

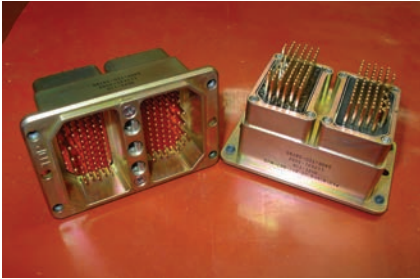
smiths connectors

FILTER RACK & PANEL CONNECTORS



TABLE OF CONTENTS

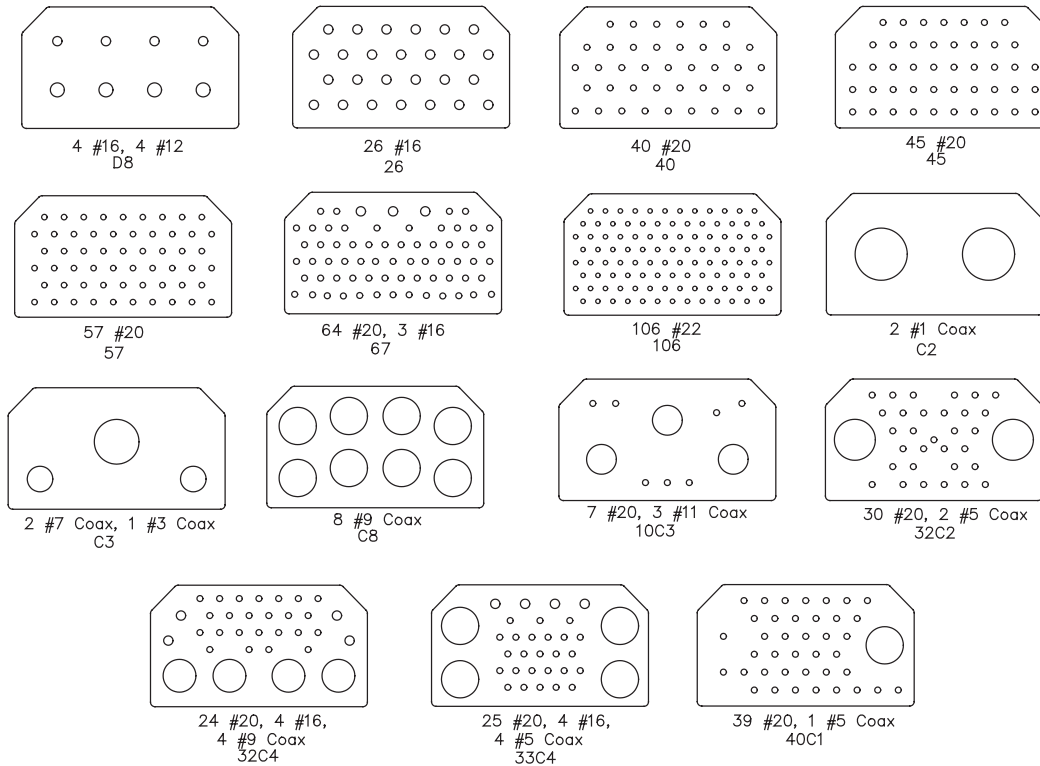
ARINC 404	3
▶ Layouts.....	3
▶ Shell Sizes 1-4	4
▶ How to order.....	5
ARINC 600	6
▶ Layouts.....	6
▶ Shell Sizes 1-3	7
▶ How to order.....	9
MIL-DTL-83527	9
▶ Layouts.....	9
▶ Shell Sizes 2-4	10
▶ How to order.....	11
▶ Electrical Characteristics.....	12
▶ Performance Data	15
▶ Contact Termination	16



Smith Connectors' ARINC 404 filter connectors are designed to meet or exceed all applicable requirements of the military specification. These connectors are interchangeable and interchangeable with the standard non-filtered connectors.

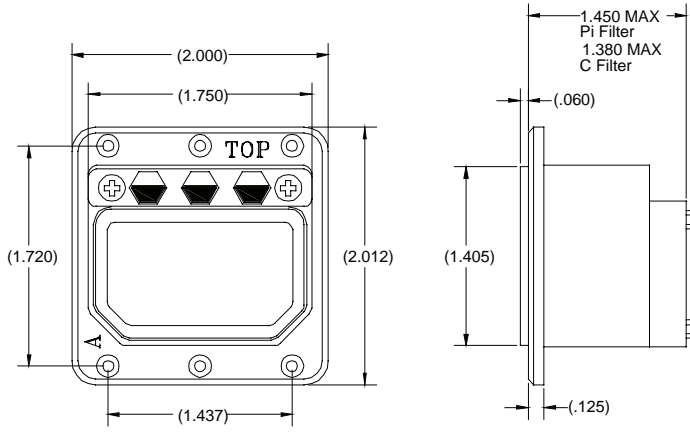
MATERIALS AND FINISHES	
Shell	Aluminum alloy/Steel/Composite
Insulator	High grade plastic/epoxy
Contacts	Copper alloy, gold plate
Grommet & Seal	Silicon base elastomer
Ground Plane	Beryllium copper, silver plate
Capacitor	Barium Titanate
Inductor	Ferrite bead

