

# Series 100 Chip-Cap Filtered Connectors

These versatile and widely used PCB connectors are an inexpensive filtering method that eliminates the problem of conducted electromagnetic interference (EMI).

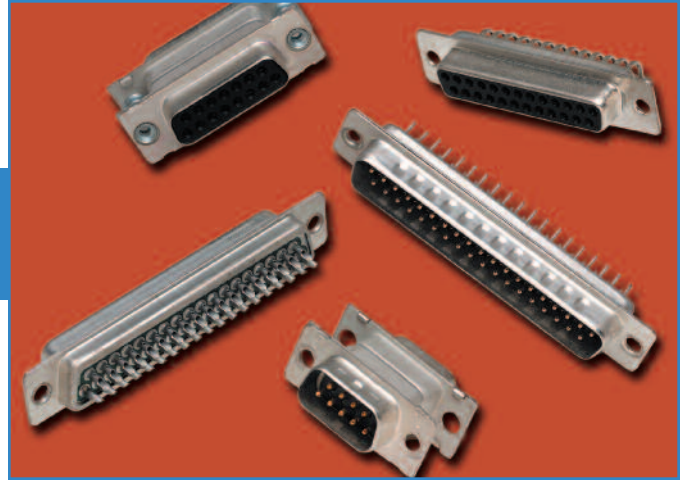
Chip-cap plug and receptacles are available in 9, 15, 25 and 37 positions. These connectors are “drop-in” replacements for nonfiltered D-subminiature connectors with matched PCB footprints. Housings are made of UL 94V-0 rated thermoplastic material. Low cost front metal shells are compatible with full metal-shell threaded insert mating hardware. Integral boardlocks secure posted connectors to the PC board, prior to soldering.

## Features

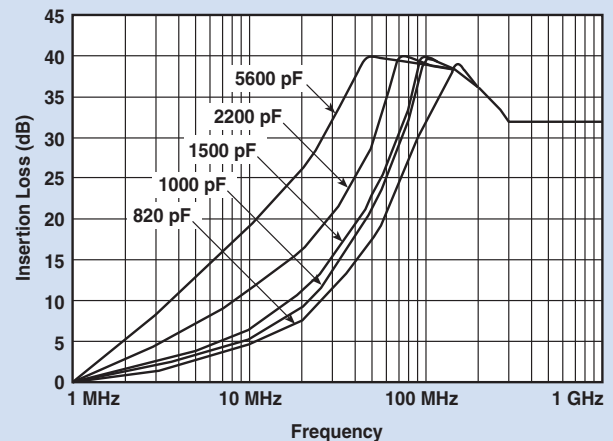
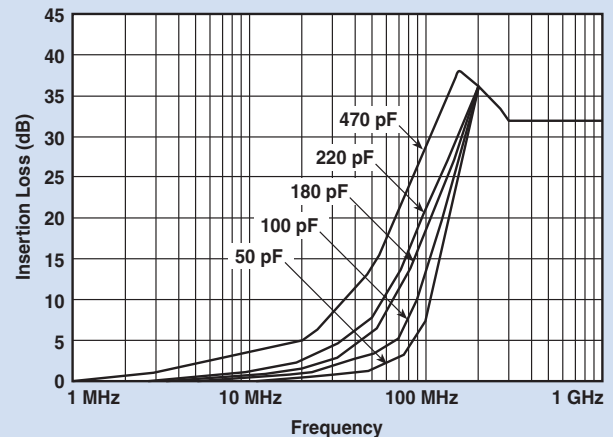
- Offer economical, high performance EMI/RFI protection
- Matched .318", .405" and .590" PCB footprints mean “Drop-in” replacement for nonfiltered connectors
- Low cost chip capacitors
- Connectors have industry standard interface
- Connector insulators made of UL 94V-0 rated high temperature, thermoplastic
- Connector body is recognized under the Component Program of Underwriters Laboratories, Inc. (E149046)
- Connector body is certified by the Canadian Standards Association

