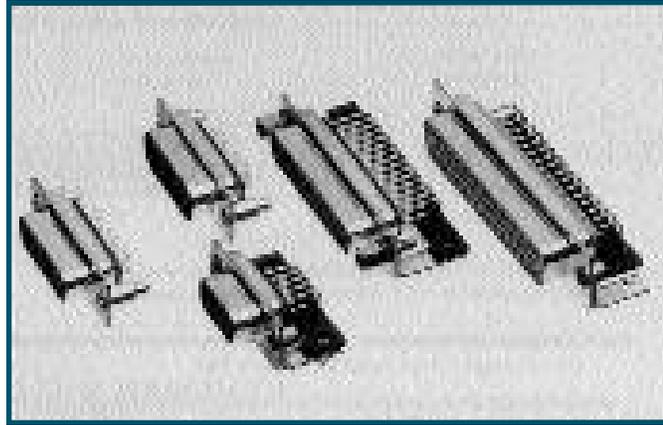


## Densi-D Filter Series

# PROFESSIONAL QUALITY, HIGH DENSITY, FILTERED SUBMINIATURE-D CONNECTORS FOR SHELTERED INDOOR/OUTDOOR ENVIRONMENTAL APPLICATIONS

Size 22 Contacts, Fixed  
Capacitance Values  
500pF through 30,000pF  
Professional Quality  
Connectors



Densi-D Filter Series connectors are industrial quality, high density rectangular connectors designed for use in sheltered, non-corrosive, indoor environments having normal ventilation.

Densi-D Filter Series connectors utilize precision machined contacts with solder wire, straight, and 90° printed board mount terminations. All female contacts are of a rugged Robi-D open entry design.

The low profile design of the Densi-D Filter Connector utilizes an internal planar ceramic filter whose capacitance can be

selected from values between 500pF and 30,000pF.

Three standard contact variants are offered in arrangements of 15, 26 and 44 contacts. Densi-D Filter Series connectors are mateable and compatible with other high density D-Subminiature connectors conforming to MIL-PRF-24308 having floating contacts.

A wide assortment of mounting spacers is available from stock.

## DENSI-D FILTER SERIES TECHNICAL CHARACTERISTICS

### MATERIALS AND FINISHES:

<b>Insulators:</b>	Glass filled polyester per MIL-M-24519, UL94V-0, black color and green DAP.
<b>Contacts:</b>	Male contacts – precision machined brass alloy. Female contacts – precision machined high tensile copper alloy.
<b>Contact Plating:</b>	Industrial performance – gold flash over nickel plate. Other finishes available upon request.
<b>Shells:</b>	Steel or brass with tin plate.
<b>Capacitor:</b>	Ceramic X7R.
<b>Mounting Spacers:</b>	Nylon plastic and brass with tin plate.
<b>Push-On Fasteners:</b>	Phosphor bronze or beryllium copper with tin plate.
<b>Jackscrew Systems:</b>	Steel with zinc and dichromate seal, or clear zinc plate.

### ELECTRICAL CHARACTERISTICS:

<b>Capacitance Values:</b>	500pF, 1000pF, 5000pF and 30,000pF ±30%.
<b>Contact Current Rating:</b>	3 amperes nominal.
<b>Initial Contact Resistance:</b>	0.010 ohms maximum.
<b>Insulator Resistance:</b>	5 G ohms.
<b>Clearance and Creepage Distance (minimum):</b>	0.042 inch (1.06mm).
<b>Initial Working Voltage:</b>	100 V d.c. (25 V d.c. for 30,000pF)
<b>Initial Proof Voltage:</b>	250 V d.c. (63 V d.c. for 30,000pF)
<b>Inductor Impedance:</b>	Contact Factory.

