

PCB Sockets

Contents

Specifications

SMT PCB Sockets

Sockets For Ø0.5mm Pin

Sockets For Ø0.8mm Pin

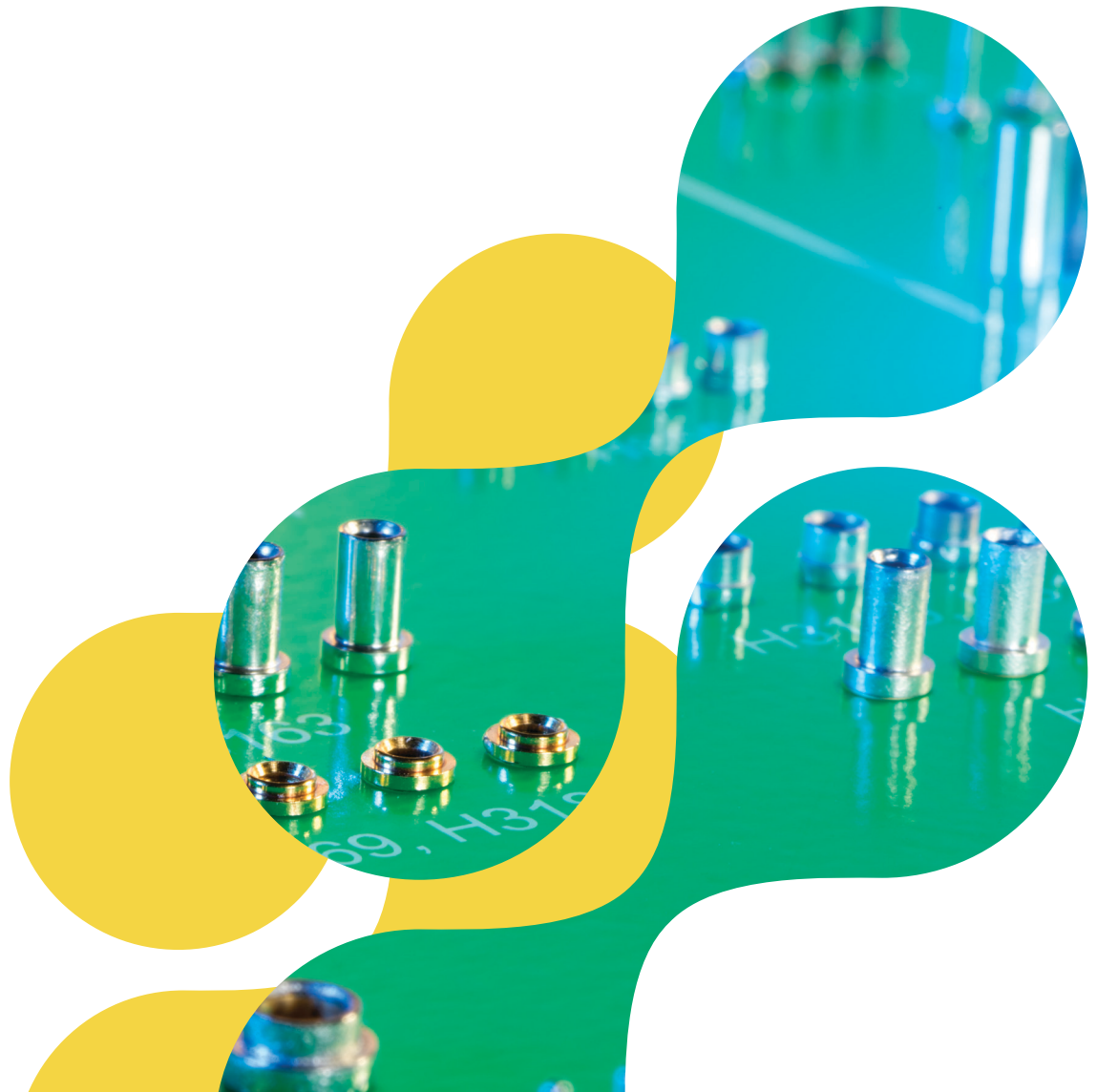
Sockets For Ø1mm Pin

Sockets For Ø2mm Pin

Test Sockets

IC Socket Strip

Dual Row IC Socket



PC Board Sockets

➤ Surface Mount, Single Piece construction

A choice of twin-beam or 3 contact beams, ultra low profile Surface Mount PCB Contacts, designed for automated assembly processes.

Single part construction, with flat upper surface for pick and place location to the PCB - supplied in Tape and Reel packaging.

Each contact type provides a wide range of mating pin sizes, for greater design flexibility.

- **Ultra-Low profile.**
- **Suitable for high volume applications with automated SMT systems.**
- **Reduces process costs with the elimination of secondary socket soldering operations.**

➤ Throughboard, Two Piece construction

A range of 4-beam and 6-beam (also known as fingers) sockets, designed for robustness and reliability, and based on the same design as the Datamate and M300 four finger Beryllium Copper contacts.

The socket design is a two-part construction comprising of a contact clip retained in a precision-turned outer shell.

Options for the shell include closed or open-ended, with or without a knurled section for added board retention.

- **High reliability contacts. Proven history in high end Industrial and Mil/Aero applications.**
- **Suited for use in environments where high vibration, shock and extremes of temperature are a consideration.**
- **Gives the added flexibility of custom board layouts.**

Specifications

➤ Materials

Base material	
Twin Beam:	Phosphor Bronze
3-Beam:	Beryllium Copper
Finish:	See individual pages

➤ Electrical

Current	
Twin Beam Ø0.8-1.5mm:	5A max
Twin Beam Ø1.1-1.8mm:	9A max
3-Beam:	6A max
Contact resistance:	20mΩ max

