

# Series 700 Specifications and Connector Ordering

### **Mechanical Specifications**

Shell	Zinc or aluminum diecast, nickel plated 150 $\mu$ inches (3.81 $\mu$ m) min.
Insulators	Glass-filled polyester, flammability UL94V-0
Pin Contacts	Copper alloy, 15 $\mu$ inches (0.38 $\mu$ m) gold plated * over nickel
Socket Contacts	Copper alloy, 30 $\mu$ inches (0.76 $\mu$ m) gold plated * over nickel
	* Heavier gold plating available upon request. See pg. FC43: Connector Options
Terminations	Gold flash for PCB mount and solder cups. Solder dipped also available.
Ground Plane	Brass, solder plated
Grounding Springs	Beryllium copper, tin plated per MIL-T-10727
Operating	
1emperature	-55°C 10 +125°C
Capacitors	Proprietary barium titanate ceramic formulations
<b>T1</b> . 1 1 C	

## **Electrical Specifications**

Current Rating .... 5 Amps

*R.F. Current Rating*.....0.3 Amps

Contact Resistance ..... 10 milliohms maximum

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

Inductance on

 $\it PI\,Filters\ldots$  ~ 860 nH between 100 kHz and 1 MHz

Solder cups accept up to a 20 gauge wire.

#### Note: For additional mechanical, electrical, and environmental specifications, refer to page FC79.

#### **Ordering Your Connector**

#### **STEP 1: SELECTING THE FILTER**

- Using the insert loss graphs on page FC20 determine which filters provide the required attenuation at the troublesome frequency, while not affecting the signal frequency by more than 3 to 6 dB.
- Choose the filter type, either feed-through capacitor or Pi. The Pi is generally considered better due to its superior high frequency performance and steeper curve. The feed-through capacitor is lower cost.
- Select capacitance value.
- Note the Spectrum letter designation for the filter chosen from the table on page FC20.

#### **STEP 2: SELECTING THE CONNECTOR**

- Turn to the appropriate size section. (9, 15, 25, 37, 50)
- Choose either pin contacts (plug) or socket contacts (receptacle).
- Choose the required termination type.
- From the table on the appropriate connector page, using the filter letter designation chosen in step 1 above, select the part number.

## **STEP 3: SPECIFYING OPTIONS**

- Refer to page FC43 for special options including heavy gold plating, 4-40 mounting threads, grounding brackets, hardware, and others.
- Most options are available within the standard lead times.
- Some options require a part number suffix, while other combinations may require factory assistance for part number assignment. If a suffix is shown, add it to your selected part number. If more than one option is needed, consult with factory for part number assignment.







### Solderless Wire Wrap

Spectrum Part Number Select one			EMI Filter		<b>→ 2.088</b> (53.04) <b>→</b> 1.625 <b>1</b> 9°	
	L .500	L .375	L .250	Filter Desig.**	Cap. Value	(41.28) (41.28
* 56-723	-006	-017	* -012	A	310 pF Pi	
56-723	-007	-018	-013	В	1000 pF C	.308
* 56-723	-008	-019	* -014	C	1000 pF Pi	Mating Eaco
56-723	-009	-020	-015	D	5000 pF C	
* 56-723	-010	-021	* -016	E	4000 pF Pi	<b>.243</b> (6.17)
* 56-723	-032	-029	* -026	F	830 pF C	
56-723	-033	-030	-027	J	100 pF Pi	
56-723	-034	-031	-028	K	2500 pF Pi	
56-723	-048	-047	-046	N	375 pF C	<b>→ .425</b> (10.80) ◊

#### Solder Cup Termination

Spectrum	EMI Filter		<b>→ 2.088</b> (53.04) <b>→ 1.625</b> 19°	
Number	Filter Designation**	Cap. Value	(41.28) (41.25) (10.67)	
* 56-726-001 56-726-002 * 56-726-003 56-726-004 * 56-726-005 56-726-006 56-726-007 * 56-726-008	A B C D E F J K	310 pF Pi 1000 pF C 1000 pF Pi 5000 pF C 4000 pF Pi 830 pF C 100 pF Pi 2500 pF Pi	Mating Face  Solder  Solder  Solder    0.120 + .005 Dia. Holes  .308  (3.05 ± 1.3 Dia. Holes)  .308    0.120 + .005 Dia. Holes  .308  (3.05 ± 1.3 Dia. Holes)  .308    0.120 + .005 Dia. Holes  .308  .308  .308  .308    0.120 + .005 Dia. Holes  .308  .308  .308  .308  .308    0.120 + .005 Dia. Holes  .308  .308  .308  .308  .308    0.120 + .005 Dia. Holes  .308  .308  .308  .308  .308    0.120 + .0042 Min. I.D.	
56-726-009 56-726-021	N L	375 pF C 500 pF C	Side View - (14.60) .065 MAX. O.D. .125 (3.18)	