### CLIMATIC CHARACTERISTICS:

<b>Temperature Range:</b>	-55°C to +125°C.
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### MECHANICAL CHARACTERISTICS:

<b>Contact Retention in Insulator:</b>	3 lbs. (13N).
<b>Resistance to Solder Iron Heat:</b>	500°F (260°C) for 10 seconds duration per IEC 512-6.
<b>Contact Terminations:</b>	Solder wire, 0.035 inch (0.89mm) hole diameter for 22 AWG (0.3mm <sup>2</sup> ) wire maximum for male connector. 0.021 inch (0.53mm) hole diameter for 26 AWG (0.12mm <sup>2</sup> ) wire maximum for female connector. 0.020 inch (0.51mm) diameter straight and 90° Printed Board Mount contact terminations.
<b>Shells:</b>	Male shells may be dimpled for EM/ESD ground paths.
<b>Polarization:</b>	Trapezoidally shaped shells and polarized jackscrews.
<b>Mounting to Angle Brackets:</b>	Rapid installation push-on fasteners and mounting posts.
<b>Locking Systems:</b>	Jackscrews.
<b>Mechanical Operations:</b>	25 operations minimum per IEC 512-5 for contact variants of 15, 26 and 44 contacts.
<b>Shock:</b>	Consult Factory.
<b>Vibration:</b>	Consult Factory.

### CONTACT VARIANTS

FACE VIEW OF MALE OR REAR VIEW OF FEMALE



DFD 15

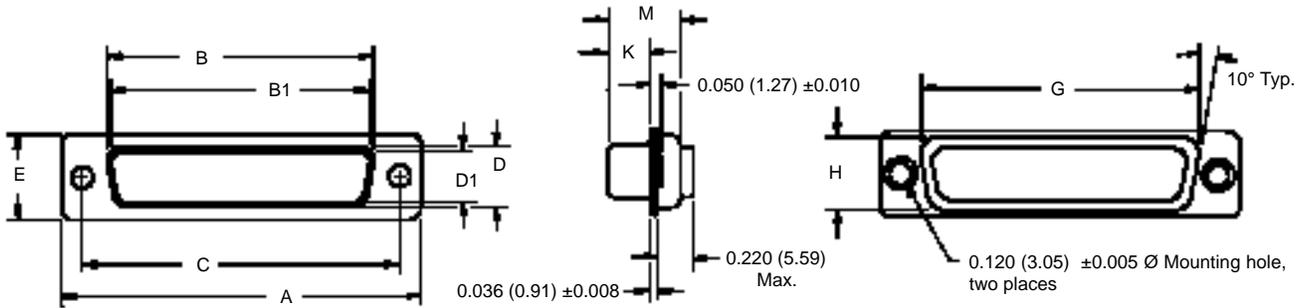


DFD 26



DFD 44

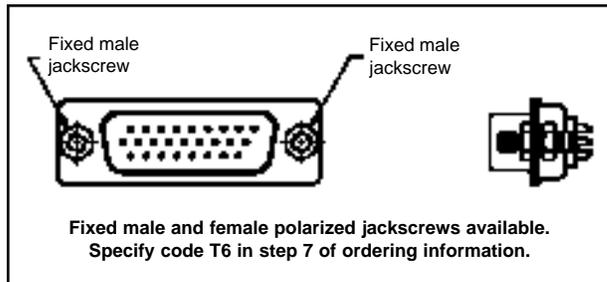
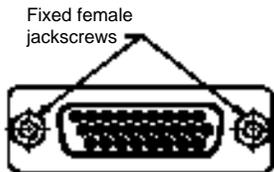
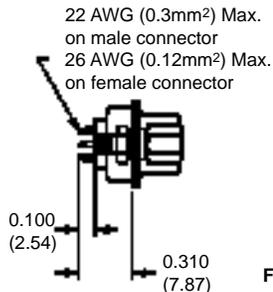
### STANDARD SHELL ASSEMBLY