➤ Mechanical

Durability	
Twin Beam Ø0.8-1.5mm:	25 operations
Twin Beam Ø1.1-1.8mm:	100 operations
3-Beam:	500 operations
Insertion force (max)	
Twin Beam Ø0.8-1.5mm:	8.0N (Ø1mm), 17.0N (Ø1.5mm)
Twin Beam Ø1.1-1.8mm:	2.8N (Ø1.1mm), 4.5N (Ø1.8mm)
3-Beam Ø1.5-1.9mm:	3.5N (Ø1.5mm), 17.0N (Ø1.9mm)
3-Beam Ø0.8-1.3mm:	3.0N (Ø0.8mm), 6.0N (Ø1.3mm)
Withdrawal force (min)	
Twin Beam Ø0.8-1.5mm:	0.5N (Ø1mm), 1.0N (Ø1.5mm)
Twin Beam Ø1.1-1.8mm:	0.3N (Ø1.1mm), 0.5N (Ø1.8mm)
3-Beam Ø1.5-1.9mm:	0.5N (Ø1.5mm), 1.5N (Ø1.9mm)
3-Beam Ø0.8-1.3mm:	1.0N (Ø0.8mm), 2.0N (Ø1.3mm)

➤ Environmental

Operating temperature	
Twin Beam:	-40°C to +105°C
3-Beam:	-50°C to +125°C
Solderability:	235°C for 5 seconds
Soldering heat resistance:	260°C for 10 seconds

➤ Materials

Outer shell:	Brass
Inner contact:	Beryllium Copper
Finish:	See individual pages

➤ Electrical

Current	
Ø0.50mm:	2A max
Ø0.80mm, Ø1.00mm:	10A max
Ø2.00mm:	20A max
Contact resistance:	25mΩ max

➤ Mechanical

Durability	
Ø0.50, Ø2.00mm:	500 operations
Ø0.80, Ø1.00mm:	1,000 operations
Insertion force (max)	
Ø0.50, Ø2.00mm:	6.0N
Ø0.80mm:	5.0N
Ø1.00mm:	9.0N
Withdrawal force (min)	
Ø0.50mm:	0.5N
Ø0.80, Ø1.00, Ø2.00mm:	1.0N
Vibration sensitivity:	10 – 2,000Hz, 0.75mm, 98m/s ² (10G), 6 hours duration

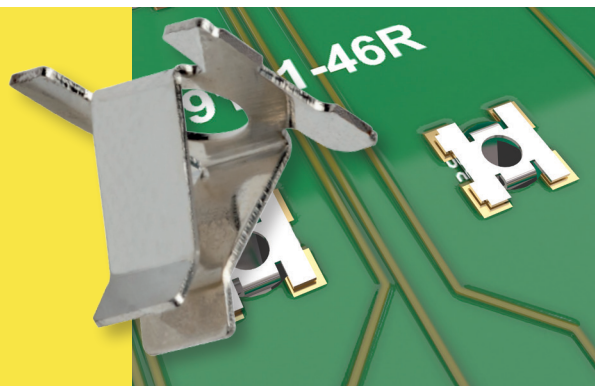
➤ Environmental

Operating temperature:	-55°C to +125°C
Solderability:	235°C for 5 seconds
Soldering heat resistance:	260°C for 10 seconds

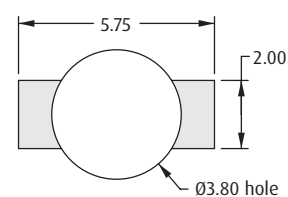
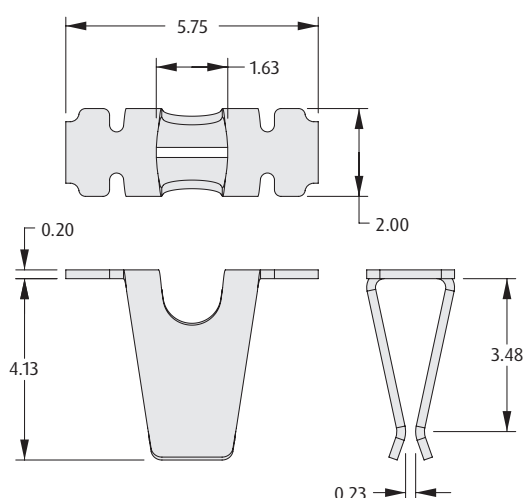
PC Board Sockets

Surface Mount, Low Profile

- ❑ Accepts pins between 0.8mm and 1.8mm diameter.
- ❑ SMT product is pick and place-able using standard assembly machines.
- ❑ Rated to 5 Amps and 9 Amps electrical current.
- ❑ Greatly reduces process costs by removing the need for secondary operations.
- ❑ Reduced component costs.

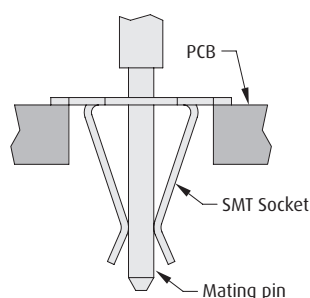


Ø0.8mm TO Ø1.5mm MATING PIN

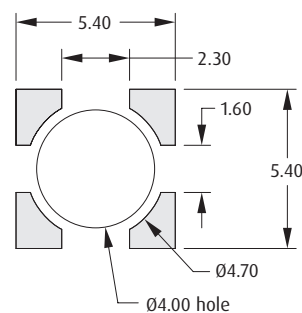
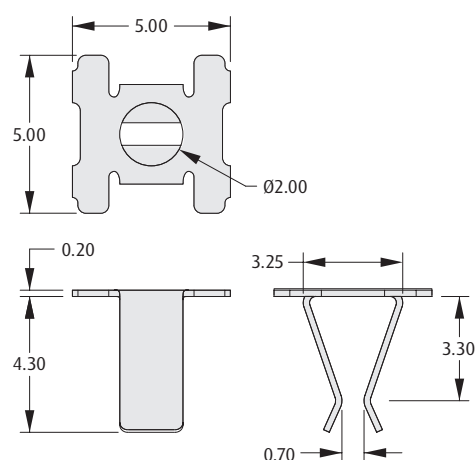


