

# Series F Ferrite Filtered Connectors

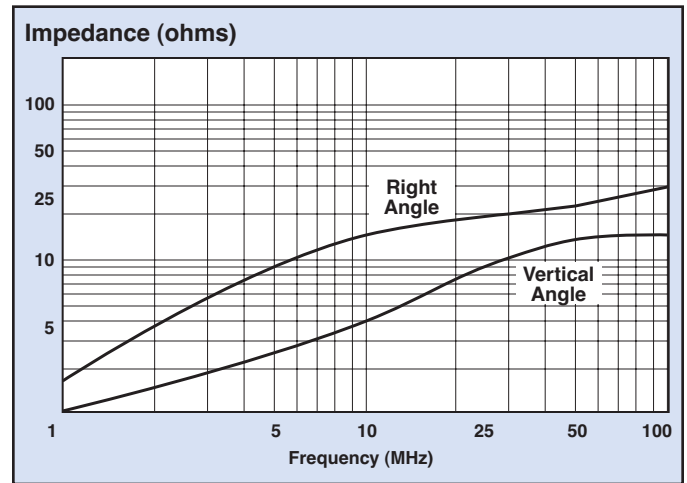
The Series F filtered D-subminiature connectors incorporate a solid slab of ferrite material as the filtering element. This rugged one piece design provides a compact connector that is a drop-in replacement for standard connectors. The ferrite material has been chosen for optimum filtering performance in the 10 to 300 MHz. range.

## Series F Applications

- Personal computers, microcomputer-applied products and peripheral/terminal equipment
- Eliminates common-mode noise along data lines in data communication terminals and digital equipment

## Features

- Low cost, high performance ferrite filter
- No distortion of wave forms
- Replaces individual ferrite bead filters, saving cost and space
- Provides both pin to ground and pin to pin filtering
- Effective in helping meet requirements of FCC, VDE, EN55022 and Japan's VCCI
- Short, space saving .318" footprint
- Interchangeable with standard D-subminiature connectors
- Can be installed directly over PCB trace pattern with no shorting
- 4-40 UNC locking insert eliminates loose hardware
- Metal shielding front shell
- Gold plated contacts
- RoHS compliant versions available (replace 56- with 56F)



## Mechanical Specifications

- Front Shell* . . . . . Steel (Tin Plated)
- Housing* . . . . . UL 94V-0 Rated thermoplastic, black
- Contacts* . . . . . Phosphor Bronze (sockets) or Brass (pins)
- Contact Plating* . . . . . Gold Flash (<10µ in.) over Nickel
- Operating Temperature* . . . . . -40°C to +105°C