Insert Arrangements

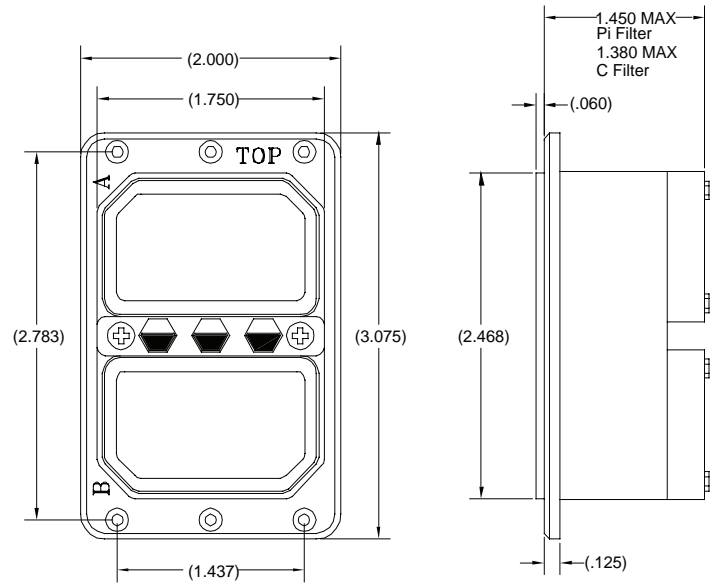


Smith Connectors provides specialty, enhanced performance connectors and cable assemblies and as such does not currently offer circular, rack and panel, or D-subminiature connectors that are listed on military standard Qualified Products Lists (QPL) per applicable detail specification sheets. Smith Connectors' connectors are fully interchangeable with applicable QPL products and meet the applicable requirements of all military standards listed in this catalog.

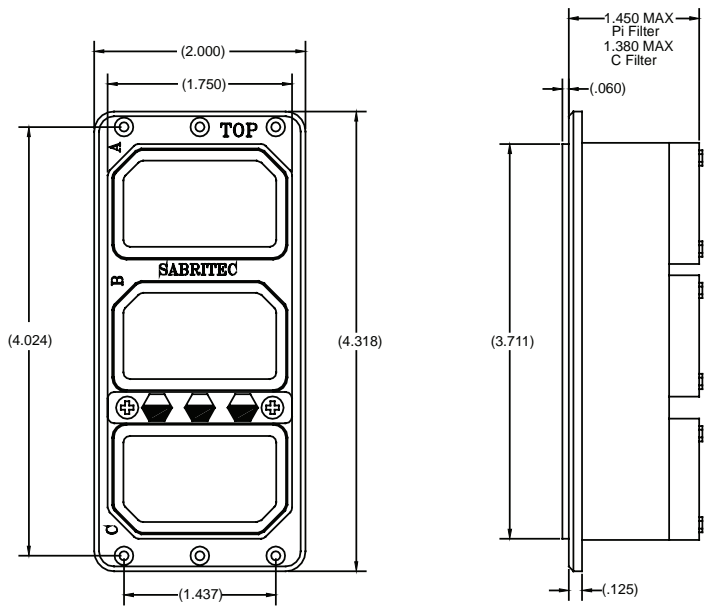
▶ SHELL SIZE 1



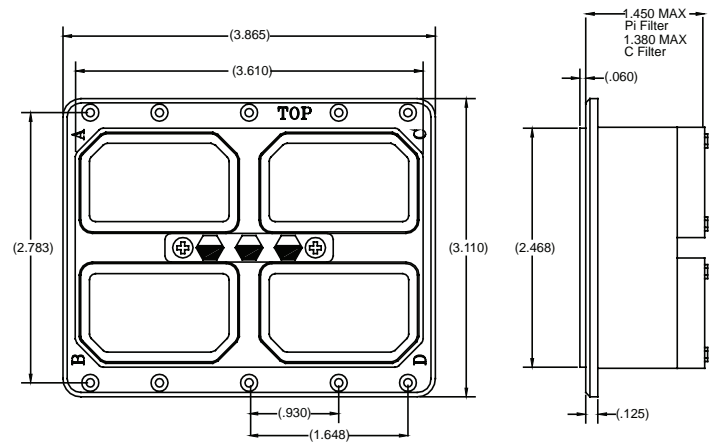
▶ SHELL SIZE 2



▶ SHELL SIZE 3



▶ SHELL SIZE 4



HOW TO ORDER



1 ▸ FILTER TYPE

P, **L**, **C**

2 ▸ PREFIX

3 ▸ SHELL SIZE

1, **2**, **3**, **4**

4 ▸ PLATING

C CADMIUM (YELLOW CHROMATE)

N ELECTROLESS NICKEL

5 ▸ INSERT ARRANGEMENT

CAVITY **A**, **B**, **C**, **D**

6 ▸ CONTACT TYPE

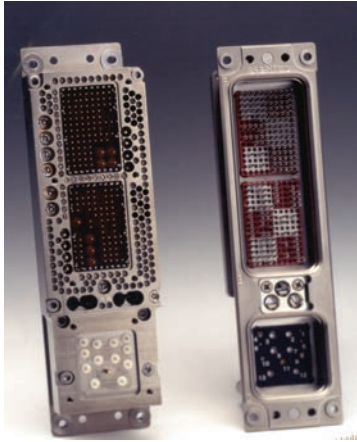
P PIN **S** SOCKET

7 ▸ CONTACT TERMINATION

S SOLDER CUP

P PC TAIL

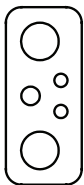
C CRIMP



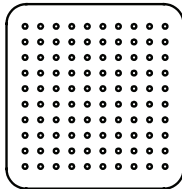
ARINC 600 filter connectors are designed to meet or exceed all applicable requirements of the specification. These connectors are intermateable and interchangeable with the standard non-filtered connectors.