Recommended PC Board Pattern

Orientation of SMT Socket in PCB



Ø1.1mm TO Ø1.8mm MATING PIN



Recommended PC Board Pattern

HOW TO ORDER

S9XX1 - 46 R

SERIES CODE

S9091	Ø0.8 to Ø1.5mm Mating pin
S9101	Ø1.1 to Ø1.8mm Mating pin

PACKAGING

R	Tape & Reeled
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FINISH

46	Tin
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All dimensions in mm.

PC Board Sockets

Surface Mount, Low Profile

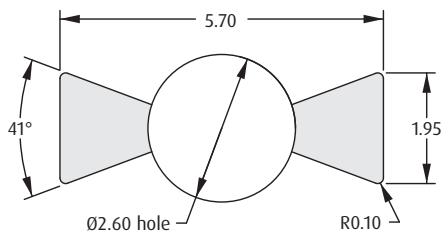
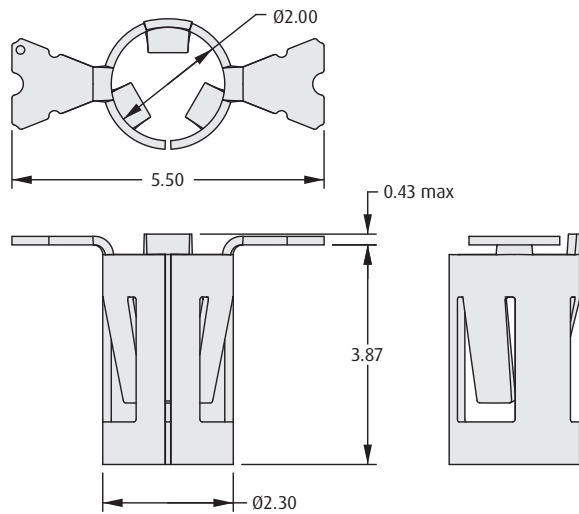
The SYCAMORE Contact is a low-profile single-piece open-ended socket design.

- ❖ 3 points of contact for enhanced reliability.
- ❖ SMT product is pick and place-able using standard assembly machines.
- ❖ Beryllium Copper base material for enhanced temperature range of -50°C to +125°C.
- ❖ Gold plating for improved durability and decreased wear.



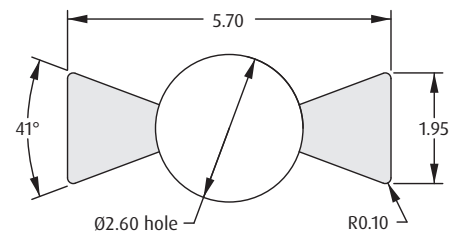
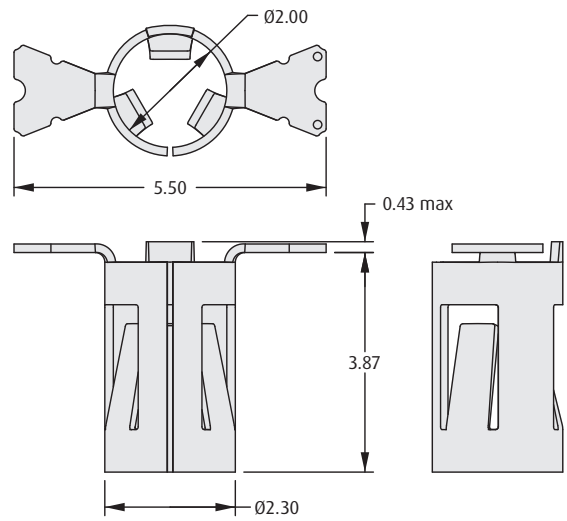
SOCKETS

TOP ENTRY



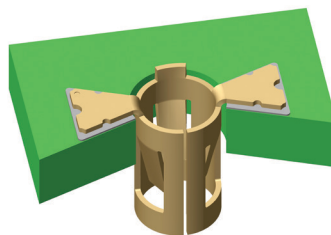
Recommended PC Board Pattern

BOTTOM ENTRY



Recommended PC Board Pattern

Orientation of SMT Socket in PCB



HOW TO ORDER

S91X1 - 45 R

SERIES CODE

S9111	Top Entry, Ø1.5 to Ø1.9mm Mating pin
S9121	Bottom Entry, Ø1.5 to Ø1.9mm Mating pin
S9131	Top Entry, Ø0.8 to Ø1.3mm Mating pin
S9141	Bottom Entry, Ø0.8 to Ø1.3mm Mating pin

PACKAGING

R	Tape & Reeled
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FINISH

45	Gold
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All dimensions in mm.

PC Board Sockets

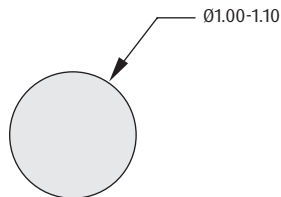
Sub-Miniature – Ø0.50mm Mating Pin

- ❖ Compatible with Ø0.50mm mating pins.
- ❖ Suitable for a variety of mating pin lengths.
- ❖ Utilises the Datamate four finger Beryllium Copper contact clip.



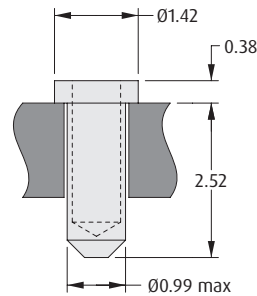
Specifications

Mating pin size: Ø0.46 - 0.51mm
 Contact depth: 2.30mm max
 Pin length: See individual sockets



Recommended PC Board Pattern

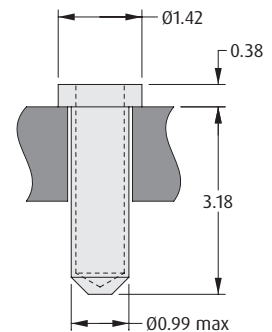
2.52mm BODY LENGTH



ORDER CODE	FINISH
H3190-01	Gold contact, Tin shell
H3190-05	Gold contact, Gold shell

Maximum Pin Length = 2.40mm

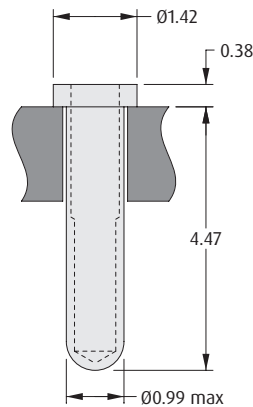
3.18mm BODY LENGTH



ORDER CODE	FINISH
H3153-01	Gold contact, Tin shell
H3153-05	Gold contact, Gold shell