## Electrical Specifications

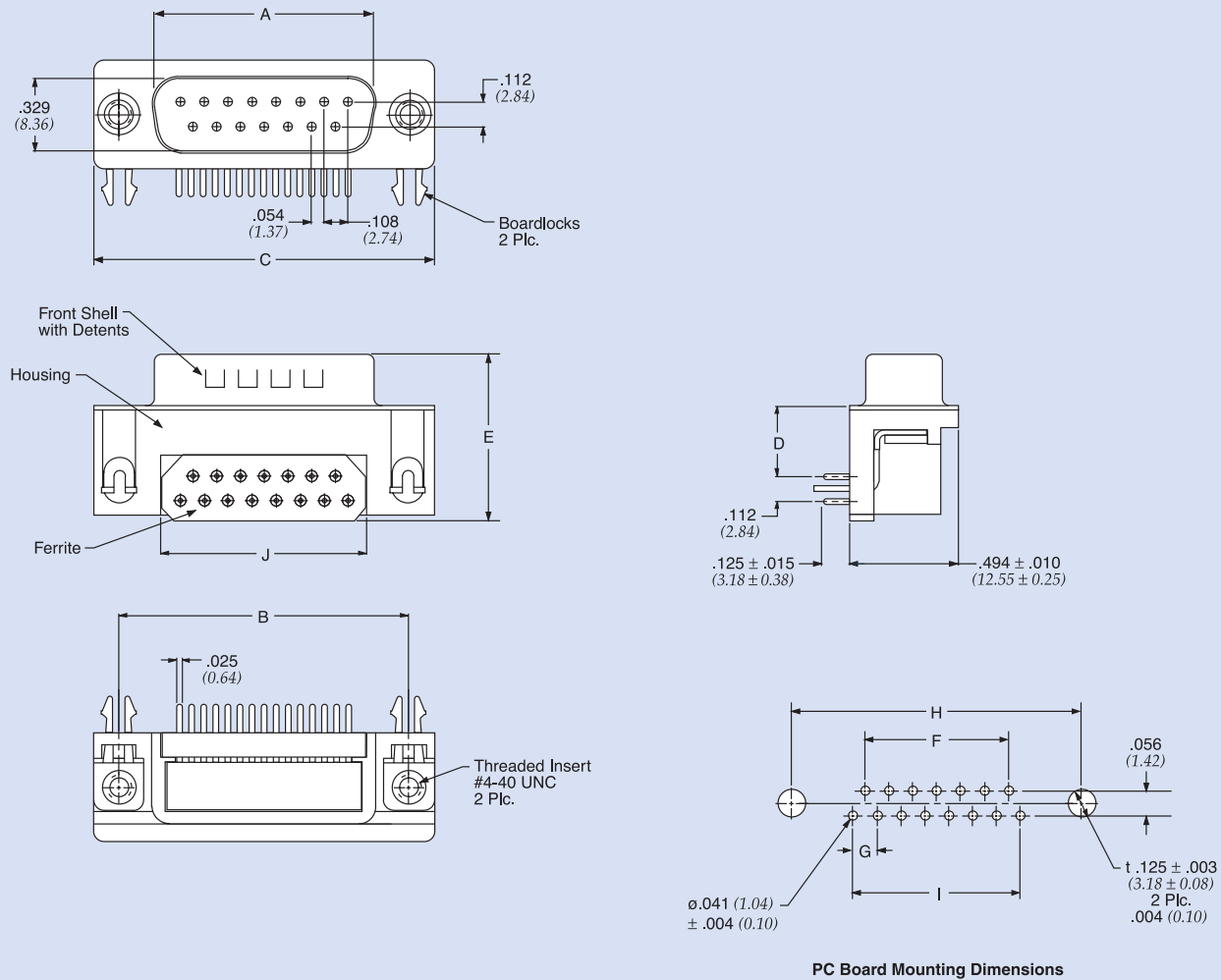
Frequency (MHz)	Impedance (Ohms)	
	Right Angle	Vertical
1	2	1
10	15	6
30	20	10
50	23	12
100	27	15

- Frequency Range* . . . . . 10 – 300 MHz
- Current Rating* . . . . . 5 Amps
- Dielectric Withstand Voltage* . . 1000 VAC for one minute
- Insulation Resistance* . . . . . 1000 megohms Min. @ 500VDC

Filtered Connectors

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## Pin Contact – Right Angle Mount



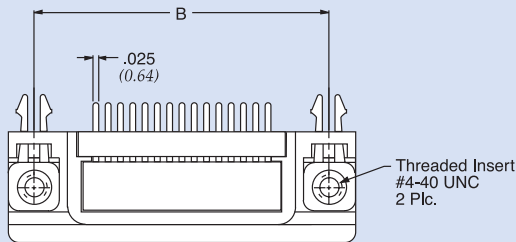
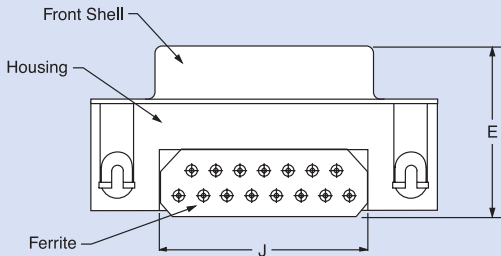
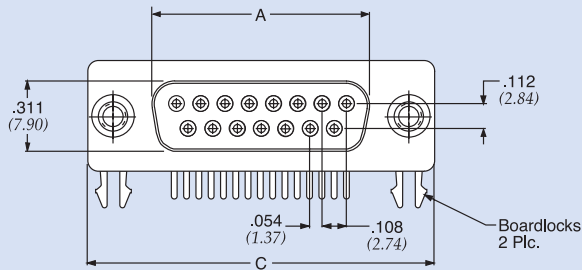
Part Number	Description	Typ. Impedance (Ohms)		Frequency Range	A +/-	B +/-	C +/-	D +/-	E +/-	F +/-	G +/-	H +/-	I +/-	J +/-
		30 MHz	100 MHz		0.010	0.005	0.015	0.010	0.015	0.005	0.004	0.005	0.005	0.005
€ 56-402-001	D-Sub 9 pin	20	27	10 MHz to 300 MHz	0.666 (16.92)	0.984 (25.00)	1.213 (30.81)	0.318 (8.08)	0.751 (19.10)	0.324 (8.22)	0.108 (2.74)	0.984 (25.00)	0.432 (10.98)	0.606 (15.40)
€ 56-412-001	D-Sub 15 pin				0.994 (25.25)	1.312 (33.32)	1.541 (39.14)	0.318 (8.08)	0.751 (19.10)	0.648 (16.46)	0.108 (2.74)	1.312 (33.32)	0.756 (19.20)	0.929 (23.60)
€ 56-422-001	D-Sub 25 pin				1.534 (38.96)	1.852 (47.04)	2.088 (53.04)	0.318 (8.08)	0.751 (19.10)	1.196 (30.36)	0.110 (2.76)	1.852 (47.04)	1.304 (31.12)	1.476 (37.50)

€ Also available through Spectrum Control's authorized European distributors/agents.