## Mechanical Specifications

<i>Shells</i> . . . . .	Steel, tin plated
<i>Insulators</i> . . . . .	94V-0 rated thermoplastic, black
<i>Eyelets</i> . . . . .	Brass, tin plated
<i>Threaded Inserts</i> . . . . .	Zinc
<i>Boardlocks</i> . . . . .	Copper alloy, tin plated
<i>Pin Contacts</i> . . . . .	Brass
<i>Socket Contacts</i> . . . . .	Phosphor bronze
<i>Contact Plating</i> . . . . .	Duplex plated as follows: 15uin (.38um) gold on mating end, with entire contact 50uin (1.27um) min. nickel underplated and flash gold finish



## Typical Insertion Loss



## Performance Specifications

- Current Rating* . . . . . 5 Amps
- Contact Resistance* . . . . . 8 Milliohms max.
- Capacitance* . . . . . 50, 100, 180, 220, 470, 820  
1,000, 1,500, 2,200, 5,600 pF  
and 47 nF ± 20% (custom valves  
and selective loading available)
- Dielectric Withstanding Voltage* . . . . . 700 VDC min. for 5 sec.
- Insulator Resistance* . . . . . 500 Megohms min. @ 100 VDC
- Working Voltage* . . . . . 200 VDC (100 VDC for 47 nF)
- Operating Temperature* . . . . -55°C/+85°C

# Series 100 Chip-Cap Filtered Connectors

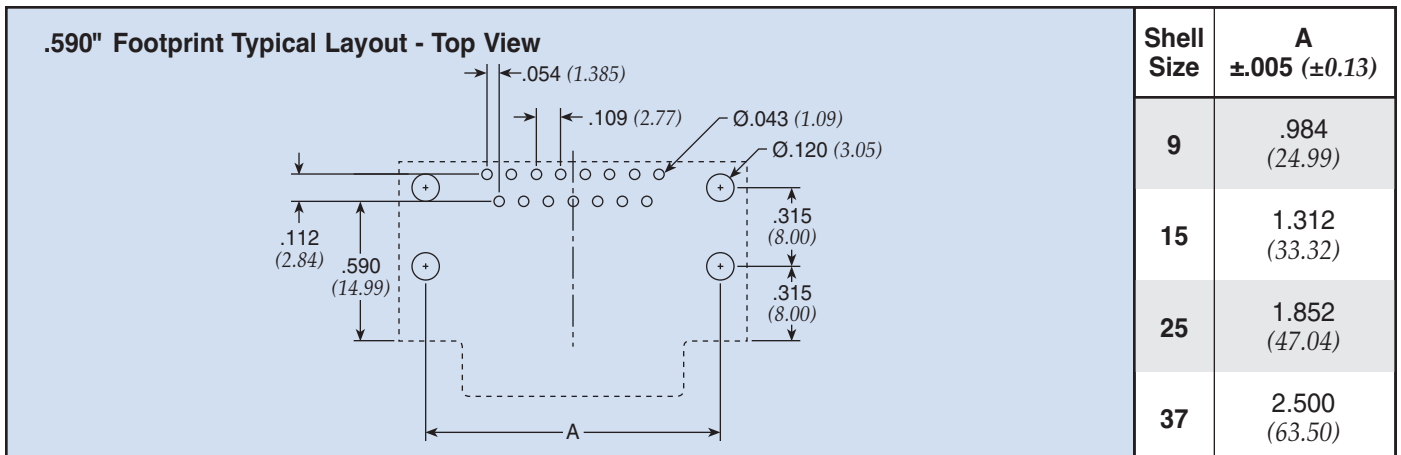
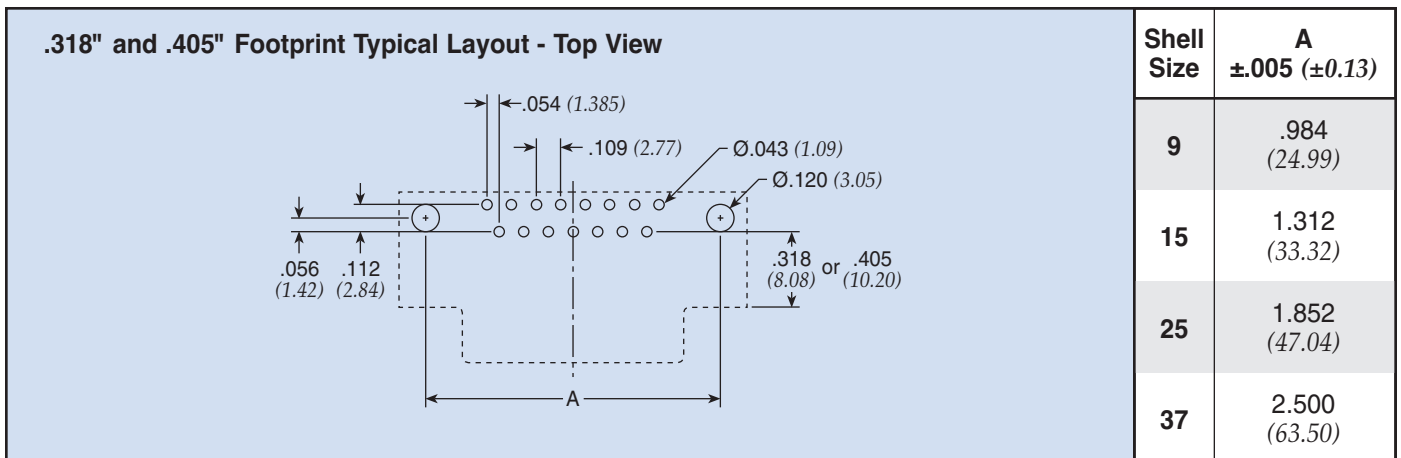
## Ordering Information