Maximum Pin Length = 3.15mm

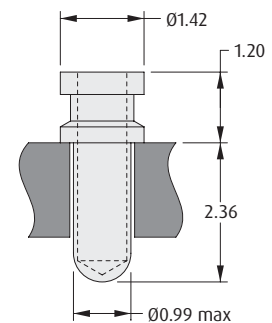
4.47mm BODY LENGTH



ORDER CODE	FINISH
H3191-01	Gold contact, Tin shell
H3191-05	Gold contact, Gold shell

Maximum Pin Length = 4.50mm

RAISED SHOULDER



ORDER CODE	FINISH
H3155-01	Gold contact, Tin shell
H3155-05	Gold contact, Gold shell

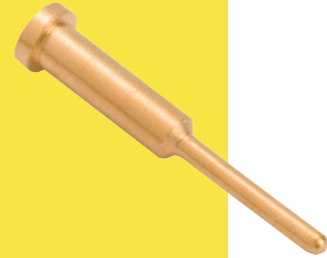
Maximum Pin Length = 3.15mm

All dimensions in mm.

PC Board Sockets

Ø0.50mm Mating Pin - Extended Tails

- Compatible with Ø0.50mm mating pins.
- Utilises the Datamate four finger Beryllium Copper contact clip.
- Extended tail sizes for stacked mating or wire wrap functions.



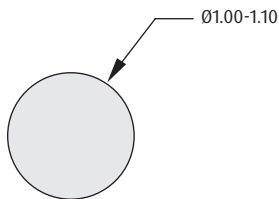
SOCKETS

Specifications

Mating pin size:
H3192-XX Ø0.46 - 0.51mm
H3175-XX Ø0.41 - 0.53mm

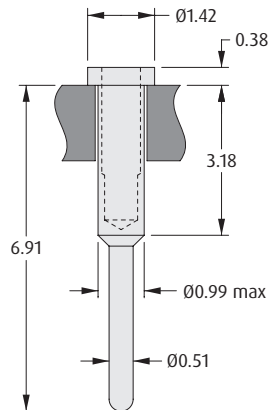
Contact depth:
H3192-XX 2.30mm max
H3175-XX 2.16mm max

Pin length: 3.15mm max



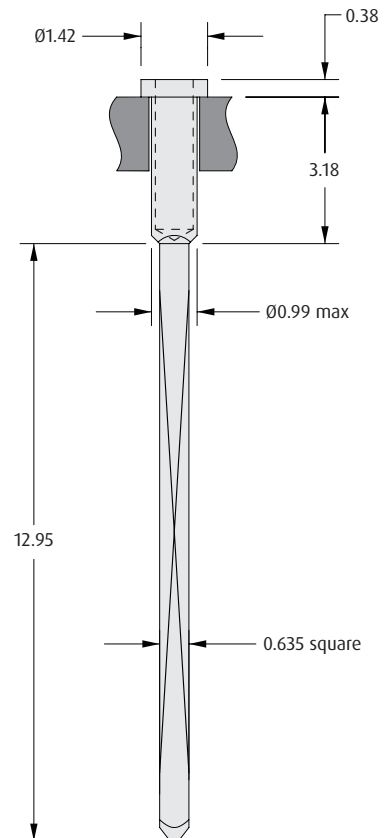
Recommended PC Board Pattern

EXTENDED PC TAIL



ORDER CODE	FINISH
H3192-01	Gold contact, Tin shell
H3192-05	Gold contact, Gold shell

WIRE WRAP TAIL



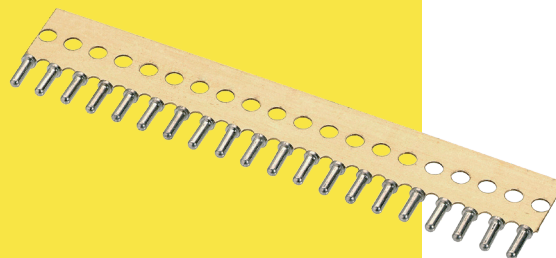
ORDER CODE	FINISH
H3175-01	Gold contact, Tin shell
H3175-05	Gold contact, Gold shell

All dimensions in mm.

PC Board Sockets

Strips of Sub-Miniature Sockets

- ❖ Sub-miniature sockets using the four finger Beryllium Copper contact, mounted on carrier strips for ease of production use.
- ❖ See previous page for information on the individual sockets.

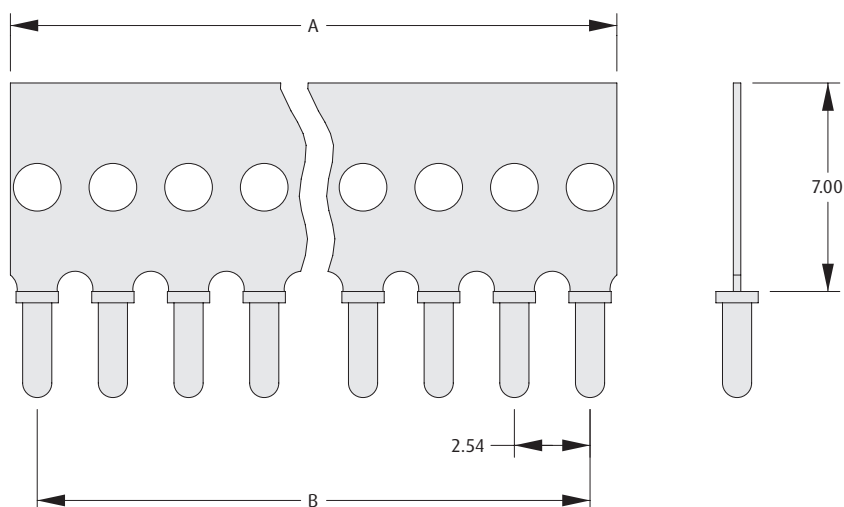


SINGLE-IN-LINE SOCKET CARRIERS

- ❖ Brass carriers are supplied fitted with the sub-miniature socket shown in the tables below.
- ❖ Supplied in standard lengths.

