

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

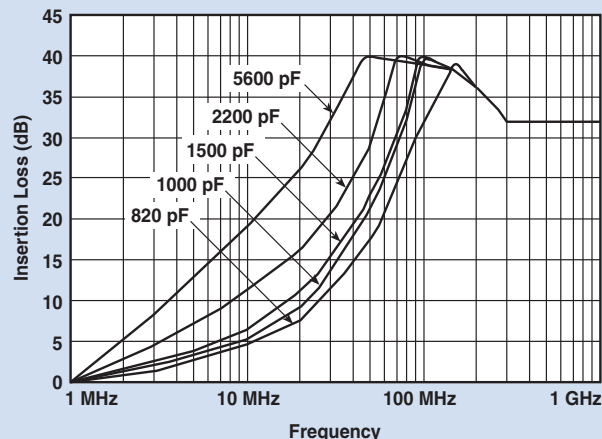
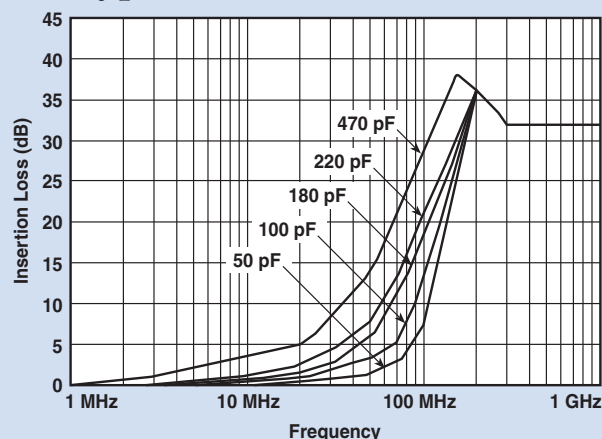
- Offer economical, high performance EMI/RFI protection
- Matched .318", .405" and .590" PCB footprints mean "Drop-in" replacement for nonfiltered connectors
- Low cost chip capacitors
- Connectors have industry standard interface
- Connector insulators made of UL 94V-0 rated high temperature, thermoplastic
- 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

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



Filtered
D-sub
Connectors

Series 100 Connectors

**Shell Size/
Number of
Contacts**

0 - 9 size
1 - 15 size
2 - 25 size
3 - 37 size

- - Standard connector
F - RoHS compliant version

Contact Type/Termination

- 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

Value

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

Footprint
(right angle
connectors
only)

3 - .318"
4 - .405"
5 - .590"

Mounting or Hardware Options

- .120 thru-hole and 15μ" gold

SC and Straight PCBs

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

Right Angles and Adapters

- No GBL attached

GL - Includes grounding board lock
and 4-40 threads

T - 4-40 threads

GB - No board locks (includes 4-40 threads)

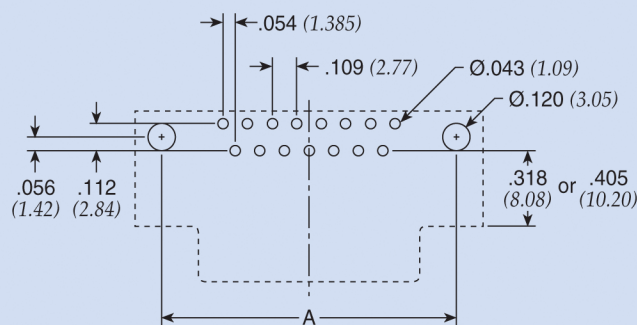
J - Jack screws

M - M3 thread

GJ - GL and jack screws

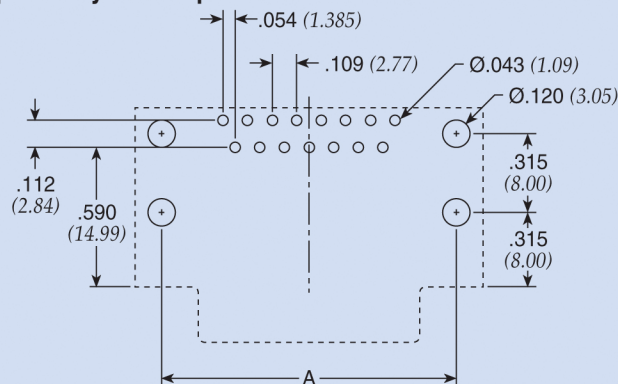
Board Layouts

.318" and .405" Footprint Typical Layout - Top View



Shell Size	A $\pm .005$ (± 0.13)
9	.984 (24.99)
15	1.312 (33.32)
25	1.852 (47.04)
37	2.500 (63.50)