Example: **56-104-004-5-T**

This part number represents a Series 100 connector with a shell size of 9 and a socket to right angle configuration. The capacitance value is 470 pF and the connector has a .590" footprint with 4-40 threads.

<b>56</b>	<b>1</b>	<b>0</b>	<b>4</b>	<b>-</b>	<b>004</b>	<b>-</b>	<b>5</b>	<b>-</b>	<b>T</b>
<p><b>Filtered D-sub Connectors</b></p> <p>-- Standard connector F - RoHS compliant version</p>	<p><b>Series 100 Connectors</b></p>			<p><b>Shell Size/ Number of Contacts</b></p> <p>0 - 9 size 1 - 15 size 2 - 25 size 3 - 37 size</p>	<p><b>Contact Type/Termination</b></p> <p>1 - Pin to solder cup 2 - Pin to right angle 3 - Socket to straight PCB 4 - Socket to right angle 5 - Adapter (pin to socket) 6 - Socket to solder cup 7 - Pin to straight PCB</p>	<p><b>Capacitance Value</b></p> <p>002 - 100 pF 003 - 220 pF 004 - 470 pF 005 - 820 pF 006 - 1500 pF 007 - 5600 pF 008 - 50 pF 009 - 180 pF 010 - 1000 pF 011 - 2200 pF 012 - 47 nF</p>	<p><b>Footprint (right angle connectors only)</b></p> <p>3 - .318" 4 - .405" 5 - .590"</p>	<p><b>Mounting or Hardware Options</b></p> <p>_ - .120 thru-hole and 15µ" gold 3G - 30µ" gold 5G - 50µ" gold</p> <p><b>SC and Straight PCBs</b></p> <p>TIB - 4-40 thread on rear of flange TIF - 4-40 thread on front of flange MIB - M3 thread on rear of flange GBL6 - For .062" boards JS - Jack screws</p> <p><b>Right Angles and Adapters</b></p> <p>_ - No GBL attached GL - Includes grounding board lock and 4-40 threads T - 4-40 threads GB - No board locks (includes 4-40 threads) J - Jack screws M - M3 thread GJ - GL and jack screws</p>	