CALCULATION

A	$B + 1.8$
B	$2.54 \times (\text{No. of sockets} - 1)$



HOW TO ORDER

D01 - 9XX XX 01

SERIES CODE

TYPE	
979	Single-in-line Socket Carrier with H3192-01
982	Single-in-line Socket Carrier with H3191-01
984	Single-in-line Socket Carrier with H3155-01
990	Single-in-line Socket Carrier with H3153-01

FINISH

01 Gold contact, Tin shell

NO. OF CONTACTS PER STRIP

04, 06 to 10, 12, 14, 16, 20, 32

All dimensions in mm.

PC Board Sockets

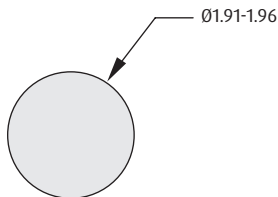
Ø0.80mm Mating Pin

- ❖ Compatible with Ø0.80mm mating pins – see table below.
- ❖ Knurled option available for added board retention.
- ❖ Ident groove in shoulder, to differentiate from Ø1mm mating pin sockets as shown on the next page.
- ❖ Construction uses four finger Beryllium Copper contact from M300 range.

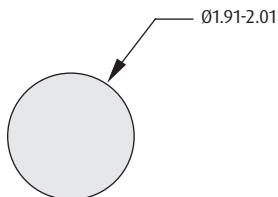


Specifications

Mating pin size: Ø0.60 - 0.85mm
 Contact depth: 3.30mm max
 Pin length: See individual sockets

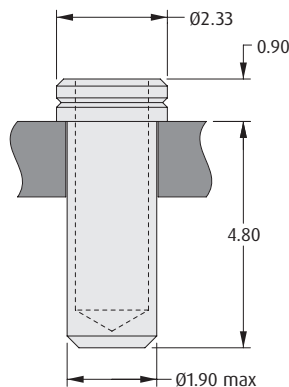


Recommended PC Board Pattern
with Retention Knurl



Recommended PC Board Pattern
without Retention Knurl

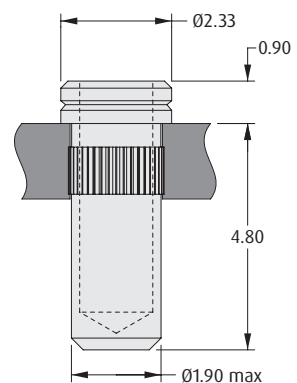
4.8mm BODY LENGTH



ORDER CODE	FINISH
H8504-01	Gold contact, Tin shell
H8504-05	Gold contact, Gold shell

Maximum Pin Length = 4.65mm

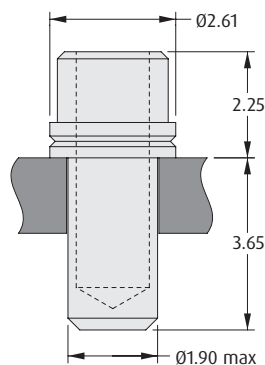
4.8mm BODY, KNURL



ORDER CODE	FINISH
H8501-01	Gold contact, Tin shell
H8501-05	Gold contact, Gold shell

Maximum Pin Length = 4.65mm

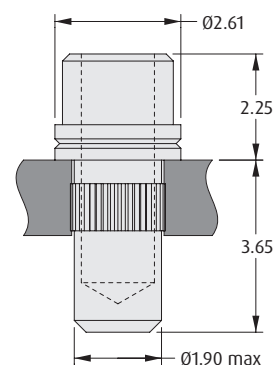
3.65mm BODY LENGTH



ORDER CODE	FINISH
H8505-01	Gold contact, Tin shell
H8505-05	Gold contact, Gold shell

Maximum Pin Length = 4.85mm

3.65mm BODY, KNURL



ORDER CODE	FINISH
H8502-01	Gold contact, Tin shell
H8502-05	Gold contact, Gold shell

Maximum Pin Length = 4.85mm

All dimensions in mm.

PC Board Sockets

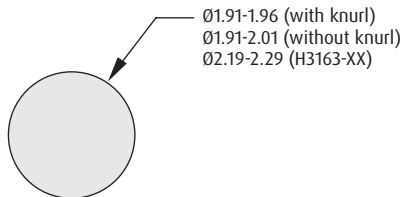
Ø1.00mm Mating Pin

- Compatible with Ø1.00mm mating pins – see table below.
- Knurled option available for added pin retention.
- Construction uses four finger Beryllium Copper contact from M300 range.



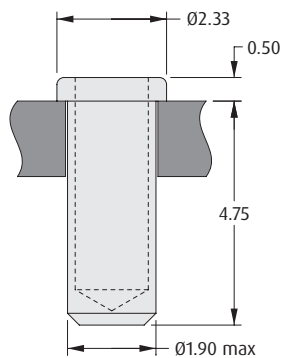
Specifications

Mating pin size: Ø0.90 - 1.05mm
 Contact depth: 3.55mm max
 Pin length: See individual sockets



Recommended PC Board Pattern

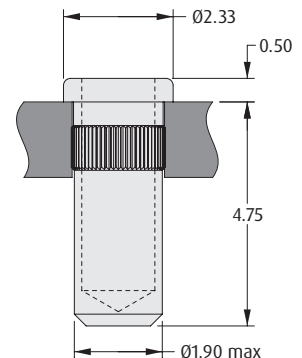
4.75mm BODY LENGTH



ORDER CODE	FINISH
H3183-01	Gold contact, Tin shell
H3183-05	Gold contact, Gold shell

Maximum Pin Length = 4.60mm

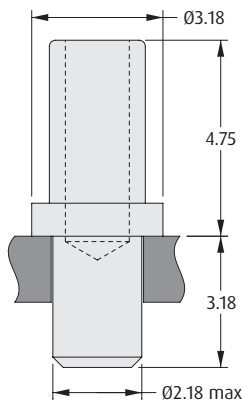
4.75mm BODY, KNURL



ORDER CODE	FINISH
H3161-01	Gold contact, Tin shell
H3161-05	Gold contact, Gold shell

Maximum Pin Length = 4.60mm

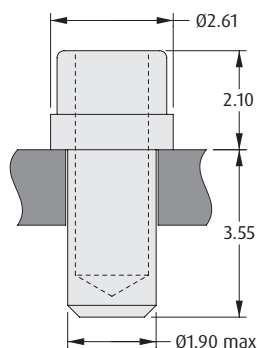
RAISED SHOULDER



ORDER CODE	FINISH
H3163-01	Gold contact, Tin shell
H3163-05	Gold contact, Gold shell

