



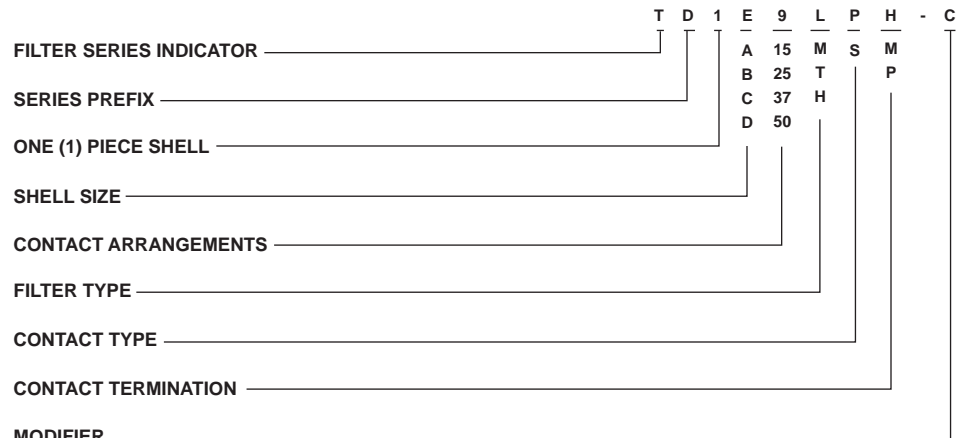
ITT Cannon has developed a line of filter connectors to meet the industry's demand for improved control of Radio Frequency and Electro-Magnetic Interference (RFI/EMI). These TD1\* filter connectors, have been designed to combine the functions of a standard electrical connector and feed-thru filters into one compact package. In addition to offering greater design flexibility and system reliability, they are designed for applications where space and weight are prime considerations. These connectors are intermateable with all standard D subminiature

connectors. They are also intermateable with MIL-C-24308 types and meet applicable portions of that specification.

ALL TD1\* filter contact assemblies are tested 100% during in-process and final inspection, for capacitance, insulation resistance and dielectric withstanding voltage. Attenuation is checked as required for each type of filter to assure performance to guaranteed levels.

Note: The TD1\* replaces the obsolete TD\*J and D\*J Series

## How to Order



### FILTER SERIES INDICATOR

T - Transverse Monolith

### SERIES PREFIX

D - Miniature, rectangular, solder termination

### SHELL SIZE (one piece shell)

E, A, B, C, D

### CONTACT ARRANGEMENTS

See page 305

### MODIFIER

### FILTER TYPE

L - Low frequency  
M - Mid-range frequency  
T - Standard frequency  
H - High frequency

### CONTACT TYPE

P - Pin contacts  
S - Socket contacts

### PRINTED CIRCUIT CONTACTS

Consult factory. Both 90° and straight types are available.

### CONTACT TERMINATION

See page 305

Lack of termination indicator signifies solder cup.

### MODIFIER

C - Clinch nut

## Performance and Material Specifications

### ELECTRICAL DATA

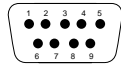
| Available Filter   | Low Freq.                  | Mid Freq.                    | Std Freq.                    | High Freq.                   |         |
|--|----------------------------|------------------------------|------------------------------|------------------------------|---------|
| Catalog Indication - letter  | L                          | M                            | T                            | H                            |         |
| Voltage Rating (working)   | 100 VDC                    |                              | 200 VDC                      |                              |         |
| Current Rating (amp DC)  | 7.5                        | 7.5                          | 7.5                          | 7.5                          |         |
| Insulation Resistance, 2 min. electrification<br>time max. at 25° C, and 100 VDC | 5000<br>megohms<br>minimum | 10,000<br>megohms<br>minimum | 10,000<br>megohms<br>minimum | 10,000<br>megohms<br>minimum |         |
| DWV, sea level, with 500 microamps max.<br>charge/discharge                      | 300 VDC                    | 500 VDC                      | 500 VDC                      | 500 VDC                      |         |
| Capacitance at 1 KHz, 0.1 V rms picofarads                                       | 50,000<br>minimum          | 7200<br>12,000               | 3000<br>5,000                | 780<br>1,300                 |         |
|  | Freq. MHz                  |                              | Attenuation (dB)             |                              |         |
| Attenuation per MIL-STD-220<br>@ 25° C with no applied<br>voltage or current.    | 0.1                        | 2 min.                       | -                            | -                            |         |
|  | 1                          | 15 min.                      | 2 min.                       | -                            |         |
|  | 2                          | 20 min.                      | 5 min.                       | 2 min.                       |         |
|  | 10                         | 35 min.                      | 15 min.                      | 9 min.                       | 2 min.  |
|  | 100                        | 60 min.                      | 55 min.                      | 50 min.                      | 30 min. |
|  | 500 to 10,000              | 65 min.                      | 60 min.                      | 55 min.                      | 50 min. |
| Filter Type  | Pi                         | Pi                           | Pi                           | Pi                           |         |