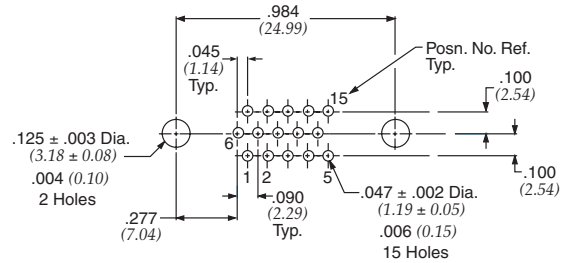
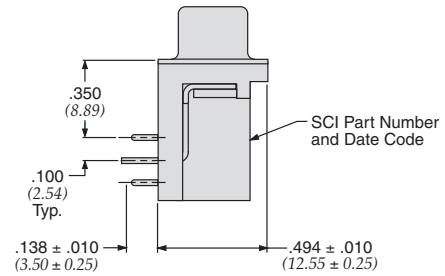
Dimensions in inches (mm)

# Series F Ferrite Filtered Connectors

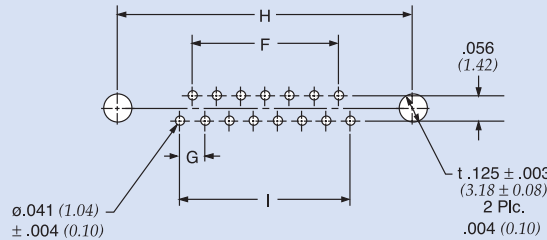
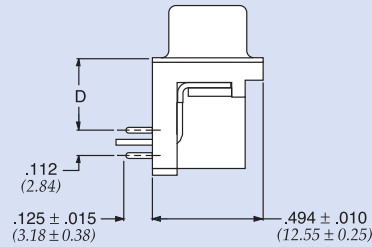
## Socket Contact – Right Angle Mount



## \*Hi-Density



PC Board Mounting Dimensions



PC Board Mounting Dimensions

Part Number	Description	Typ. Impedance (Ohms)		Frequency Range	A +/-	B +/-	C +/-	D +/-	E +/-	F +/-	G +/-	H +/-	I +/-	J +/-
		30 MHz	100 MHz		0.010	0.005	0.015	0.010	0.015	0.005	0.004	0.005	0.005	0.005
€ 56-404-001	D-Sub 9 socket	20	27	10 MHz to 300 MHz	0.643 (16.33)	0.984 (25.00)	1.213 (30.81)	0.318 (8.08)	0.755 (19.20)	0.324 (8.22)	0.108 (2.74)	0.984 (25.00)	0.432 (10.98)	0.606 (15.40)
€ 56-414-001	D-Sub 15 socket				0.971 (24.66)	1.312 (33.32)	1.541 (39.14)	0.318 (8.08)	0.755 (19.20)	0.648 (16.46)	0.108 (2.74)	1.312 (33.32)	0.756 (19.20)	0.929 (23.60)
€ 56-424-001	D-Sub 25 socket				1.511 (38.38)	1.852 (47.04)	2.088 (53.04)	0.318 (8.08)	0.755 (19.20)	1.196 (30.36)	0.110 (2.76)	1.852 (47.04)	1.304 (31.12)	1.476 (37.50)
€ 56-414-001-HD	Hi-Density 15 socket	16	26		* See inset drawing									