#### **Pin/Socket Adapter**

Spectrum	EI	MI Filter	2.088 (53.04) - 1.508 (38.30) - 1.534 (38.96) - 1.534
Number	Filter Designation**	Cap. Value	
* 56-725-001 56-725-002 * 56-725-003 € 56-725-004 * 56-725-005 € * 56-725-019 56-725-020 * 56-725-021 56-725-021 56-725-064 56-725-073	A B C D E F J K N L	310 pF Pi 1000 pF C 1000 pF Pi 5000 pF C 4000 pF Pi 830 pF C 100 pF Pi 2500 pF Pi 375 pF C 500 pF C	-25 (47 04)  (7.82)  (7.82)  (7.82)  (7.82)  (7.82)  (7.82)  (7.82)  (7.82)  (305 ± 13 DIA HOLES)  (305 ± 13 DIA HOLES)  Socket Face  -520 (13.21)  Pin Face  -050 (1.27) TYP.  -243 (6.17)  Side View  .238 (6.05)

 $\ensuremath{\in}$  Also available through API's authorized European distributors/agents.

\* May be available from distributor stock.

\*\* See page FC20 for filter performance.

Standard Tolerance =  $\pm .005$  except where noted,  $\diamond = \pm .015$ 

API TECHNOLOGIES • 8061 Avonia Rd. • Fairview, PA 16415 • Ph: 814-474-1571 • Fax: 814-474-3110 • eis.apitech.com

API TECHNOLOGIES' SPECTRUM CONTROL GmbH • Hansastrasse 6 • 91126 Schwabach, Germany • Phone: (49)-9122-795-0 • Fax: (49)-9122-795-58

Dimensions in inches (mm)



# D-Subminiature Part Numbering System



#### self-locking threads (for right angle mount only) s **GBL** = Grounded board lock (right angle) **GBL6** = for .062" boards (straight PCB mount) (1.57mm) **GBL9** = for .093" boards (straight PCB mount (2.36mm) **50G** = 50 µ (1.27 µm) gold plating

Options

Series 500

See options descriptions on page FC43

HD = Hi-Density (15 socket only)

selected)

**GBL** = Grounded board lock

**GBLF** = Grounded board lock

LI = 4-40 UNC inserts

**50G** = 50  $\mu$  (1.27  $\mu$ m) gold

GBL = Ground board lock

LI = 4-40 UNC inserts

Series 600 Hi-Density

Series 700

and ferrite slab

only on 90° PCB)

TI = 4-40 threads on mounting

flange (.125" hole if not

includes 4-40 threads

provides enhanced LC

performance. (Available

LIM = Metric M3.0 self-locking threads

GB = Metal bracket provides ground

connection, includes 4-40

S = Solder dipped tails/Solder Cups\*

(available only on 90° PCB)

add suffix ending Series F

- **S** = Solder dipped tails/Solder Cups\*
- **JS** = Jackscrew mounting
- Jackscrew mounting

For option combinations, consult factory.

#### \*Dipped Solder Cup

- No socket to solder cup product
- Solder cups may be full of solder
- Standard part: Sn60 or equivalent
- RoHS Part: Sn96 or equivalent

To assist your efforts in selecting the correct Filtered Connector to meet your needs, we have developed a part numbering system. All of the standard products are shown in their respective catalog pages.

Note: 1 can be Pin to solder cup or Pin to PCB for Series 700. See charts pages FC22-FC41.

6 = Socket to solder cup

Series 400 only 2, 3, 4, 7 Series 500 only 2, 3, 4 & 7

Series 600 only 1, 2, 3, 4, 5 Series 700 1 thru 7

Styles available for:

7 = Pin to straight PCB mount

Part number **56-513-012-TI** represents a Series 500 connector with 15 contacts in a socket to straight PCB mount configuration. All connector positions have a capacitance value of 840 pF and there are 4-40 threads on mounting flange.

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