

# Series 600 High-Density Filtered Connectors

The miniaturization of electronic systems and sub-systems is pushing designers to increase circuit densities within smaller packages. To address this growing need, API Technologies' Spectrum Control brand has developed a line of filtered High-Density D-subminiature connectors. This new line of connectors incorporates the high performance and reliable filtering of API's standard D-sub in the High-Density format.

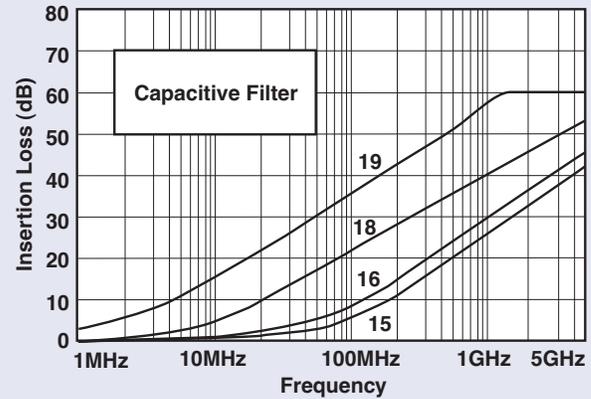
## Features

- Connectors designed to MIL-C-24308
- Capacitance values from 85 pF to 4000 pF
- Filter type feed-through C
- Selectively specify and filter each contact position
- Available in feed-through capacitive configurations

## Mechanical Specifications:

Same as Series 700 connectors, page FC21.

## Typical Insertion Loss



Insertion loss measured per MIL-STD-220, no load, 50 ohm source and load.

## Electrical Specifications

Current Rating . . . . 3 Amps

RF Current Rating . . 0.3 Amps

Contact Resistance . . 15 milliohms maximum

UL Recognized . . . . Under category of communication circuit accessories, File #E149046

## Electrical Specifications: High-Density Connectors

| Filter Designations | Filter Circuits | Capacitance |      | 3 dB Cut-off Frequency Max. (MHz) | Dielectric With-standing Voltage | Working Voltage DC -55°C to +125°C | Minimum Insertion Loss - Decibels (dB) |        |        |        |         |         |         |       |       |       |
|---------------------|-----------------|-------------|------|-----------------------------------|----------------------------------|------------------------------------|--|--------|--------|--------|---------|---------|---------|-------|-------|-------|
|                     |                 | Value       | Tol. |                                   |                                  |                                    | 5 MHz                                  | 10 MHz | 20 MHz | 50 MHz | 100 MHz | 200 MHz | 500 MHz | 1 GHz | 2 GHz | 5 GHz |
| 15                  | C               | 85 pF       | ±25% | 60                                | 300V                             | 100V                               | —                                      | —      | —      | —      | 1       | 6       | 16      | 21    | 22    | 20    |
| 16                  |                 | 180 pF      | ±25% | 28                                | 300V                             | 100V                               | —                                      | —      | —      | 1      | 8       | 10      | 18      | 25    | 26    | 24    |
| 18                  |                 | 1000 pF     | ±25% | 5.1                               | 300V                             | 100V                               | —                                      | 3      | 8      | 14     | 20      | 25      | 32      | 35    | 41    | 39    |
| 19                  |                 | 4000 pF     | ±25% | 1.3                               | 300V                             | 100V                               | 8                                      | 13     | 19     | 26     | 31      | 37      | 45      | 48    | 52    | 47    |

Filter designation "G" for grounded contacts, "I" for insulated (not filtered) contacts. Filter designation "O" for omitted contact and no hole in ground plane.

Above data represents guaranteed minimum.

## Ordering Information

Example: **56-605-015-LI**



D-Sub Connector  
Hi-Density

### Shell Size\*\*

- 0 = 15
- 1 = 26
- 2 = 44
- 3 = 62
- 4 = 78

- Standard connector  
F - RoHS compliant version

### Contact/Termination

- 1 - Pin to solder cup
- 2 - Pin to 90° PCB mount\*
- 3 - Socket to PCB mount
- 4 - Socket to 90° PCB\* mount
- 5 - Pin-socket adapter
- 7 - Pin to PCB mount

### Special

- 0 = All positions same
- 9 = Special loading

\*\* Some shell sizes require minimum order quantity. Consult API for details.

This part number represents a Series 600 Hi-Density filtered D-Sub connector with 15 contacts, pin-socket adapter configuration. The FT filters have a capacitance value of 85 pF and the connector includes 4-40 locking inserts.