CONNECTOR VARIANT SIZES	A ±0.015	B ±0.005	B1 ±0.005	C ±0.005	D ±0.005	D1 ±0.005	E ±0.015	G ±0.010	H ±0.010	K ±0.005	M ±0.010
DFD 15 M	1.213 (30.81)		0.666 (16.92)	0.984 (24.99)		0.329 (8.36)	0.494 (12.55)	0.759 (19.28)	0.422 (10.72)	0.233 (5.92)	0.422 (10.72)
DFD 15 F	1.213 (30.81)	0.643 (16.33)		0.984 (24.99)	0.311 (7.90)		0.494 (12.55)	0.759 (19.28)	0.422 (10.72)	0.243 (6.17)	0.429 (10.90)
DFD 26 M	1.541 (39.14)		0.994 (25.25)	1.312 (33.32)		0.329 (8.36)	0.494 (12.55)	1.083 (27.51)	0.422 (10.72)	0.233 (5.92)	0.422 (10.72)
DFD26 F	1.541 (39.14)	0.971 (24.66)		1.312 (33.32)	0.311 (7.90)		0.494 (12.55)	1.083 (27.51)	0.422 (10.72)	0.243 (6.17)	0.429 (10.90)
DFD 44 M	2.088 (53.04)		1.534 (38.96)	1.852 (47.04)		0.329 (8.36)	0.494 (12.55)	1.625 (41.28)	0.422 (10.72)	0.230 (5.84)	0.426 (10.82)
DFD44 F	2.088 (53.04)	1.511 (38.38)		1.852 (47.04)	0.311 (7.90)		0.494 (12.55)	1.625 (41.28)	0.422 (10.72)	0.243 (6.17)	0.429 (10.90)

DIMENSIONS ARE IN INCHES (MILLIMETERS).  
ALLDIMENSIONS ARE SUBJECT TO CHANGE.

### SOLDER CONNECTOR FOR PANEL MOUNTING



For solder contacts specify code 2 in step 4 of ordering information.

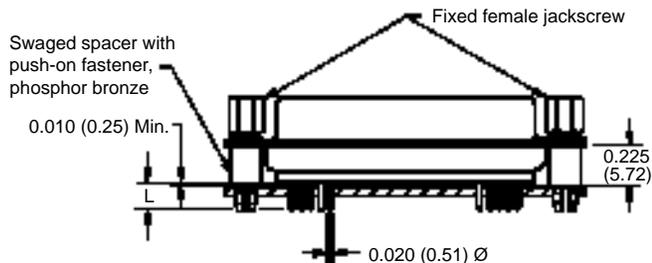
Typical part number: DFDA26M200T6X

Typical part number: DFDA26F200T2X

### STRAIGHT PRINTED BOARD MOUNT CONNECTOR

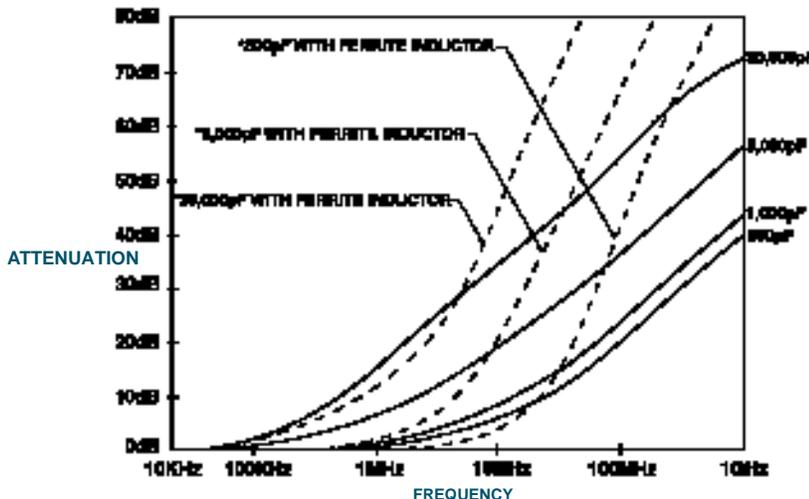
CODE NUMBER	L
3	0.150 (3.81)
32	0.300 (7.62)

For straight printed board mount contacts specify code no. in step 4 of ordering information.