MATERIALS AND FINISHES	
Shell	Aluminum alloy
Insulator	High grade plastic/epoxy
Contacts	Copper alloy, gold plate
Grommet & Seal	Silicon base elastomer
Ground Plane	Brass, Silver Plate
Capacitor	Barium Titanate
Inductor	Ferrite bead

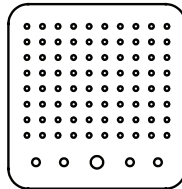
Insert Arrangements



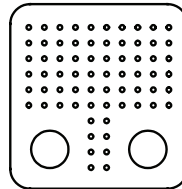
1 #12, 2 #16,
2 #5 Coax
5C2



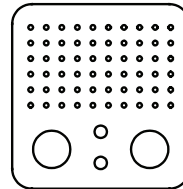
100 #22
100



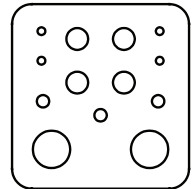
80 #22, 4 #20, 1 #16
85



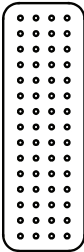
68 #22, 2 #8
68Q2



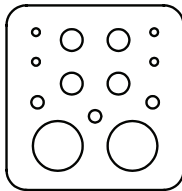
60 #22, 2 #16, 2 #8
62Q2



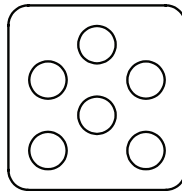
4 #20, 3 #16, 4 #12
11Q2



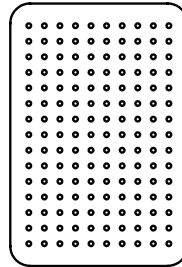
60 #22
60



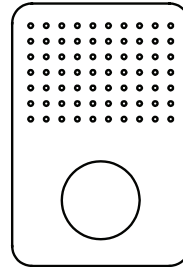
4 #20, 4 #12, 3 #16
2 #5 Coax
13C2



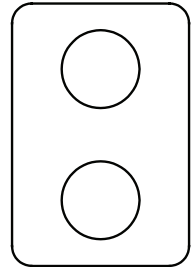
6 #8
Q6
Metallic Insert



150 #22
150



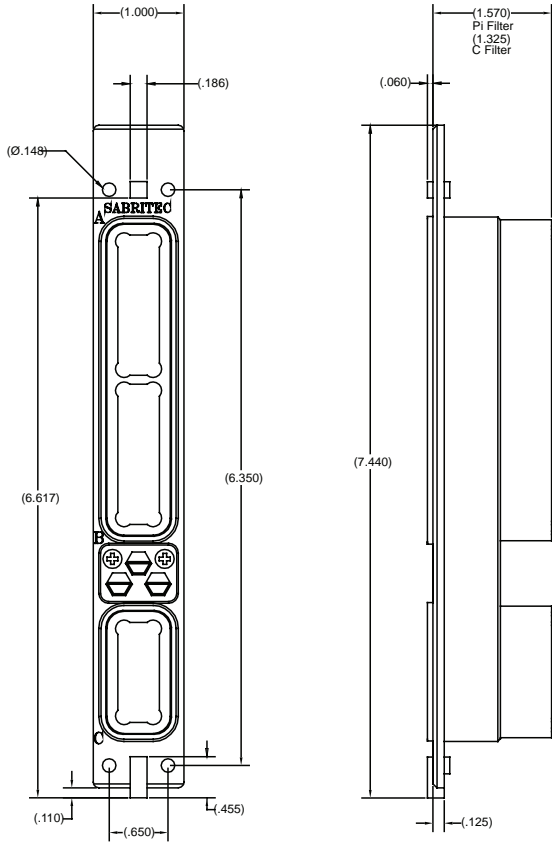
70 #22, 1 #1 Coax
150



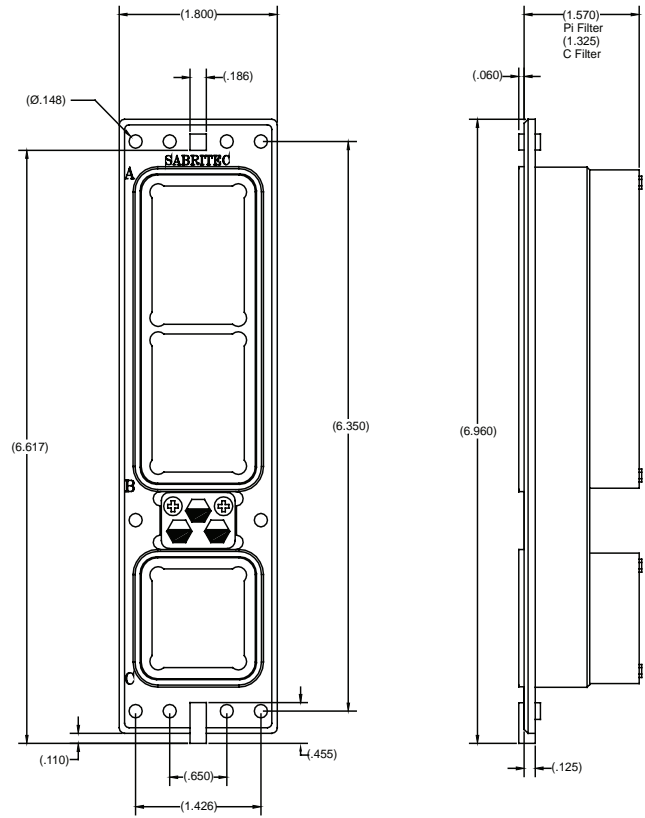
2 #1 Coax
C2

Smith Connectors provides specialty, enhanced performance connectors and cable assemblies and as such does not currently offer circular, rack and panel, or D-subminiature connectors that are listed on military standard Qualified Products Lists (QPL) per applicable detail specification sheets. Smith Connectors' connectors are fully intermateable with applicable QPL products and meet the applicable requirements of all military standards listed in this catalog.