Maximum Pin Length = 5.00mm

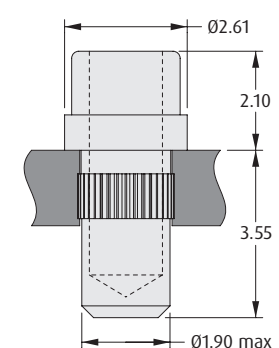
3.55mm BODY LENGTH



ORDER CODE	FINISH
H3182-01	Gold contact, Tin shell
H3182-05	Gold contact, Gold shell

Maximum Pin Length = 4.85mm

3.55mm BODY, KNURL



ORDER CODE	FINISH
H3165-01	Gold contact, Tin shell
H3165-05	Gold contact, Gold shell

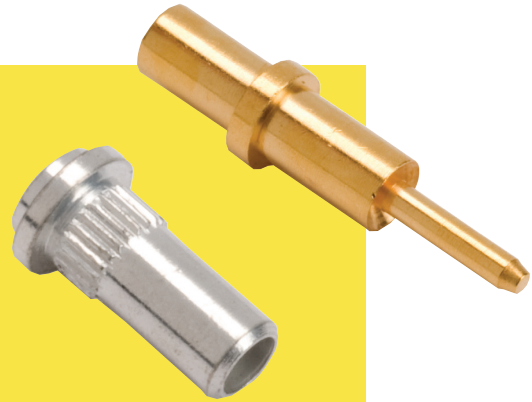
Maximum Pin Length = 4.85mm

All dimensions in mm.

PC Board Sockets

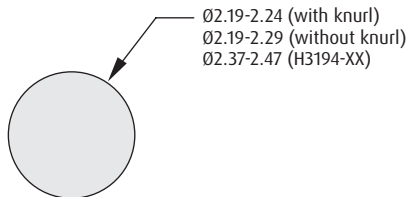
Ø1.00mm Mating Pin

- ❖ Compatible with Ø1.00mm mating pins – see table below.
- ❖ Knurled option available for added pin retention.
- ❖ Construction uses four finger Beryllium Copper contact from M300 range.



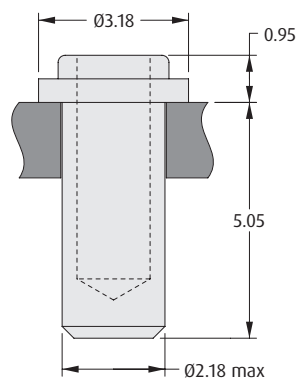
Specifications

Mating pin size: Ø0.90 - 1.05mm
Contact depth: 3.55mm max
Pin length: See individual sockets



Recommended PC Board Pattern

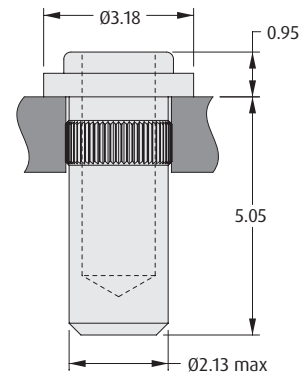
5.05mm BODY LENGTH



ORDER CODE	FINISH
H3184-01	Gold contact, Tin shell
H3184-05	Gold contact, Gold shell

Maximum Pin Length = 4.75mm

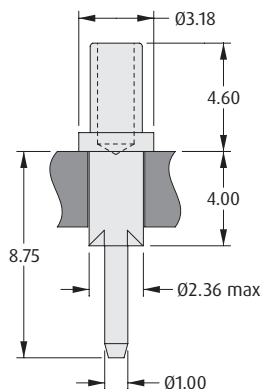
5.05mm BODY, KNURL



ORDER CODE	FINISH
H3167-01	Gold contact, Tin shell
H3167-05	Gold contact, Gold shell

Maximum Pin Length = 4.75mm

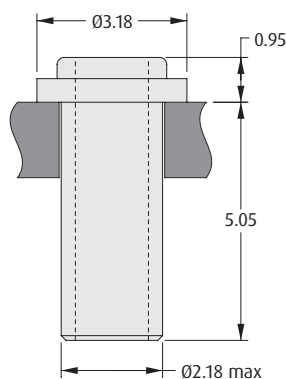
RAISED SHOULDER, TAIL



ORDER CODE	FINISH
H3194-01	Gold contact, Tin shell
H3194-05	Gold contact, Gold shell

Maximum Pin Length = 4.30mm

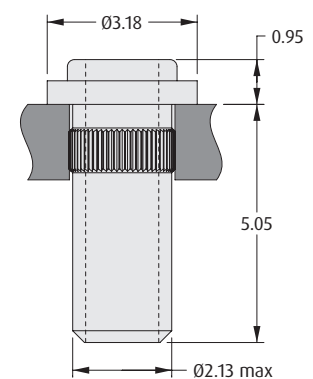
5.05mm BODY, OPEN END



ORDER CODE	FINISH
H3185-01	Gold contact, Tin shell
H3185-05	Gold contact, Gold shell

Open End - No Maximum Pin Length

5.05mm OPEN END, KNURL



ORDER CODE	FINISH
H3169-01	Gold contact, Tin shell
H3169-05	Gold contact, Gold shell

Open End - No Maximum Pin Length

All dimensions in mm.

PC Board Sockets

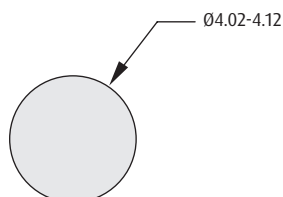
Ø2.00mm Mating Pin

- Compatible with Ø2.00mm mating pins.
- Uses six finger Beryllium Copper contact for high-reliability performance.