.590" Footprint Typical Layout - Top View

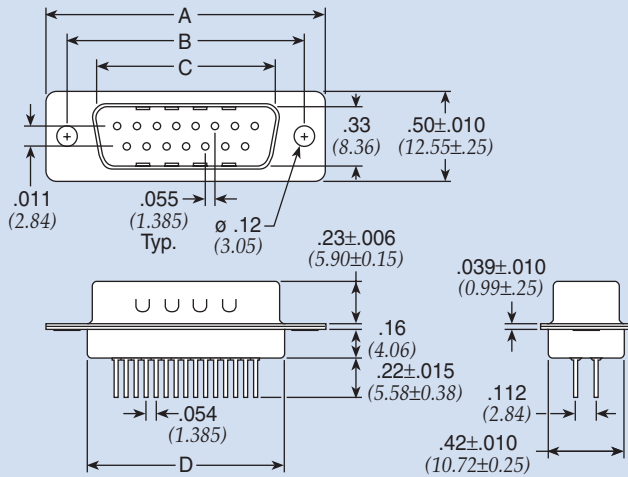


Shell Size	A $\pm .005$ (± 0.13)
9	.984 (24.99)
15	1.312 (33.32)
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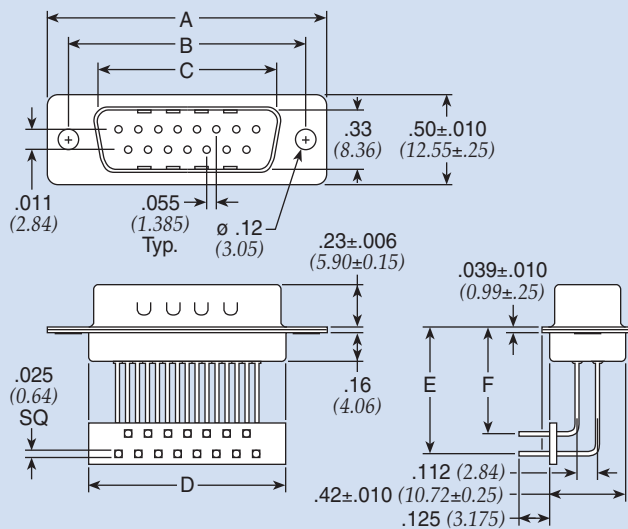
Dimensions in inches (*mm*)

Series 100 Chip-Cap Filtered Connectors

Pin Contact (plug) Straight PC Mount



90° PC Mount

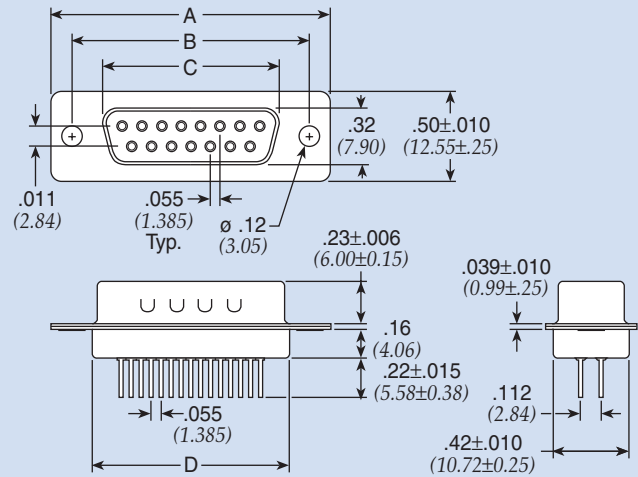


Size	A	B	C	D
9	1.213±.015 (30.81±.038)	.984±.005 (24.99±.013)	.667±.010 (16.92±.025)	.755 (19.18)
15	1.541±.015 (39.14±.038)	1.312±.005 (33.32±.013)	.994±.010 (25.25±.025)	1.083 (27.51)
25	2.088±.015 (53.04±.038)	1.852±.005 (47.04±.013)	1.534±.010 (38.96±.025)	1.614 (41.00)
37	2.73±.015 (69.32±.038)	2.50±.005 (63.50±.013)	2.18±.010 (55.42±.025)	2.27 (57.71)