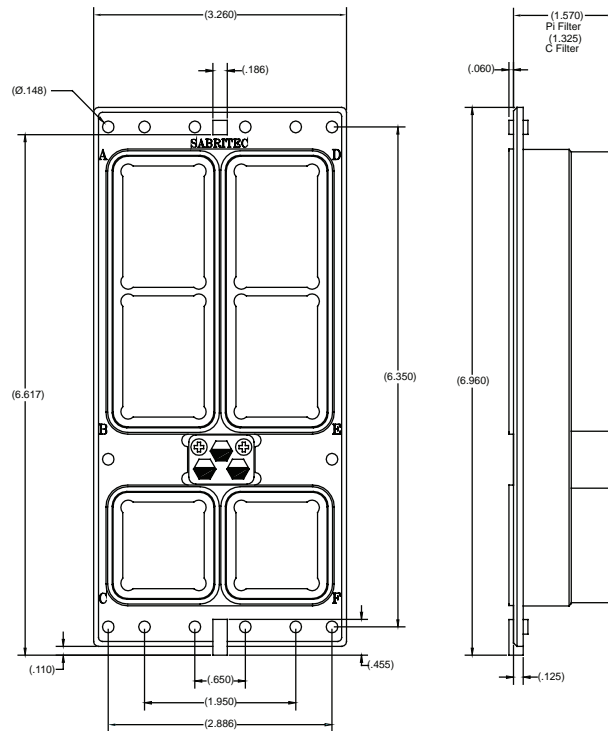
▶ SHELL SIZE 1



▶ SHELL SIZE 2



▶ SHELL SIZE 3



HOW TO ORDER



1 ▶ FILTER TYPE

Pi, **L**, **C**

2 ▶ PREFIX

3 ▶ SHELL SIZE

1, **2**, **3**

4 ▶ PLATING

C CADMIUM (YELLOW CHROMATE)

N ELECTROLESS NICKEL

5 ▶ INSERT ARRANGEMENTS

CAVITY **A**, **B**, **C**, **D**, **E**, **F**

6 ▶ CONTACT TYPE

P PIN

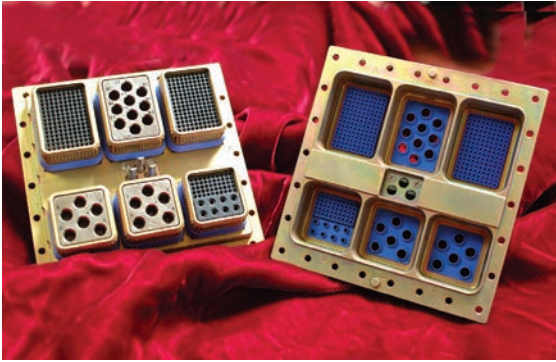
S SOCKET

7 ▶ CONTACT TERMINATION

S SOLDER CUP

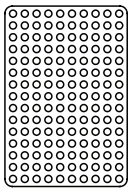
P PC TAIL

C CRIMP

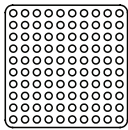


MIL-DTL-83527 connectors are designed to meet or exceed all applicable requirements of the military specification. These connectors come standard with anti-rotational keyed insert assemblies for filter, high-speed fibre channel or Ethernet twinax and quadrax contacts. Offered in a number of different contact arrangements and shell sizes, these connectors are intermateable and interchangeable with the standard non-filtered MIL-DTL-83527 connectors.