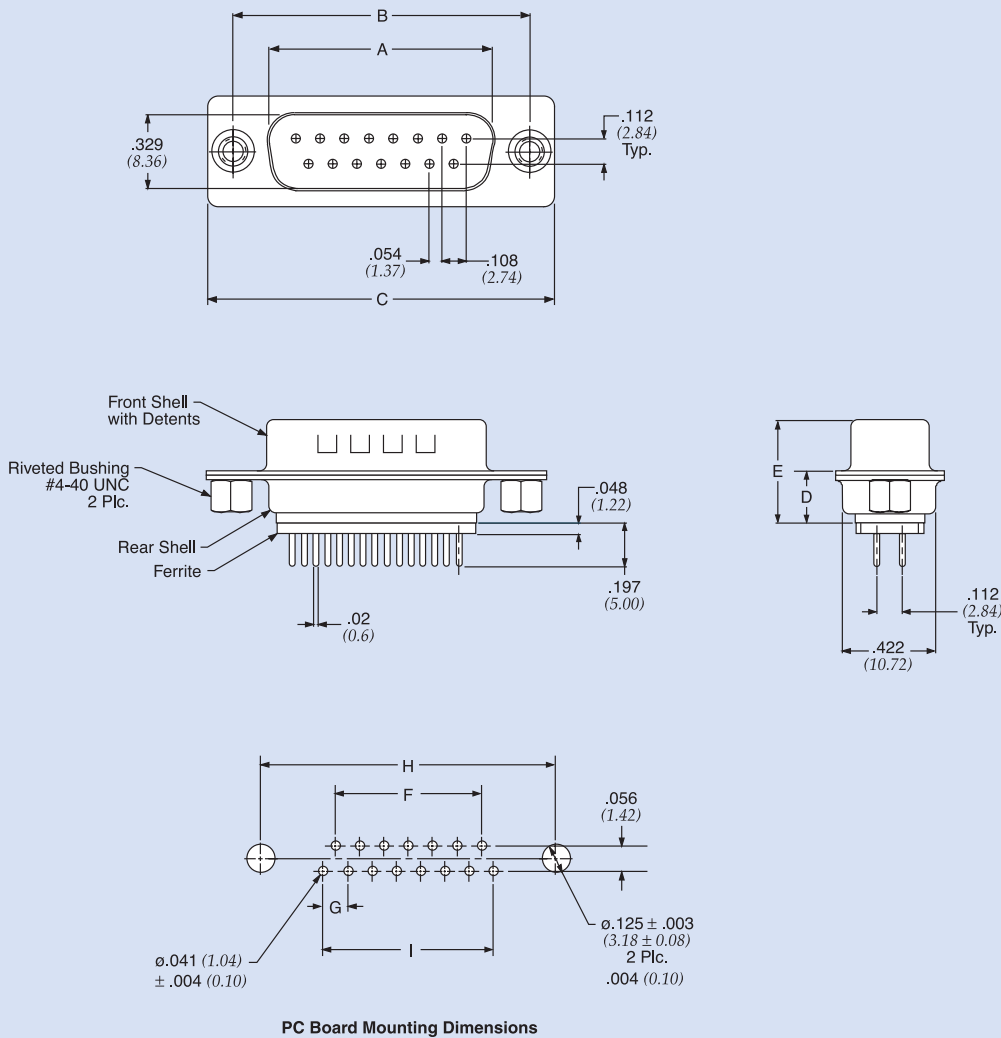
€ Also available through Spectrum Control's authorized European distributors/agents.

Dimensions in inches (mm)