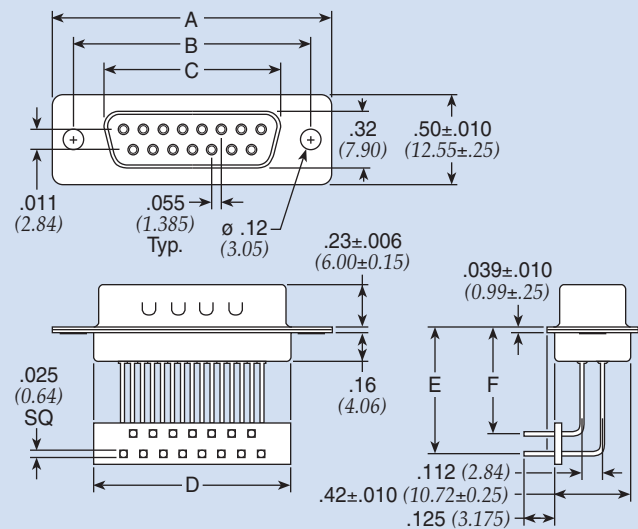
Footprint	E	F
.318	.430 (10.92)	.318 (8.08)
.405	.517 (13.13)	.405 (10.29)
.590	.700 (17.83)	.590 (14.99)

Dimensions in inches (mm)

Socket Contact (receptacle) Straight PC Mount



90° PC Mount



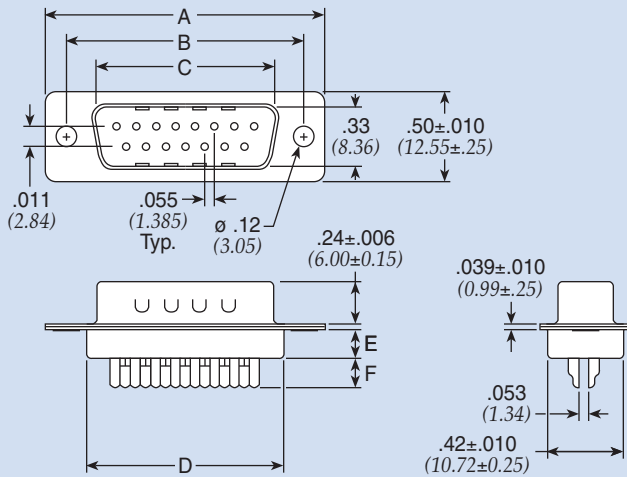
Size	A	B	C	D
9	1.213±.015 (30.81±.038)	.984±.005 (24.99±.013)	.643±.010 (16.33±.025)	.755 (19.18)
15	1.541±.015 (39.14±.038)	1.312±.005 (33.32±.013)	.971±.010 (24.66±.025)	1.083 (27.51)
25	2.088±.015 (53.04±.038)	1.852±.005 (47.04±.013)	1.511±.010 (38.38±.025)	1.614 (41.00)
37	2.73±.015 (69.32±.038)	2.50±.005 (63.50±.013)	2.16±.010 (54.84±.025)	2.27 (57.71)

Footprint	E	F
.318	.430 (10.92)	.318 (8.08)
.405	.517 (13.13)	.405 (10.29)
.590	.700 (17.83)	.590 (14.99)

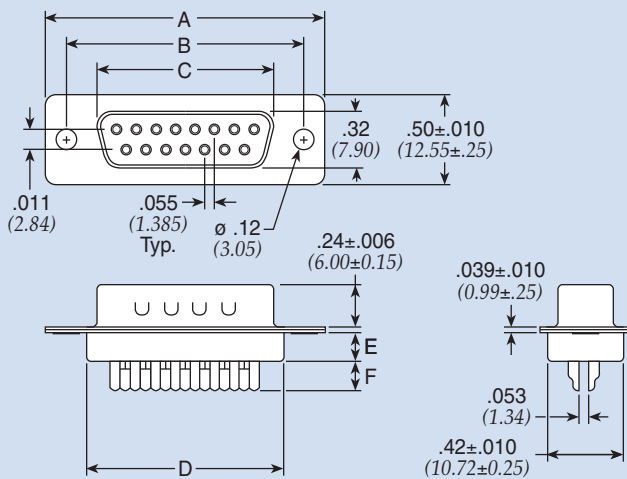
Dimensions in inches (mm)