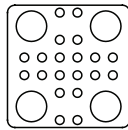
Insert Arrangements



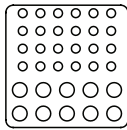
I-150
150 #22



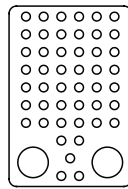
II-100
100 #22



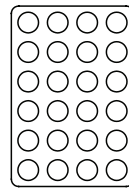
II-20T4
20 #20
4 #8 T/C



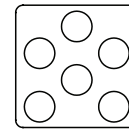
II-34
24 #20
10 #16



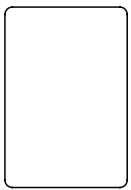
I-47T2
47 #20
2 #8 T/C



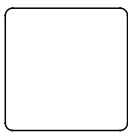
I-24
24 #12



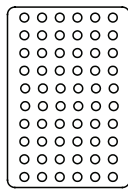
II-T6
6 #8 T/C



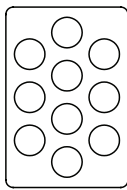
I-0
BLANK
CUSTOM



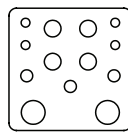
II-0
BLANK
CUSTOM



I-60
60 #20



10P10
10 #8 T/C

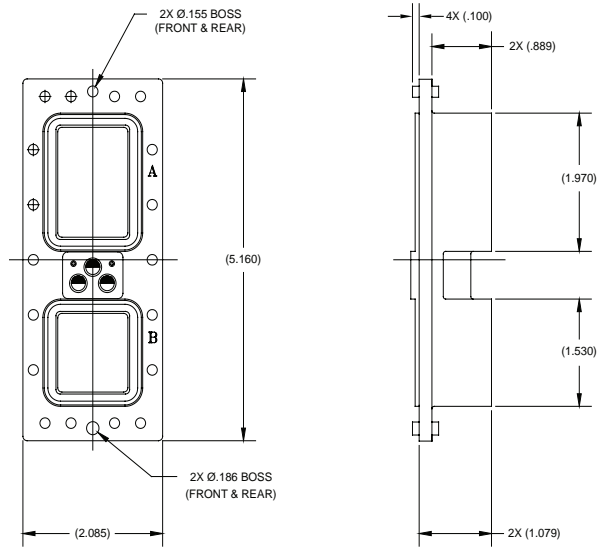


II-11C2
4 #20
3 #16
4 #12
2 #5

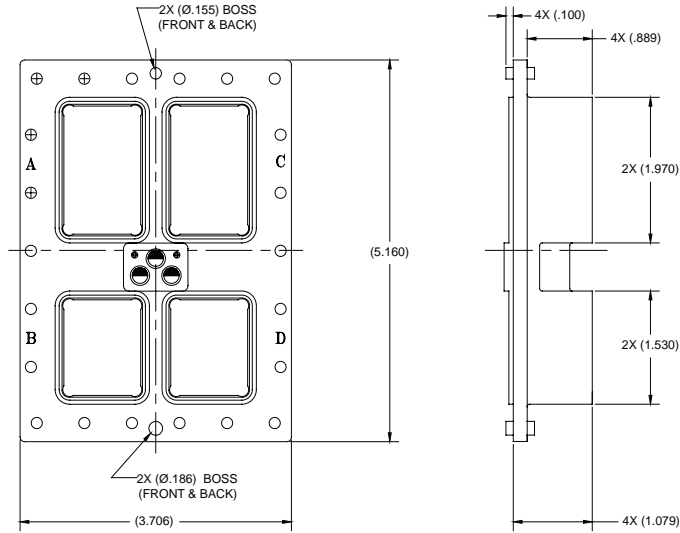
For Size 8 Contacts Please Specify:
T = Twinax/Quadax Cavity (Anti-Rotational)
C = Coaxial/Triaxial Cavity

Smith Connectors provides specialty, enhanced performance connectors and cable assemblies and as such does not currently offer circular, rack and panel, or D-subminiature connectors that are listed on military standard Qualified Products Lists (QPL) per applicable detail specification sheets. Smith Connectors' connectors are fully intermateable with applicable QPL products and meet the applicable requirements of all military standards listed in this catalog.

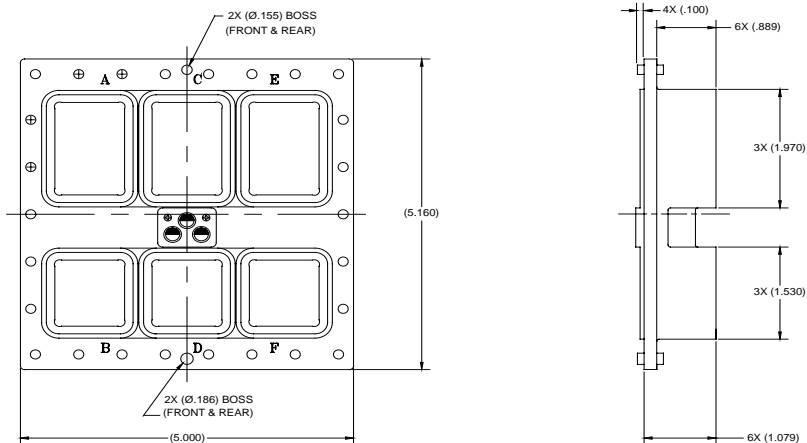
▶ SHELL SIZE 2 RECEPTACLE



▶ SHELL SIZE 3 RECEPTACLE



▶ SHELL SIZE 4 RECEPTACLE



HOW TO ORDER



1 ▸ FILTER TYPE

Pi, **L**, **C**

2 ▸ PREFIX

3 ▸ SHELL SIZE

2A, **3A**, **4A**

4 ▸ PLATING

C CADMIUM (YELLOW CHROMATE)

N ELECTROLESS NICKEL

5 ▸ INSERT ARRANGEMENTS

CAVITY **A**, **B**, **C**, **D**, **E**, **F**

6 ▸ CONTACT TYPE

P PIN

S SOCKET

7 ▸ CONTACT TERMINATION

S SOLDER CUP

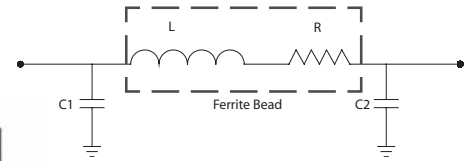
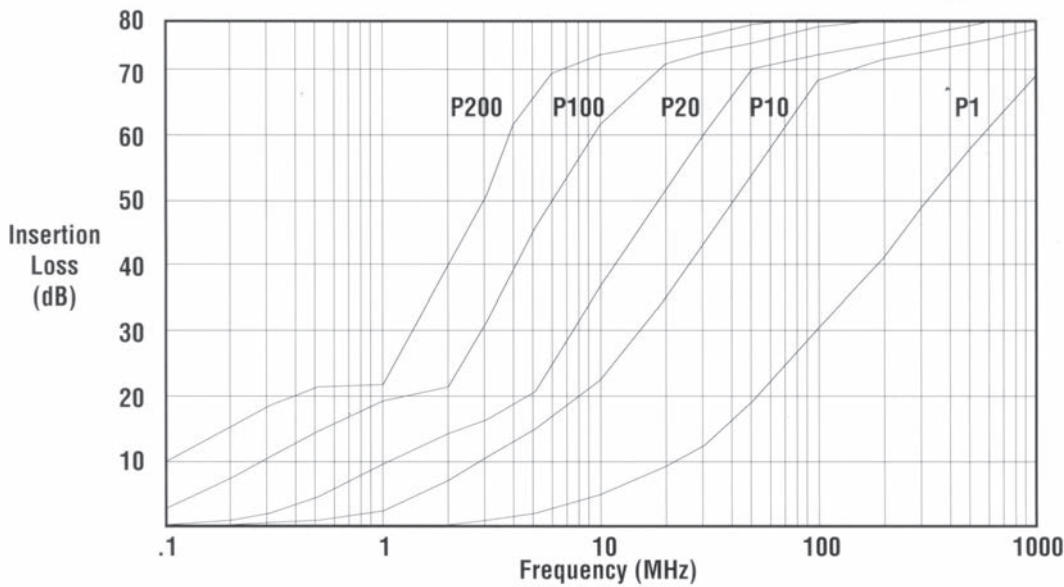
P PC TAIL