## Board Layouts



Dimensions in inches (mm)

# Series 100 Chip-Cap Filtered Connectors

### Pin Contact (plug) Straight PC Mount

### 90° PC Mount

Size	A	B	C	D	Footprint	E	F
9	1.213±.015 (30.81±0.38)	.984±.005 (24.99±0.13)	.667±.010 (16.92±0.25)	.755 (19.18)	.318	.430 (10.92)	.318 (8.08)
15	1.541±.015 (39.14±0.38)	1.312±.005 (33.32±0.13)	.994±.010 (25.25±0.25)	1.083 (27.51)	.405	.517 (13.13)	.405 (10.29)
25	2.088±.015 (53.04±0.38)	1.852±.005 (47.04±0.13)	1.534±.010 (38.96±0.25)	1.614 (41.00)	.590	.700 (17.83)	.590 (14.99)
37	2.73±.015 (69.32±0.38)	2.50±.005 (63.50±0.13)	2.18±.010 (55.42±0.25)	2.27 (57.71)			

Dimensions in inches (mm)

### Socket Contact (receptacle) Straight PC Mount

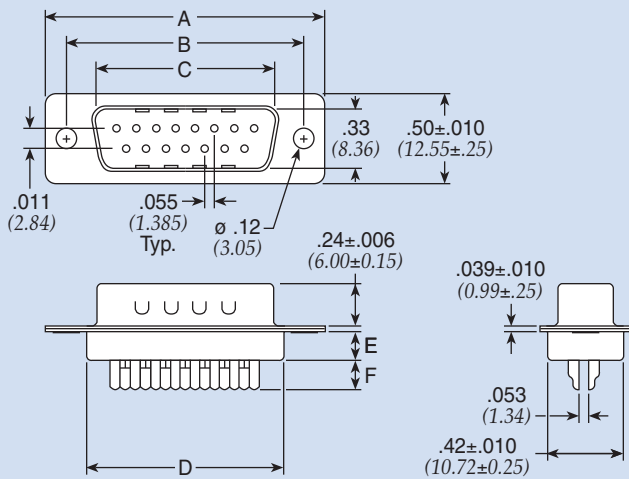
### 90° PC Mount

Size	A	B	C	D	Footprint	E	F
9	1.213±.015 (30.81±0.38)	.984±.005 (24.99±0.13)	.643±.010 (16.33±0.25)	.755 (19.18)	.318	.430 (10.92)	.318 (8.08)
15	1.541±.015 (39.14±0.38)	1.312±.005 (33.32±0.13)	.971±.010 (24.66±0.25)	1.083 (27.51)	.405	.517 (13.13)	.405 (10.29)
25	2.088±.015 (53.04±0.38)	1.852±.005 (47.04±0.13)	1.511±.010 (38.38±0.25)	1.614 (41.00)	.590	.700 (17.83)	.590 (14.99)
37	2.73±.015 (69.32±0.38)	2.50±.005 (63.50±0.13)	2.16±.010 (54.84±0.25)	2.27 (57.71)			

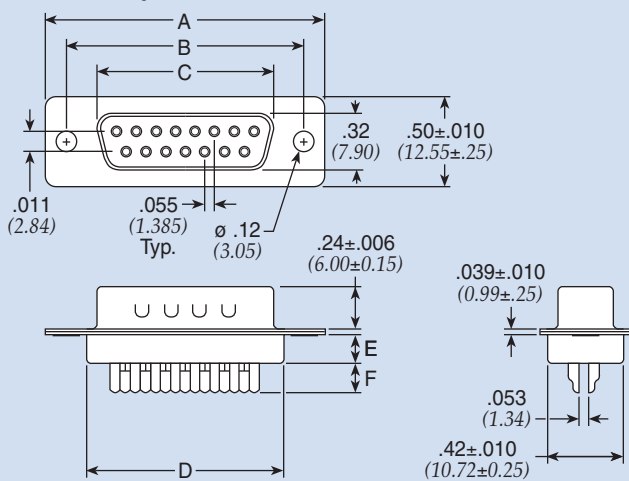
Dimensions in inches (mm)