Series 100 Chip-Cap Filtered Connectors

Pin Contact (plug) Solder Cup Termination



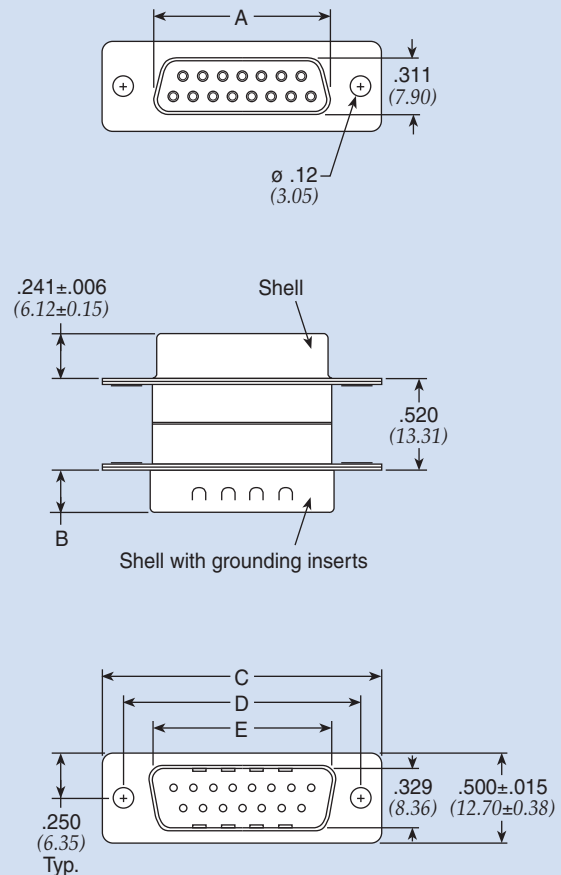
Socket Contact (receptacle) Solder Cup Termination



Size	A	B	C	D	E	F
9	1.213 $\pm$.015 (30.81 $\pm$ 0.38)	.984 $\pm$.005 (24.99 $\pm$ 0.13)	.643 $\pm$.010 (16.33 $\pm$ 0.25)	.755 (19.18)	.16 (4.06)	.16 (4.06)
15	1.541 $\pm$.015 (39.14 $\pm$ 0.38)	1.312 $\pm$.005 (33.32 $\pm$ 0.13)	.971 $\pm$.010 (24.66 $\pm$ 0.25)	1.083 (27.51)	.16 (4.06)	.16 (4.06)
25	2.089 $\pm$.015 (53.04 $\pm$ 0.38)	1.852 $\pm$.005 (47.04 $\pm$ 0.13)	1.511 $\pm$.010 (38.38 $\pm$ 0.25)	1.615 (41.00)	.16 (4.06)	.16 (4.06)
37	2.73 $\pm$.015 (69.32 $\pm$ 0.38)	2.50 $\pm$.005 (63.50 $\pm$ 0.13)	2.16 $\pm$.010 (54.84 $\pm$ 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 $\pm$.006 (5.92 $\pm$.15)	1.213 $\pm$.015 (30.81 $\pm$.38)	.984 (24.99)	.667 (16.94)
15	.970 (24.64)	.233 $\pm$.006 (5.92 $\pm$.15)	1.541 $\pm$.015 (39.14 $\pm$.38)	1.312 (33.33)	.995 (25.27)
25	1.511 (38.38)	.228 $\pm$.006 (5.80 $\pm$.15)	2.088 $\pm$.015 (53.04 $\pm$.38)	1.852 (47.05)	1.532 (38.92)
37	2.158 (54.82)	.228 $\pm$.006 (5.80 $\pm$.15)	2.729 $\pm$.015 (69.32 $\pm$.38)	2.500 (63.50)	2.183 (55.45)

Dimensions in inches (mm)