Filtered Connectors

# Series F Ferrite Filtered Connectors

## Pin Contact – Vertical Mount



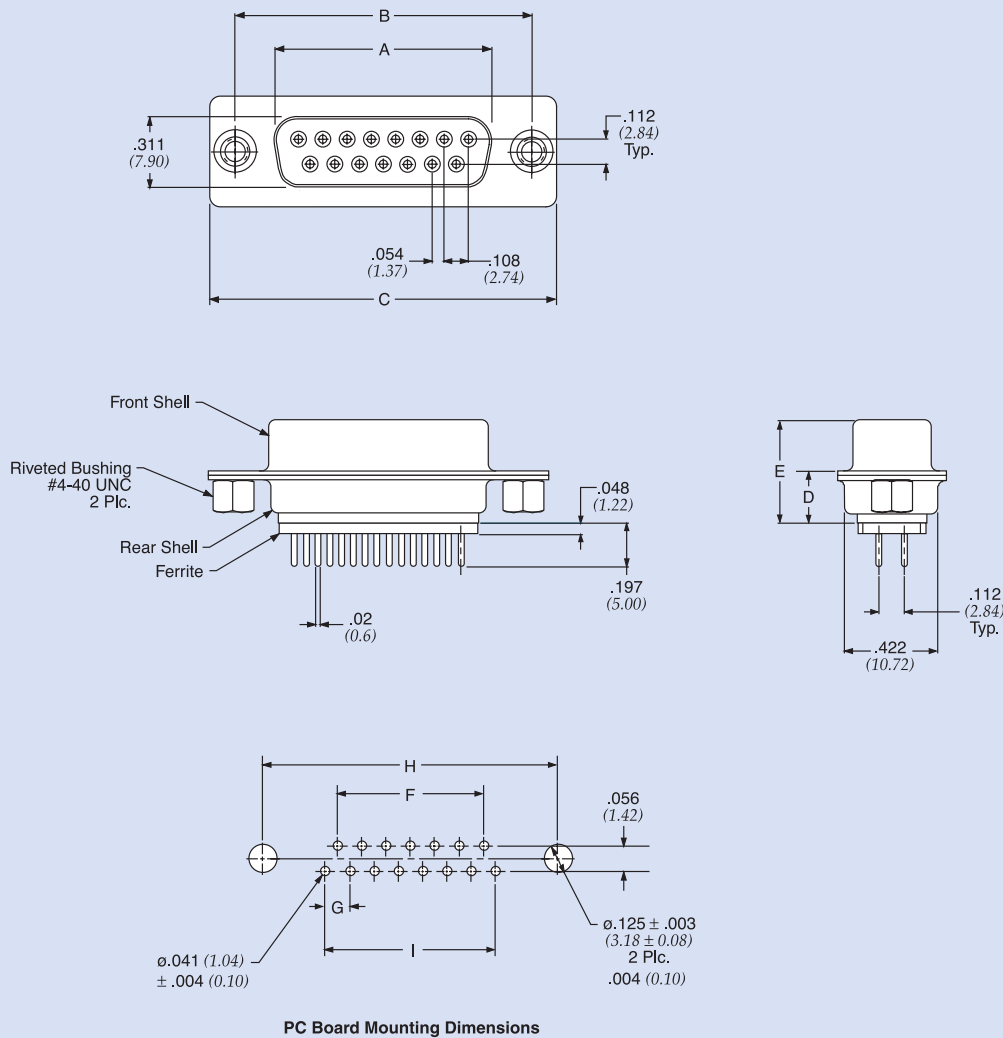
Filtered Connectors

Part Number	Description	Typ. Impedance (Ohms)		Frequency Range	A +/- 0.010 (0.25)	B +/- 0.005 (0.13)	C +/- 0.015 (0.38)	D +/- 0.010 (0.25)	E +/- 0.015 (0.38)	F +/- 0.005 (0.13)	G +/- 0.004 (0.10)	H +/- 0.005 (0.13)	I +/- 0.005 (0.13)
		30 MHz	100 MHz										
56-407-001	D-Sub 9 pin	10	15	10 MHz to 300 MHz	0.666 (16.92)	0.984 (25.00)	1.213 (30.81)	0.236 (5.99)	0.468 (11.88)	0.324 (8.22)	0.108 (2.74)	0.984 (25.00)	0.432 (10.98)
56-417-001	D-Sub 15 pin				.994 (25.25)	1.312 (33.32)	1.541 (39.14)	0.236 (5.99)	0.468 (11.88)	0.648 (16.46)	0.108 (2.74)	1.312 (33.32)	0.756 (19.20)
56-427-001	D-Sub 25 pin				1.534 (38.96)	1.852 (47.04)	2.088 (53.04)	0.236 (5.99)	0.468 (11.88)	1.196 (30.36)	0.110 (2.76)	1.852 (47.04)	1.304 (31.12)

Dimensions in inches (mm)

# Series F Ferrite Filtered Connectors

## Socket Contact – Vertical Mount



Part Number	Description	Typ. Impedance (Ohms)		Frequency Range	A +/-	B +/-	C +/-	D +/-	E +/-	F +/-	G +/-	H +/-	I +/-
		30 MHz	100 MHz		0.010 (0.25)	0.005 (0.13)	0.015 (0.38)	0.010 (0.25)	0.015 (0.38)	0.005 (0.13)	0.004 (0.10)	0.005 (0.13)	0.005 (0.13)
56-403-001	D-Sub 9 socket	10	15	10 MHz to 300 MHz	0.643 (16.33)	0.984 (25.00)	1.213 (30.81)	0.236 (5.99)	0.472 (11.98)	0.324 (8.22)	0.108 (2.74)	0.984 (25.00)	0.432 (10.98)
56-413-001	D-Sub 15 socket				.971 (24.66)	1.312 (33.32)	1.541 (39.14)	0.236 (5.99)	0.472 (11.98)	0.648 (16.46)	0.108 (2.74)	1.312 (33.32)	0.756 (19.20)
56-423-001	D-Sub 25 socket				1.511 (38.38)	1.852 (47.04)	2.088 (53.04)	0.236 (5.99)	0.472 (11.98)	1.196 (30.36)	0.110 (2.76)	1.852 (47.04)	1.304 (31.12)

Dimensions in inches (mm)

Filtered Connectors