# Series 100 Chip-Cap Filtered Connectors

## Pin Contact (plug) Solder Cup Termination



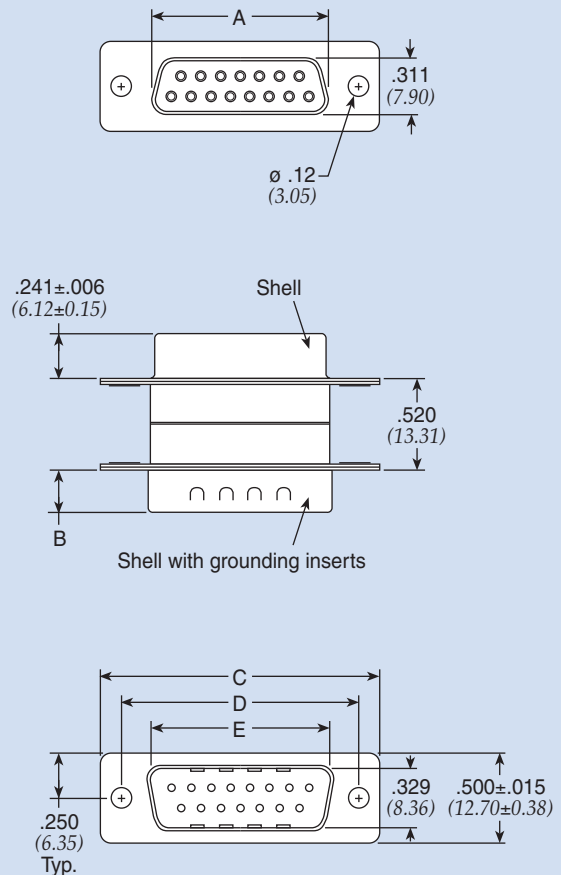
## Socket Contact (receptacle) Solder Cup Termination



Size	A	B	C	D	E	F
9	1.213±.015 (30.81±0.38)	.984±.005 (24.99±0.13)	.643±.010 (16.33±0.25)	.755 (19.18)	.16 (4.06)	.16 (4.06)
15	1.541±.015 (39.14±0.38)	1.312±.005 (33.32±0.13)	.971±.010 (24.66±0.25)	1.083 (27.51)	.16 (4.06)	.16 (4.06)
25	2.089±.015 (53.04±0.38)	1.852±.005 (47.04±0.13)	1.511±.010 (38.38±0.25)	1.615 (41.00)	.16 (4.06)	.16 (4.06)
37	2.73±.015 (69.32±0.38)	2.50±.005 (63.50±0.13)	2.16±.010 (54.84±0.25)	2.27 (57.71)	.16 (4.06)	.16 (4.06)

Dimensions in inches (mm)

## Pin - Socket Adapter



Size	A	B	C	D	E
9	.642 (16.31)	.233±.006 (5.92±.15)	1.213±.015 (30.81±.38)	.984 (24.99)	.667 (16.94)
15	.970 (24.64)	.233±.006 (5.92±.15)	1.541±.015 (39.14±.38)	1.312 (33.33)	.995 (25.27)
25	1.511 (38.38)	.228±.006 (5.80±.15)	2.088±.015 (53.04±.38)	1.852 (47.05)	1.532 (38.92)
37	2.158 (54.82)	.228±.006 (5.80±.15)	2.729±.015 (69.32±.38)	2.500 (63.50)	2.183 (55.45)

Dimensions in inches (mm)