | *(30.78)* | 0.032 | *(0.81)* | 200 | — | 10 | 1500 pF | — | 5 | 12 | 40 | 70 | 70 | 70 |
| **1214-029** | — | 2 | 0.288 | *(7.31)* | 0.780 | *(19.81)* | 0.032 | *(0.81)* | 200 | — | 10 | 1750 pF | — | 5 | 15 | 50 | 60 | 60 | 70 |
| †**1214-007** € | — | 6 | 0.093 | *(2.36)* | 0.157 | *(3.99)* | — | — | 200 | — | 10 | 1750 pF | — | 5 | 15 | 35 | 50 | 60 | 60 |
| **51-707-002*** | — | 2 | 0.288 | *(7.31)* | 0.780 | *(19.81)* | 0.032 | *(0.81)* | 200 | — | 10 | 1750 pF | — | 8 | 17 | 50 | 65 | 70 | 70 |
| †**1214-001*** | — | 2 | 0.288 | *(7.31)* | 0.780 | *(19.81)* | 0.032 | *(0.81)* | 200 | — | 10 | 1750 pF | — | 5 | 15 | 50 | 50 | 60 | 60 |
| †**51-707-006*** | /33-0001 | 2 | 0.288 | *(7.31)* | 0.780 | *(19.81)* | 0.032 | *(0.81)* | 200 | 90 | 10 | 1750 pF | — | 5 | 15 | 50 | 50 | 60 | 60 |
| **51-707-007** | /33-0002 | 2 | 0.288 | *(7.31)* | 0.780 | *(19.81)* | 0.032 | *(0.81)* | 200 | 90 | 10 | 1750 pF | — | 5 | 15 | 50 | 50 | 60 | 60 |
| **51-707-026** | /66-0001 | 6 | 0.288 | *(7.31)* | 0.157 | *(3.99)* | — | — | 200 | — | 10 | 1750 pF | — | 5 | 15 | 35 | 50 | 50 | 50 |
| †**51-750-322** | — | 2 | 1.123 | *(28.52)* | 1.347 | *(34.21)* | 0.040 | *(1.02)* | 200 | — | 10 | 3000 pF | — | 7 | 25 | 50 | 65 | 65 | 65 |
| **51-703-007*** | /51-0001 | 3 | 0.312 | *(7.92)* | 0.406 | *(10.31)* | 0.032 | *(0.81)* | 200 | 200 | 10 | 5500 pF | — | 15 | 30 | 55 | 65 | 70 | 70 |
| **1223-012** | — | 1 | 0.240 | *(6.10)* | 0.360 | *(9.14)* | 0.040 | *(1.02)* | 200 | — | 15 | 3000 pF | — | 7 | 25 | 50 | 65 | 65 | 65 |
| †**1204-050** € | — | 7 | 0.210 | *(5.34)* | — | — | — | — | 500 | — | 25 | 3000 pF | — | 8 | 25 | 50 | 65 | 70 | 70 |
| **51-704-002** | /40-0001 | 7 | 0.234 | *(5.94)* | — | — | — | — | 500 | 350 | 25 | 3000 pF | — | 7 | 25 | 55 | 65 | 70 | 70 |

* Denotes parts with turret on one end per Figure 8.
† Also available through Spectrum Control's authorized distributors.
€ Also available through Spectrum Control's authorized European distributors/agents.