C CRIMP

▶ ELECTRICAL CHARACTERISTICS - 'PI' SECTION

FILTER DESCRIPTION	P200	P100	P76	P38	P20	P10	P8	P4	P2	P1
Operating Temperature Range	-55°C to + 125°C									
Voltage Rating	100 VDC					200 VDC-120 Vrms 400 Hz				
Current Rating DC	15 amps size 16/7.5 amps size 20/5 amps size 22									
Insulation Resistance	5000 megohms min. @100 VDC									
Current Rating R.F.	3.0 amps max.									
DWV Sea Level w/ 50 micro-amps max. charge/discharge	250 VDC					500 VDC				

▶ 'PI' SECTION CURVES



▶ INSERTION LOSS TABLE

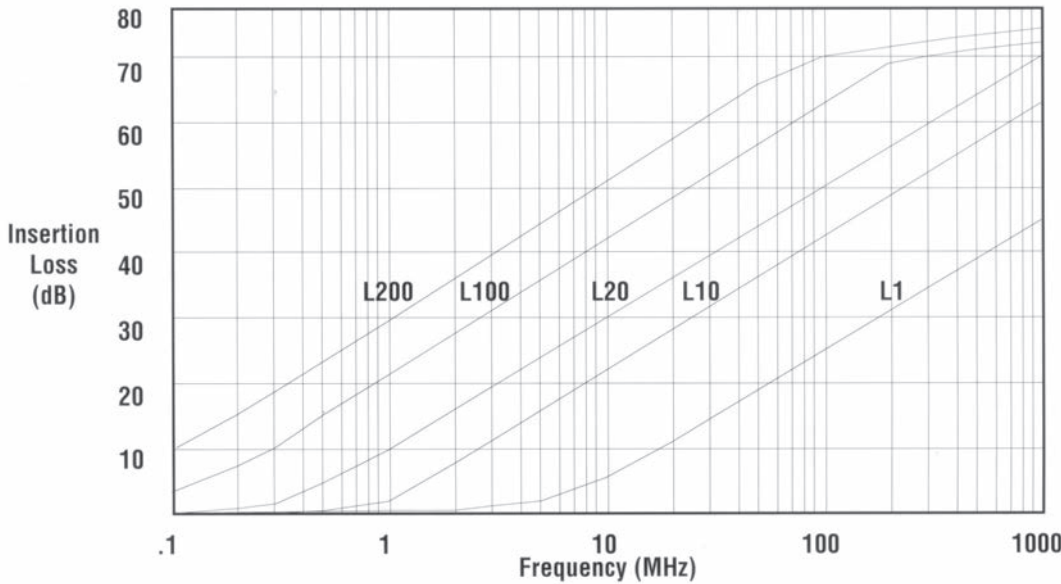
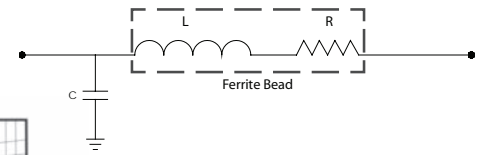
FILTER DESCRIPTION	SEE NOTES	P200	P100	P76	P38	P20	P10	P8	P4	P2	P1
Capacitance in Nanofarads @ 1Khz., 1VRMS		160 240	80 120	60 91	30 46	16 24	8 12	6.4 9.2	3.2 4.8	1.6 2.4	.8 1.2
	Freq Mhz										
Minimum No Attenuation loss @ 25°	.1	8	4.1	3	1	.3	.1	-	-	-	-
	1.0	22.2	19.6	18.2	13.3	8.2	3.9	2.9	.9	.2	-
	2	32.8	21.7	19.7	16.8	12.7	8	6.6	2.9	1	.3
	10	73.5	61	57	44.4	31.5	20.6	18.3	12.8	8.1	4.0
	100	85+	85+	85+	85+	78	65.8	61.9	49.6	37.3	25.6
	500-1k	85+	85+	85+	85+	85+	85+	80	75	64	52

Notes:
 1. P200 & P100 Capacitance Values for Size 20 Contact Arrangement & Larger
 2. No Load Minimum Attenuation Values per MIL-STD-220
 3. Capacitance in Nanofarads (Nominal Value)
 4. Consult Factory for Higher Voltages & Capacitance Values

▶ ELECTRICAL CHARACTERISTICS - 'L' SECTION

FILTER DESCRIPTION	L200	L100	L76	L38	L20	L10	L8	L4	L2	L1	
Operating Temperature Range						-55°C to + 125°C					
Voltage Rating	100 VDC					200 VDC-120 Vrms 400 Hz					
Current Rating DC						15 amps size 16/7.5 amps size 20/5 amps size 22					
Insulation Resistance						5000 megohms min. @100 VDC					
Current Rating R.F.						3.0 amps max.					
DVV Sea Level w/ 50 micro-amps max. charge/discharge	250 VDC					500 VDC					