Typical part number: DFDA44F3S6T2X

### FILTERING CHARACTERISTICS



TYPICAL INSERTION LOSS FOR ALL CONNECTORS

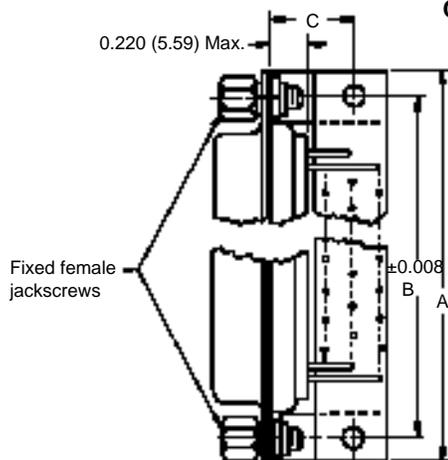
\*NO LOAD CONDITION

CURVE VALUES DEVELOPED IN FARADAY CAGE

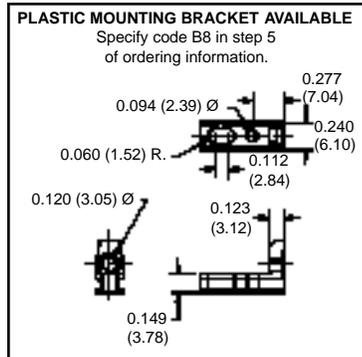
### 90° PRINTED BOARD MOUNT CONNECTOR

CODE 5, 0.450 (11.43) CONTACT EXTENSION

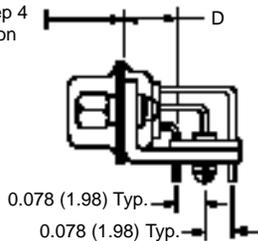
RUGGED ROBI-D OPEN ENTRY FEMALE CONTACT



DFD*005R7000 0.450 (11.43) CONTACT EXTENSION				
PART NUMBER	A	B	C	D
DFD*1505R7000	1.204 (30.58)	0.984 (24.99)	0.528 (13.41)	0.450 (11.43)
DFD*2605R7000	1.532 (38.91)	1.312 (33.32)	0.528 (13.41)	0.450 (11.43)
DFD*4405R7000	2.072 (52.63)	1.852 (47.04)	0.528 (13.41)	0.450 (11.43)

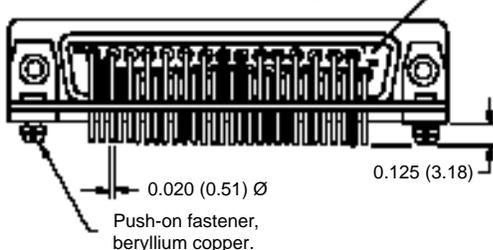


Specify code 5 in step 4 of ordering information



Typical part number:  
DFDA44F5R7NT2X

Numbering shown is rear view of male and face view of female

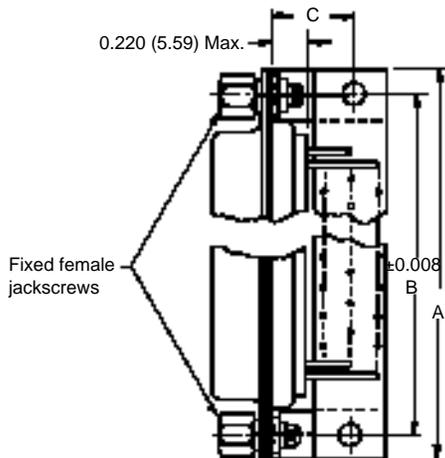


Push-on fastener, beryllium copper.