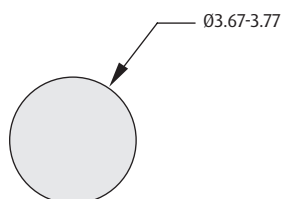


Specifications

Mating pin size: Ø2.00 - 2.30mm
 Contact depth: 4.10mm max
 Pin length: See individual sockets

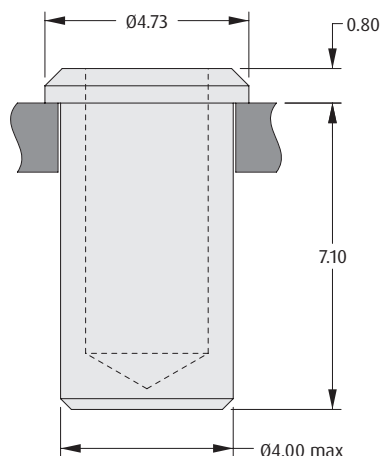


Recommended PC Board Pattern
for 7.1mm Body Length (H3492-XX)



Recommended PC Board Pattern
for 8mm Body Length (H3490-XX)

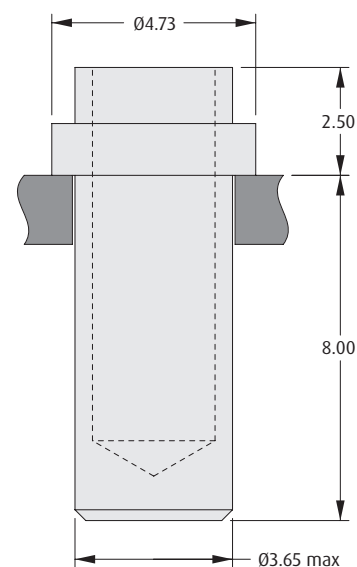
7.1mm BODY LENGTH



ORDER CODE	FINISH
H3492-01	Gold contact, Tin shell

Maximum Pin Length = 6.30mm

8mm BODY LENGTH



ORDER CODE	FINISH
H3490-01	Gold contact, Tin shell

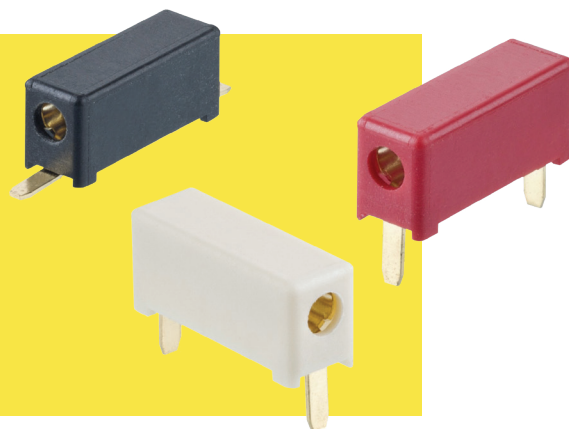
Maximum Pin Length = 8.50mm

All dimensions in mm.

Test Sockets

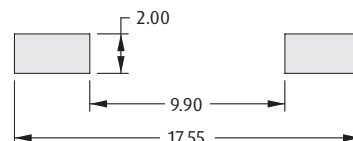
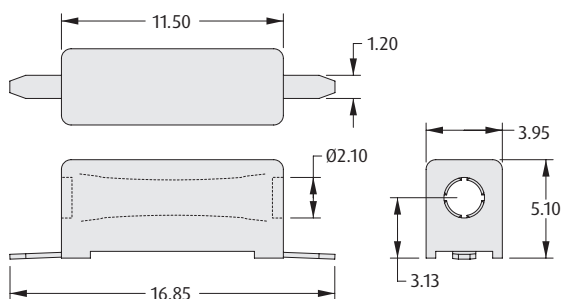
Ø2.03mm Mating Probe

- ❖ Dual entry horizontal sockets with gold plated contacts.
- ❖ Colour coded options available.
- ❖ Surface Mount product features a flat top area, and is available in tape and reel packaging for automated assembly, using standard pick and place machines.
- ❖ 5A current rating and 1,500V voltage rating.
- ❖ Please consult Technical Drawings online for further specifications.



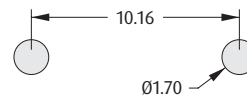
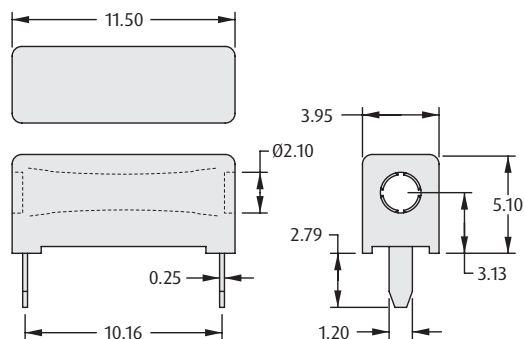
TEST SOCKETS

SURFACE MOUNT



Recommended PC Board Pattern

PC TAIL / THROUGHBOARD



Recommended PC Board Pattern

HOW TO ORDER

M349 X - XX X

SERIES CODE

TYPE

7	Surface Mount
8	PC Tail / Throughboard

PACKAGING

Blank	Loose
R	Tape & Reeled (M3497 only)

TYPE

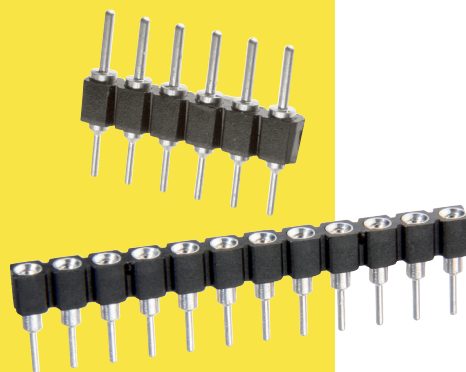
94	White (M3498 only)
98	Black
99	Red (M3498 only)

All dimensions in mm.