▶ 'L' SECTION CURVES



▶ INSERTION LOSS TABLE

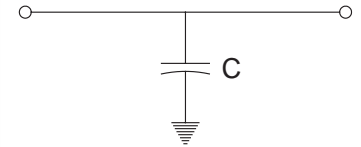
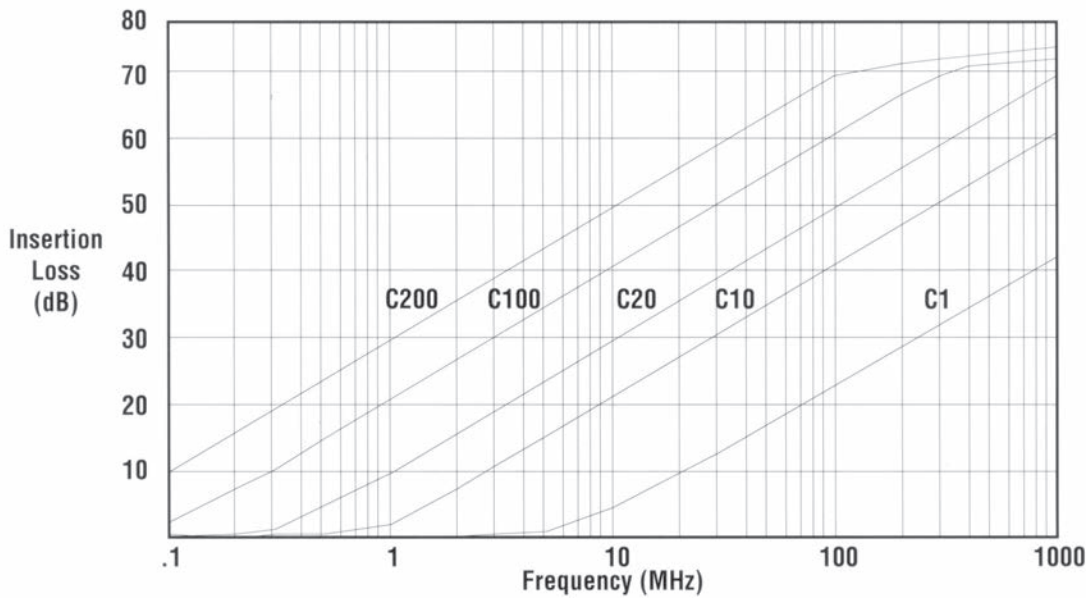
FILTER DESCRIPTION	SEE NOTES	L200	L100	L76	L38	L20	L10	L8	L4	L2	L1
Capacitance in Nanofarads @ 1Khz, .1VRMS		160	80	60	30	16	8	6.4	3.2	1.6	.8
		240	120	91	46	24	12	9.2	4.8	2.4	1.2
Minimum No Attenuation loss @ 25°	Freq Mhz										
	.1	8.6	4.1	3	1	.3	.1	-	-	-	-
	1.0	28	22	20.1	14.2	8.6	4	3	.9	.2	-
	2	34.3	28.3	26.3	20.3	14.4	8.8	7.2	3.1	1	-
	10	49	43	41.1	35	29	23	21.1	15.1	9.5	4.8
	100	69.9	63.9	62	55.9	49.9	43.9	42	35.9	29.9	23.9
500-1k	83.7	77.7	75.8	69.7	63.7	57.7	55.8	49.7	43.7	37.7	

Notes:
 1. L200, L100 & L76 Capacitance Values for Size 20 Contact Arrangement & Larger
 2. No Load Minimum Attenuation Values per MIL-STD-220
 3. Capacitance in Nanofarads (Nominal Value)
 4. Consult Factory for Higher Voltages & Capacitance Values

▶ ELECTRICAL CHARACTERISTICS - 'C' SECTION

FILTER DESCRIPTION	C200	C100	C76	C38	C20	C10	C8	C4	C2	C1
Operating Temperature Range	-55°C to + 125°C									
Voltage Rating	100 VDC					200 VDC-120 Vrms 400 Hz				
Current Rating DC	15 amps size 16/7.5 amps size 20/5 amps size 22									
Insulation Resistance	5000 megohms min. @100 VDC									
Current Rating R.F.	3.0 amps max.									
DWV Sea Level w/ 50 micro-amps max. charge/discharge	250 VDC					500 VDC				

▶ 'C' SECTION CURVES



▶ INSERTION LOSS TABLE

FILTER DESCRIPTION	SEE NOTES	C200	C100	C76	C38	C20	C10	C8	C4	C2	C1
Capacitance in Nanofarads @ 1Khz., 1VRMS		160	80	60	30	16	8	6.4	3.2	1.6	.8
		240	120	91	46	24	12	9.2	4.8	2.4	1.2
Minimum No Attenuation loss @ 25°	Freq Mhz										
	.1	8.6	4.1	3	1	.3	.1	-	-	-	-
	1.0	28	22	20.1	14.2	8.6	4.1	3	1	.3	.1
	2	34	28	26.1	20.1	14.2	8.6	7	3	1	.3
	10	48	42	40	34	28	22	20.1	14.2	8.6	4.1
	100	68	62	60	54	48	42	40	34	28	22
500-1k	82	76	74	68	62	56	54	48	42	36	

Notes:
 1. C200, C100 & C76 Capacitance Values for Size 20 Contact Arrangement & Larger
 2. No Load Minimum Attenuation Values per MIL-STD-220
 3. Capacitance in Nanofarads (Nominal Value)
 4. Consult Factory for Higher Voltages & Capacitance Values

Smith Connectors connectors conform to the applicable military specifications and standards for materials, finishes and mechanical form, fit, and function. Filter connectors are fully intermateable and interchangeable in most instances with standard non-filtered QPL MIL-SPEC connectors.



MATERIALS AND FINISHES	
Shell & Jam Nut	Aluminum Alloy Electroless Nickel per MIL-C-26074
Pin Contacts	Brass per ASTM B16 Gold Plate per MIL-G-45204
Socket & Contacts	Copper Alloy Gold Plate per MIL-G-45204
Insulators	High Grade Plastic/Epoxy
Seal & Grommet	Silicon Base Elastomer

PRODUCTION AUTOMATION TEST SYSTEM MEASUREMENTS			
	Range	Accuracy	Notes
Capacitance	1 pF-1µf	0.2% + 0.1 pf	1
DF	0.00001-10	1%	2
Inductance	100 nH-10KH	0.2%+10 nH	1
IR	1 K Ohm - 5 T Ohm	1%	3,4,5
DWV	10 pA-100 mA	1%+10 pA	3,4,6
VR	10 mV-100V	0.2% + 10 mV	7
Ground & Contact Resistance	0.1 mV-1V	0.1%+0.1 mV	7

- Notes:**
1. Frequency = 20 Hz to 1 MHz
 2. Dissipation factor
 3. With 5-500 volts applied
 4. Measures each pin to all other pins grounded to shell
 5. Insulation resistance
 6. Dielectric withstanding voltage
 7. Isource = 1nA-1A