### Filter Designation

- 15 - 85 pF FT
- 16 - 180 pF FT
- 18 - 1,000 pF FT
- 19 - 4,000 pF FT
- 20 - Insulated contact

### Options

- LI = 4-40 inserts
- S = Solder dip tails
- 50G =  $\mu$  gold
- GBL = Grounding board lock

\* Required on right angle parts

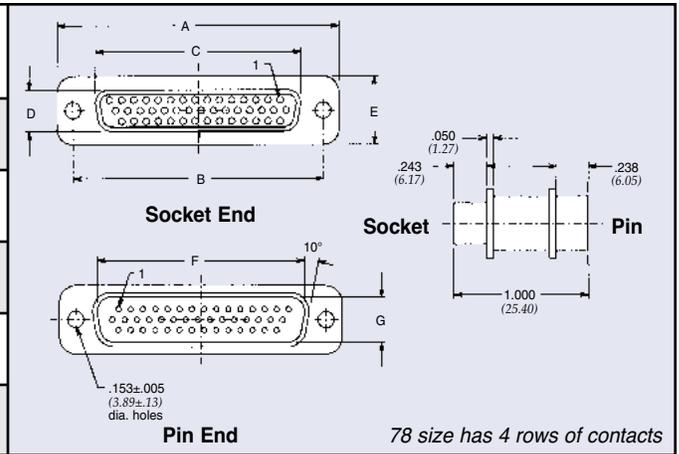
Note: VGA adapters also available. Consult factory

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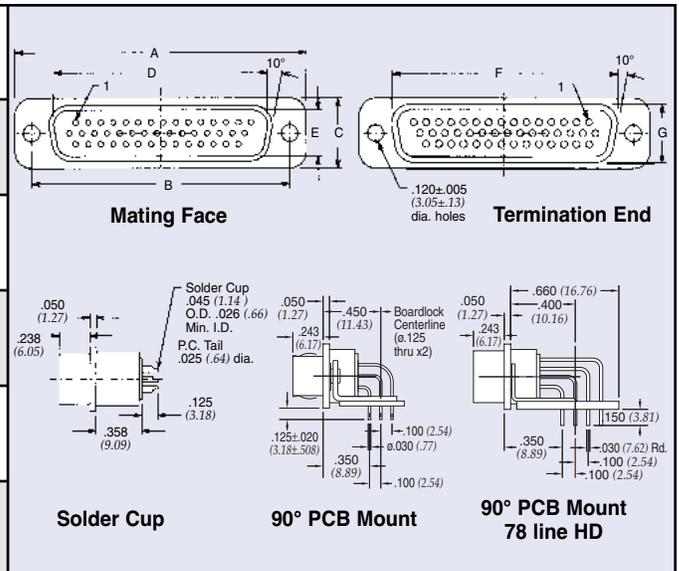
## Pin/Socket Adapter

| Size | A                | B                | C                | D               | E               | F                | G               |
|------|------------------|------------------|------------------|-----------------|-----------------|------------------|-----------------|
| 15   | 1.213<br>(30.81) | .984<br>(24.99)  | .640<br>(16.26)  | .304<br>(7.72)  | .505<br>(12.83) | .666<br>(16.92)  | .333<br>(8.46)  |
| 26   | 1.541<br>(39.14) | 1.312<br>(33.32) | .968<br>(24.59)  | .304<br>(7.72)  | .505<br>(12.83) | .994<br>(25.25)  | .333<br>(8.46)  |
| 44   | 2.088<br>(53.04) | 1.852<br>(47.04) | 1.508<br>(38.30) | .304<br>(7.72)  | .505<br>(12.83) | 1.534<br>(38.96) | .333<br>(8.46)  |
| 62   | 2.729<br>(69.32) | 2.500<br>(63.50) | 2.156<br>(54.76) | .304<br>(7.72)  | .505<br>(12.83) | 2.182<br>(55.42) | .333<br>(8.46)  |
| 78   | 2.635<br>(66.93) | 2.406<br>(61.11) | 2.062<br>(52.37) | .416<br>(10.57) | .615<br>(15.62) | 2.079<br>(52.81) | .420<br>(11.18) |



## Pin or Socket to Solder Cup, PCB Mount and 90° PCB Mount

| Size | A                | B                | C               | D                | E               | F                | G               |
|------|------------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|
| 15   | 1.213<br>(30.81) | .984<br>(24.99)  | .505<br>(12.83) | .666<br>(16.92)  | .333<br>(8.46)  | .757<br>(19.23)  | .420<br>(10.67) |
| 26   | 1.541<br>(39.14) | 1.312<br>(33.32) | .505<br>(12.83) | .994<br>(25.25)  | .333<br>(8.46)  | 1.085<br>(27.56) | .420<br>(10.67) |
| 44   | 2.088<br>(53.04) | 1.852<br>(47.04) | .505<br>(12.83) | 1.534<br>(38.96) | .333<br>(8.46)  | 1.625<br>(41.28) | .420<br>(10.67) |
| 62   | 2.729<br>(69.32) | 2.500<br>(63.50) | .505<br>(12.83) | 2.182<br>(55.42) | .333<br>(8.46)  | 2.273<br>(57.73) | .420<br>(10.67) |
| 78   | 2.635<br>(66.93) | 2.406<br>(61.11) | .615<br>(15.62) | 2.079<br>(52.81) | .440<br>(11.18) | 2.170<br>(55.12) | .527<br>(13.39) |



Dimensions in inches (mm)

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