### 90° PRINTED BOARD MOUNT CONNECTOR

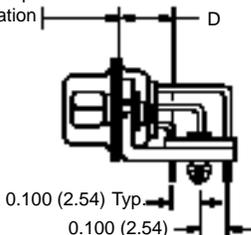
CODE 4, 0.314 (7.98) CONTACT EXTENSION

RUGGED ROBI-D OPEN ENTRY FEMALE CONTACT



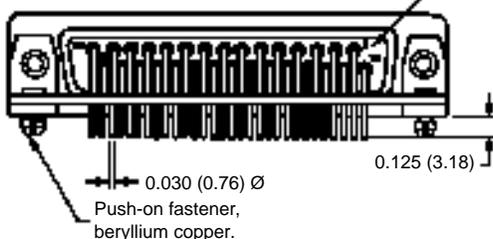
DFD*004R7000 0.314 (7.98) CONTACT EXTENSION				
PART NUMBER	A	B	C	D
DFD*1504R7000	1.204 (30.58)	0.984 (24.99)	0.414 (10.52)	0.314 (7.98)
DFD*2604R7000	1.532 (38.91)	1.312 (33.32)	0.414 (10.52)	0.314 (7.98)
DFD*4404R7000	2.072 (52.63)	1.852 (47.04)	0.414 (10.52)	0.314 (7.98)

Specify code 4 in step 4 of ordering information



Typical part number:  
DFDA44F4R7NT2X

Numbering shown is rear view of male and face view of female

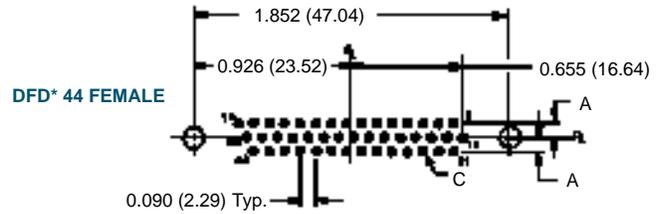
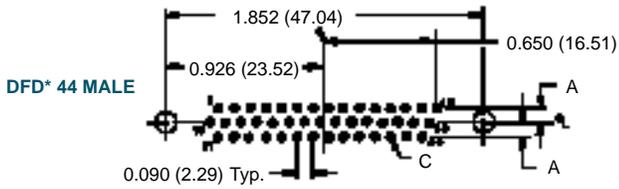
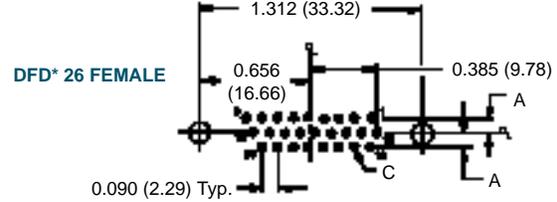
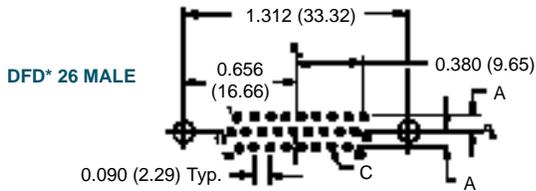
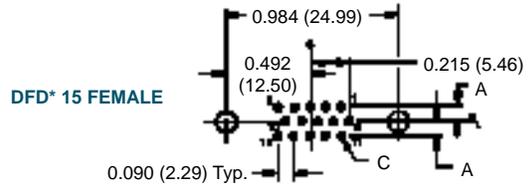
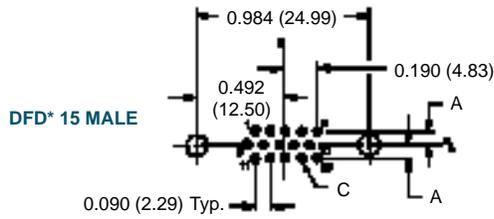


Push-on fastener, beryllium copper.

DIMENSIONS ARE IN INCHES (MILLIMETERS).  
ALL DIMENSIONS ARE SUBJECT TO CHANGE.