### MATERIALS AND FINISHES

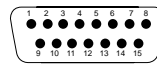
| Description       | Material  | Finish                                     |
|-------------------|---|--|
| Contacts          | Copper alloy  | Gold plate per MIL-G-45204 Type 1, Class 1 |
| Shell             | Aluminum alloy 6061-T6 per QQ-A-225/8 or QQ-A-200/8 | Electroless nickel per MIL-C-26074         |
| Insulator: Socket | Polyphenylene Sulfide/ Epoxy                        | None                                       |
| Pin               | Epoxy   | None                                       |
| Ground Spring     | Beryllium Copper                                    | Silver plate                               |

## Contact Arrangements

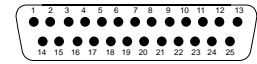
### Face View Pin Insert



**E**  
9  
#20

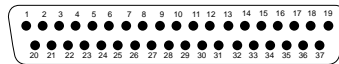


**A**  
15  
#20

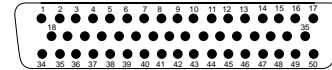


**B**  
25  
#20

Shell Size  
Contact Arrangement  
Contact Size



**C**  
37  
#20

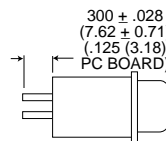


**D**  
50  
#20

Shell Size  
Contact Arrangement  
Contact Size

## Contacts

### Straight Printed Circuit

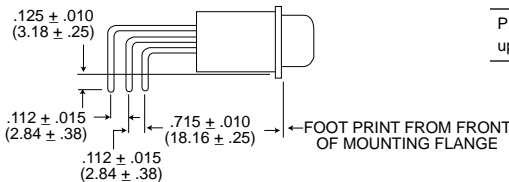
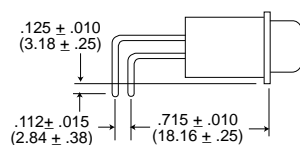


### Modifier

H: .040 (1.02) Dia. terminals and accommodates up to 1/8 Max. thick P.C. boards.

M: .030 (.76) Dia. terminals and accommodates up to 1/8 Max. thick P.C. boards.

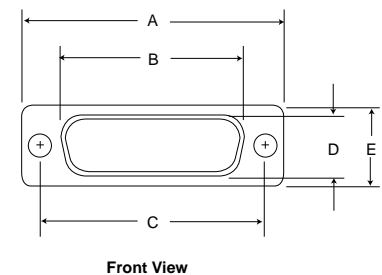
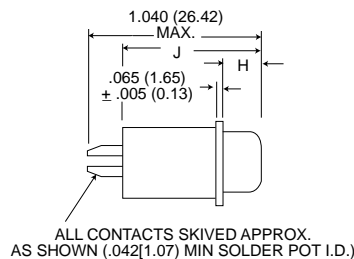
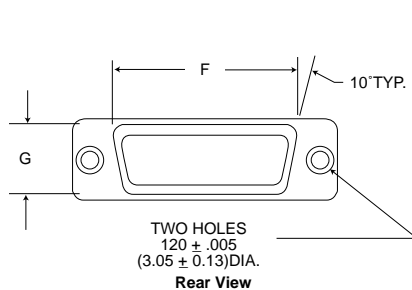
### Right Angle Printed Circuit



### Modifier

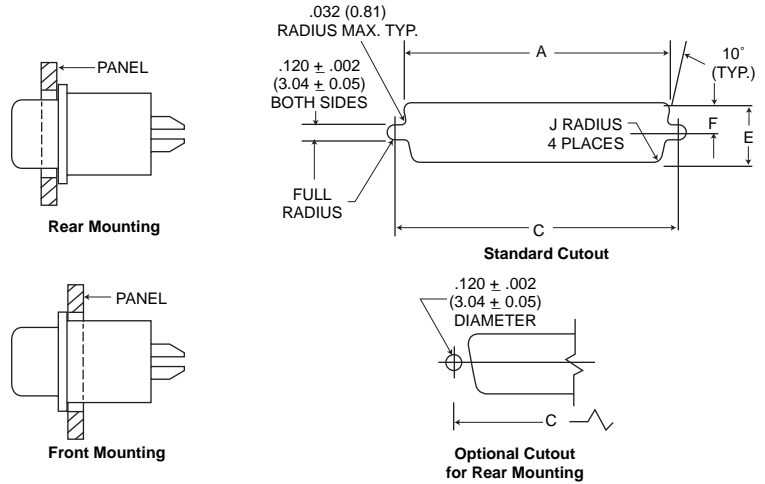
P: .030 (.76) Dia. terminals and accommodates P.C. boards up to 3/32 Max. Thickness.