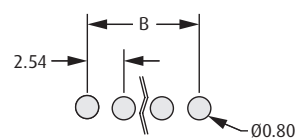
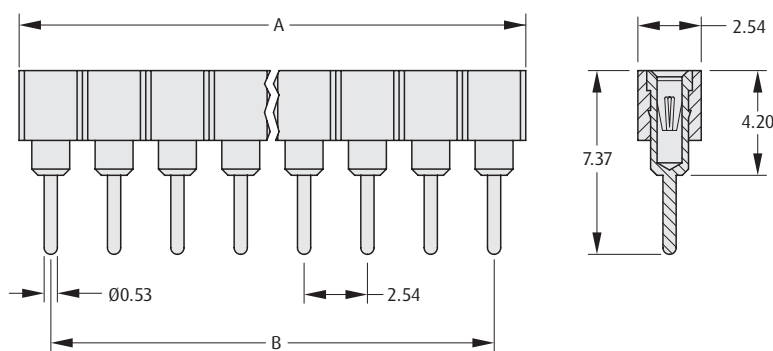
IC Sockets

Modular Single Row

- Connectors can be cut to smaller sizes.
- Socket accepts mating pin $\varnothing 0.40$ to 0.56mm , using four finger Beryllium Copper contact technology.
- Please consult Technical Drawings online for further specifications.



FEMALE

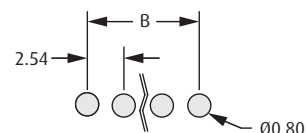
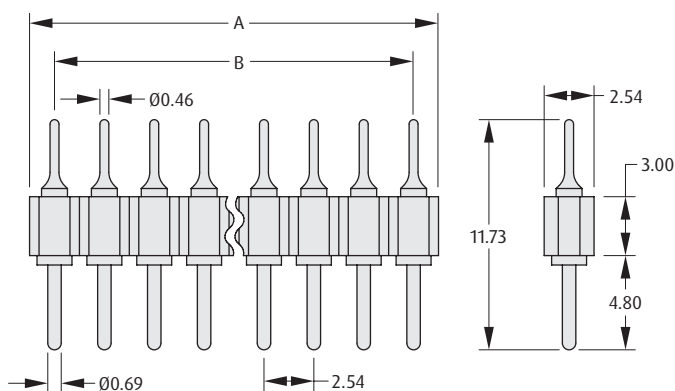


Recommended PC Board Pattern

CALCULATION

A	$2.54 \times \text{No. of contacts}$
B	$2.54 \times (\text{No. of contacts} - 1)$

MALE



Recommended PC Board Pattern

HOW TO ORDER

D01 - 99 X XX XX

SERIES CODE

TYPE

7	Female
2	Male

FINISH

42	Gold + Tin (Female)
46	Tin (Male)

NO. OF CONTACTS

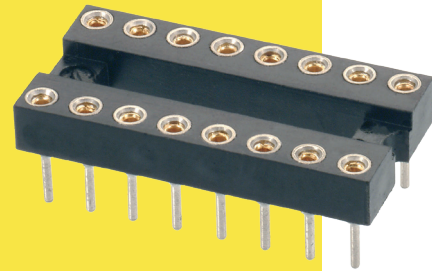
20, 32

All dimensions in mm.

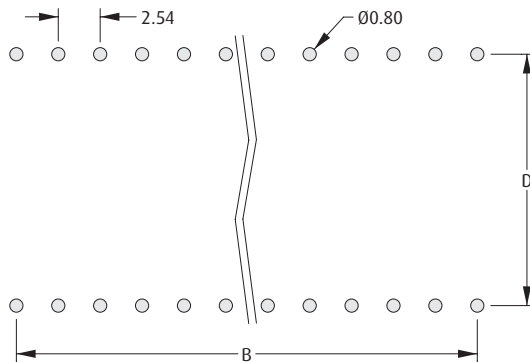
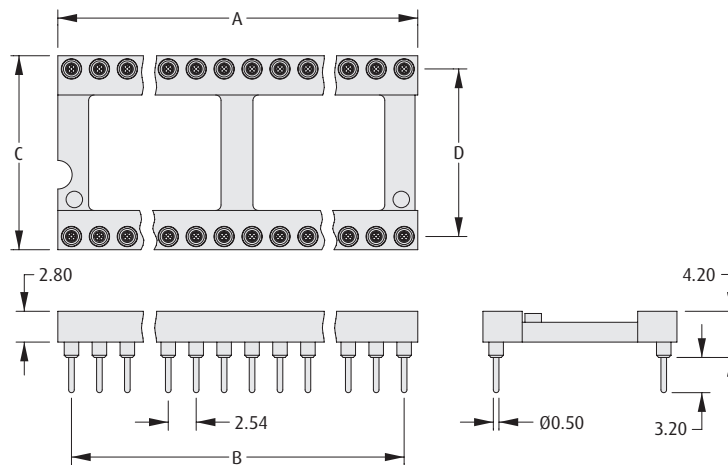
IC Sockets

Dual Row IC Socket

- ❖ Socket accepts IC leads Ø0.41 to 0.56mm.
- ❖ End and side stackable.
- ❖ Utilises four finger Beryllium Copper contact technology.
- ❖ Gold finish on contact, with Tin finish on shells/termination.
- ❖ Please consult Technical Drawings online for further specifications.



IC SOCKET



Recommended PC Board Pattern

ORDER CODE	NO. OF CONTACTS	A	B	C	D
D2806-42	6	7.60	5.08	10.02	7.62 (0.3")
D2808-42	8	10.10	7.62	10.02	7.62 (0.3")
D2814-42	14	17.70	15.24	10.02	7.62 (0.3")
D2816-42	16	20.30	17.78	10.02	7.62 (0.3")
D2818-42	18	22.80	20.32	10.02	7.62 (0.3")
D2820-42	20	25.30	22.86	10.02	7.62 (0.3")
D2922-42	22	27.80	25.40	10.02	7.62 (0.3")
D2822-42	22	27.80	25.40	12.60	10.16 (0.4")
D2924-42	24	30.40	27.94	10.02	7.62 (0.3")
D2724-42	24	30.40	27.94	12.60	10.16 (0.4")
D2824-42	24	30.40	27.94	17.64	15.24 (0.6")
D2928-42	28	35.50	33.02	10.02	7.62 (0.3")
D2828-42	28	35.50	33.02	17.64	15.24 (0.6")
D2832-42	32	40.60	38.10	17.64	15.24 (0.6")
D2840-42	40	50.80	48.26	17.64	15.24 (0.6")
D2948-42	48	60.90	58.42	17.64	15.24 (0.6")
D2864-42	64	81.20	78.74	25.40	22.86 (0.9")

All dimensions in mm.