### 90° AND STRAIGHT PRINTED BOARD CONTACT HOLE PATTERN

Mount connector with mating face positioned to follow direction of arrows



Suggest  $0.123 \pm 0.003$  (3.12)  $\emptyset$  hole for mounting connector with push-on fasteners.

Suggest 0.035 (0.89)  $\emptyset$  hole for contact termination positions.

CODE NO.	A	B	C $\emptyset$	D
4	0.100 (2.54)	0.100 (2.54)	0.045 (1.14)	0.100 (2.54)
3, 32, 5	0.078 (1.98)	0.082 (2.08)	0.035 (0.89)	0.123 (3.12)

### ORDERING INFORMATION - CODE NUMBERING SYSTEM

Specify the complete connector by following Steps 1 through 9.  
Insert "0" when a step is not used.

STEP	1	2	3	4	5	6	7	8	9
	DFDA	44	F	4	R7	N	T6	X	

#### STEP 1 - Basic Series

**DFD Series**  
 DFDA – 1,000pF  
 DFDD – 30,000pF  
 DFDF – 5,000pF  
 DFDX – 500pF

#### STEP 2 - DFD Connector Variants

15, 26, 44

#### STEP 3 - Connector Gender

M – Male  
 F – Female

#### STEP 4 - Type of Contacts

2 – Solder, 22 AWG-30 AWG (0.3mm<sup>2</sup>-0.05mm<sup>2</sup>)  
 3 – Solder, Straight Printed Board Mount with 0.150 (3.81) Tail Length  
 32 – Solder, Straight Printed Board Mount with 0.300 (7.62) Tail Length  
 4 – Solder, 90° Printed Board Mount with 0.314 (7.98) Contact Extension  
 5 – Solder, 90° Printed Board Mount with 0.450 (11.43) Contact Extension

#### \*STEP 5 - Mounting Style

0 – Mounting Hole, 0.120 (3.05) Ø  
 B3 – Bracket, Mounting, 90° Metal with Cross Bar  
 B8 – Bracket, Mounting, 90° Plastic with Cross Bar  
 F – Float Mounts, Universal  
 P – Threaded Post, Brass, 0.225 (5.72) Length  
 P2 – Threaded Post, Nylon, 0.225 (5.72) Length  
 R2 – Bracket, Mounting, 90° Metal, Swaged to Connector with 4-40 Thread Fixed Female Jackscrews with Cross Bar  
 R6 – Bracket, Mounting, 90° Metal, Swaged to Connector with 0.120 (3.05) Ø Mounting Hole with Cross Bar  
 R7 – Bracket, Mounting, 90° Metal, Swaged to Connector with 4-40 Threads with Cross Bar  
 R8 – Bracket, Mounting, 90° Metal, Swaged to Connector with 4-40 Locknut with Cross Bar  
 S – Swaged Spacer, 4-40 Threads, 0.225 (5.72) Length  
 S2 – Swaged Spacer, 4-40 Threads, 0.125 (3.18) Length  
 S5 – Swaged Locknut, 4-40 Threads  
 S6 – Swaged Spacer with Push-on Fastener, 4-40 Threads, 0.225 (5.72) Length

#### STEP 9 - Special Options

Consult Sales Department

#### STEP 8 - Shell Options

X – Tin Plated  
 Z – Tin Plated and Dimpled

#### \*STEP 7 - Locking and Polarizing Systems

0 – None  
 T – Fixed Female Jackscrews  
 T2 – Fixed Female Jackscrews  
 T6 – Fixed Male and Female Polarized Jackscrews

#### \*STEP 6 - Hoods and Push-On Fasteners

0 – None  
 N – Push-on Fastener, for 90° Mounting Brackets

Note: These options must be ordered with connector and cannot be ordered separately.

\*For additional information on accessories listed in steps 5, 6 and 7, see Accessory Catalog.

90° Printed Board Mounted connectors must be supplied with angle brackets and cross bar.