## Standard Shell Dimensions



| Shell Size | A<br>± .015 (0.38) | B<br>± .010 (0.25) | C<br>± .005 (0.13) | D<br>± .010 (0.25) | E<br>± .005 (0.13) | F<br>± .010 (0.25) | G<br>± .010 (0.25) | H<br>± .010 (0.25) | J<br>± .010 (0.25) |
|------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| 9P         | 1.213 (30.81)      | .738 (18.75)       | .984 (24.99)       | .400 (10.16)       | .502 (12.75)       | .792 (20.12)       | .469 (11.91)       | .236 (5.99)        | .841 (21.36)       |
| 9S         | 1.213 (30.81)      | .642 (16.31)       | .984 (24.99)       | .310 (7.87)        | .502 (12.75)       | .792 (20.12)       | .469 (11.91)       | .243 (6.17)        | .852 (21.64)       |
| 15P        | 1.541 (39.14)      | 1.066 (27.08)      | 1.312 (33.32)      | .400 (10.16)       | .502 (12.75)       | 1.116 (28.35)      | .469 (11.91)       | .236 (5.99)        | .841 (21.36)       |
| 15S        | 1.541 (39.14)      | .970 (24.64)       | 1.312 (33.32)      | .310 (7.87)        | .502 (12.75)       | 1.116 (28.35)      | .469 (11.91)       | .243 (6.17)        | .852 (21.64)       |
| 25P        | 2.087 (53.01)      | 1.606 (40.79)      | 1.852 (47.04)      | .400 (10.16)       | .502 (12.75)       | 1.664 (42.27)      | .469 (11.91)       | .231 (5.87)        | .841 (21.36)       |
| 25S        | 2.087 (53.01)      | 1.510 (38.35)      | 1.852 (47.04)      | .310 (7.87)        | .502 (12.75)       | 1.664 (42.27)      | .469 (11.91)       | .243 (6.17)        | .852 (21.64)       |
| 37P        | 2.729 (69.32)      | 2.254 (57.25)      | 2.500 (63.50)      | .400 (10.16)       | .502 (12.75)       | 2.316 (58.83)      | .469 (11.91)       | .231 (5.87)        | .841 (21.36)       |
| 37S        | 2.729 (69.32)      | 2.158 (54.81)      | 2.500 (63.50)      | .310 (7.87)        | .502 (12.75)       | 2.316 (58.83)      | .469 (11.91)       | .243 (6.17)        | .852 (21.64)       |
| 50P        | 2.635 (66.93)      | 2.151 (54.64)      | 2.406 (61.11)      | .512 (13.00)       | .612 (15.54)       | 2.198 (55.83)      | .576 (14.63)       | .231 (5.87)        | .841 (21.36)       |
| 50S        | 2.635 (66.93)      | 2.064 (52.43)      | 2.406 (61.11)      | .422 (10.72)       | .612 (15.54)       | 2.198 (55.83)      | .576 (14.63)       | .243 (6.17)        | .852 (21.64)       |

Mounting Panel Cutout Dimensions



| Connector | Mounting Method | A                 |                   | C                 |                   | E                 |                   | F                 |                   | J |  |
|-----------|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|---|--|
|           |                 | $\pm .005 (0.13)$ | $\pm .005 (0.13)$ | $\pm .005 (0.13)$ | $\pm .005 (0.13)$ | $\pm .005 (0.13)$ | $\pm .005 (0.13)$ | $\pm .005 (0.13)$ | $\pm .005 (0.13)$ |   |  |
| TD1E      | Front Mounting  | .833 (21.16)      | .984 (24.99)      | .485 (12.32)      | .243 (6.17)       | .065 (1.65)       |                   |                   |                   |   |  |
|           | Rear Mounting   | .806 (20.47)      | .984 (24.99)      | .449 (11.40)      | .225 (5.72)       | .132 (3.35)       |                   |                   |                   |   |  |
| TD1A      | Front Mounting  | 1.161 (29.49)     | 1.312 (33.32)     | .485 (12.32)      | .243 (6.17)       | .065 (1.65)       |                   |                   |                   |   |  |
|           | Rear Mounting   | 1.134 (28.80)     | 1.312 (33.32)     | .449 (11.40)      | .225 (5.72)       | .132 (3.35)       |                   |                   |                   |   |  |
| TD1B      | Front Mounting  | 1.700 (43.18)     | 1.852 (47.04)     | .485 (12.32)      | .243 (6.17)       | .065 (1.65)       |                   |                   |                   |   |  |
|           | Rear Mounting   | 1.674 (42.52)     | 1.852 (47.04)     | .449 (11.40)      | .225 (5.72)       | .132 (3.35)       |                   |                   |                   |   |  |
| TD1C      | Front Mounting  | 2.349 (59.66)     | 2.500 (63.50)     | .485 (12.32)      | .243 (6.17)       | .065 (1.65)       |                   |                   |                   |   |  |
|           | Rear Mounting   | 2.326 (59.08)     | 2.500 (63.50)     | .449 (11.40)      | .225 (5.72)       | .132 (3.35)       |                   |                   |                   |   |  |
| TD1D      | Front Mounting  | 2.254 (57.25)     | 2.406 (61.11)     | .593 (15.06)      | .297 (7.54)       | .065 (1.65)       |                   |                   |                   |   |  |
|           | Rear Mounting   | 2.218 (56.34)     | 2.406 (61.11)     | .555 (14.09)      | .278 (7.06)       | .132 (3.35)       |                   |                   |                   |   |  |