Performance Data

Smith Connectors' Filter Connectors meet or exceed the applicable requirements of the following specifications:

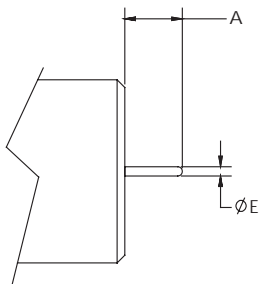
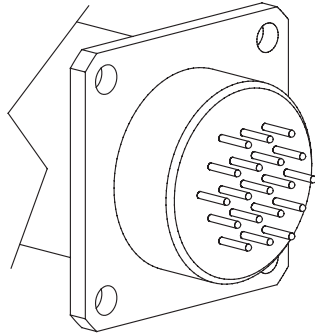
- MIL-DTL-38999 MIL-C-26482
- MIL-DTL-83723 MIL-DTL-26500
- MIL-DTL-24308 MIL-DTL-83723
- MIL-DTL-83513 MIL-C-81511
- MIL-DTL-83527 ARINC 600
- ARINC 404 (MIL-C-81659)

Smith Connectors connectors can meet qualification requirements of MIL-DTL-38999, MIL-C-26482, ARINC 404 (MIL-C-81659), and ARINC 600. Smith Connectors can perform most test requirements in-house. This includes both electrical and mechanical testing for qualification, engineering evaluation and final acceptance. All products are available for space grade applications.

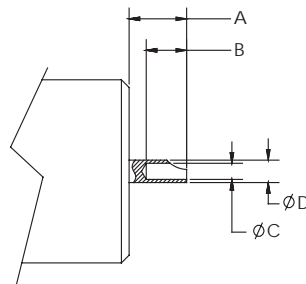
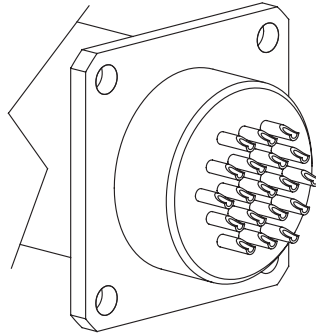
All specifications subject to change without notice.

Smith Connectors provides specialty, enhanced performance connectors and cable assemblies and as such does not currently offer circular, rack and panel, or D-subminiature connectors that are listed on military standard Qualified Products Lists (QPL) per applicable detail specification sheets. Smith Connectors' connectors are fully intermateable with applicable QPL products and meet the applicable requirements of all military standards listed in this catalog.

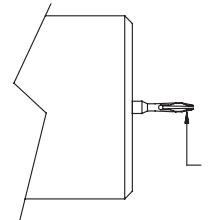
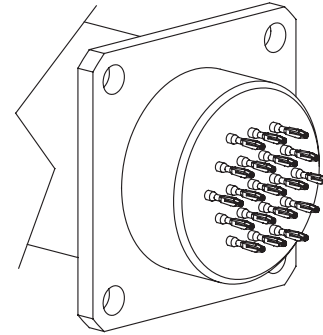
PC TAIL



SOLDER CUP

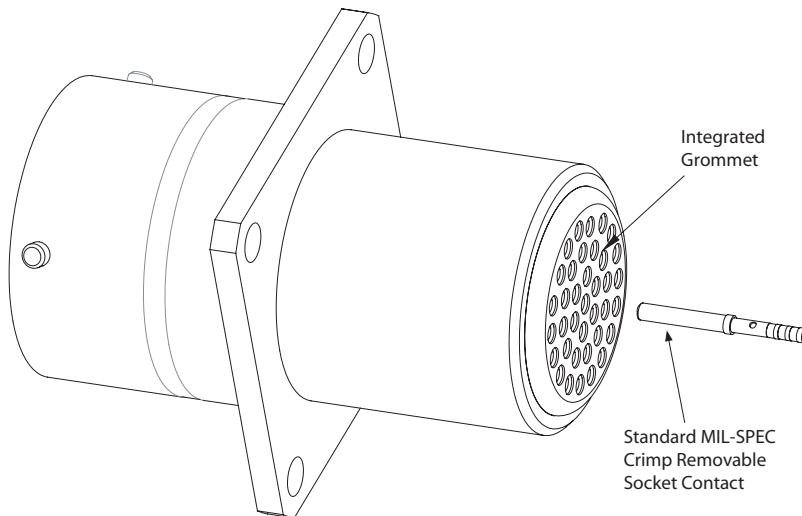


COMPLIANT PRESS-FIT (SOLDERLESS)



DIMENSIONS						
Contact Size	A + .025	B	C	D	E + .003	F
22	0.175	.125 .094	.040 .035	.055 .051	.020	PCB Finished Hole 0.026 + .002
20		.156 .125	.048 .042	.088 .061	.030	Consult factory for alternate size
16		.172	.082 .069	.103 .097	.050	
12		.141	.120 .112	.142 .136	.065	

Crimp / Removable*



* Add 0.700" to overall length for crimp removable connector with integrated grommet.



SMITHS CONNECTORS GLOBAL SUPPORT

AMERICAS

info.us@smithsconnectors.com

Costa Mesa, CA

1.714.371.1100

Hudson, MA

1.978.568.0451

Kansas City, KS

1.913.342.5544

EUROPE

France

33.2.3296.9176

info.fr@smithsconnectors.com

Germany

49.991.250.120

info.de@smithsconnectors.com

Italy

39.10.60361

info.it@smithsconnectors.com

United Kingdom

44.208.236.2400

info.uk@smithsconnectors.com

ASIA

asiainfo@smithsconnectors.com

Shanghai, China

86.21.3318.4650

Suzhou, China

86.512.6273.1188

Singapore

65.6846.1655

visit us at | smithsconnectors.com |     