

Sockets

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PC Board Sockets

A range of 4-beam and 6-beam sockets, designed for robustness and reliability, and based on the same design as the Datamate four finger Beryllium Copper contact.

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

| | |
|----------------|------------------|
| Outer shell: | Brass |
| Inner contact: | Beryllium Copper |
| Finish: | See Order Code |

➤ Electrical

| | |
|----------------------------------|-----------|
| Current rating (single contact): | |
| Ø0.50mm | 2A max |
| Ø0.80mm | 10A max |
| Ø1.00mm | 10A max |
| Ø2.00mm | 20A max |
| Contact resistance: | 25 mΩ max |

➤ Environmental

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

➤ Mechanical

| | |
|-------------------------|--|
| Durability: | |
| Ø0.50mm | 500 operations |
| Ø0.80mm | 1000 operations |
| Ø1.00mm | 1000 operations |
| Ø2.00mm | 500 operations |
| Insertion force (max): | |
| Ø0.50mm | 6.0N |
| Ø0.80mm | 5.0N |
| Ø1.00mm | 9.0N |
| Ø2.00mm | 6.0N |
| Withdrawal force (min): | |
| Ø0.50mm | 0.5N |
| Ø0.80mm | 1.0N |
| Ø1.00mm | 1.0N |
| Ø2.00mm | 1.0N |
| Vibration sensitivity: | 10 – 2000Hz, 0.75mm, 98m/s ² (10G), 6 hours duration |

All preferred sizes of this range are held in stock.
Check www.harwin.com for availability.

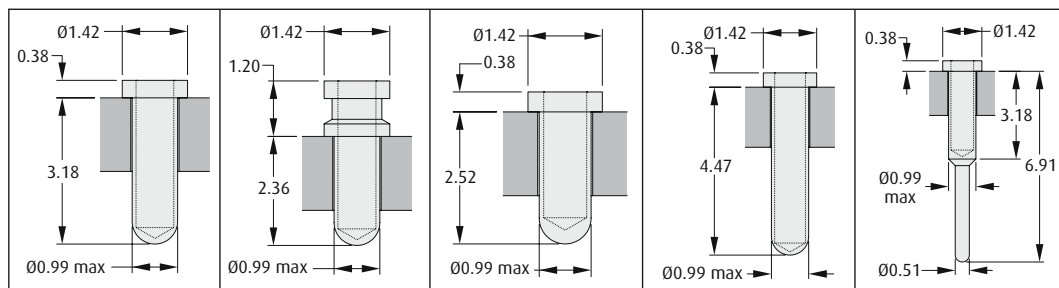
PC Board Sockets

Sub-Miniature – Ø0.50mm Mating Pin

- ❖ Compatible with Ø0.50mm mating pins – see table below.
- ❖ Suitable for a variety of mating pin lengths.
- ❖ Utilises the Datamate four finger Beryllium Copper contact clip – see page 14.
- ❖ See page 170 for alternative packing methods, and pages 171 to 173 for larger mating pin sizes.



SUB-MINIATURE



| ORDER CODE | H3153-XX | H3155-XX | H3190-XX | H3191-XX | H3192-XX |
|-----------------|--------------|--------------|--------------|--------------|--------------|
| Contact Depth | 2.30mm | 2.30mm | 2.30mm | 2.30mm | 2.30mm |
| Max Pin Length | 3.15mm | 3.15mm | 2.40mm | 4.50mm | 3.15mm |
| Mounting Hole | Ø1.00-1.10mm | Ø1.00-1.10mm | Ø1.00-1.10mm | Ø1.00-1.10mm | Ø1.00-1.10mm |
| Mating Pin Size | Ø0.46-0.51mm | Ø0.46-0.51mm | Ø0.46-0.51mm | Ø0.46-0.51mm | Ø0.46-0.51mm |

HOW TO ORDER

H31 XX - XX

SERIES CODE

SEE TABLE ABOVE

FINISH

| | | |
|----|--------------------------|--|
| 01 | Gold contact, Tin shell | |
| 05 | Gold contact, Gold shell | |

All dimensions in mm.

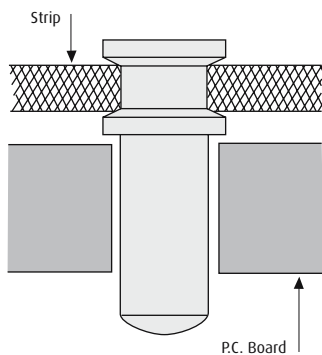
PC Board Sockets

Strips of Sub-Miniature Sockets

- Sub-miniature sockets using the four finger Beryllium Copper contact, mounted on carrier strips for ease of production use.
- Choice of carrier styles available.
- See page 169 for information on the individual sockets.

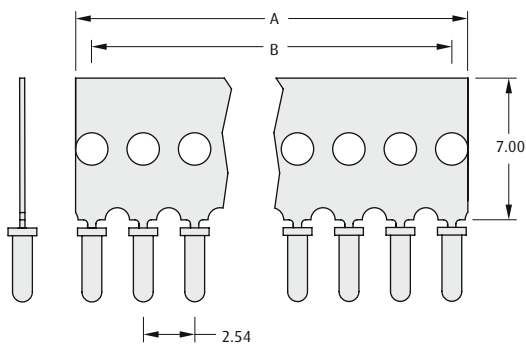


FLAT POLYESTER STRIP



- 100 contacts on a polyester strip, packed in a tube, ideal for multiple loading.
- Strip can be easily cut into any length and left in place, or removed after soldering.

SINGLE-IN-LINE SOCKET CARRIERS



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

CALCULATION

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

HOW TO ORDER

D01 - XXX XX 01

SERIES CODE

TYPE

| | |
|------------|---|
| 602 | 100 contact polyester strip of H3155-01 |
| 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

| | |
|-------------------------------------|------------------------|
| 00 | 100 contacts (D01-602) |
| 04 to 10, 12, 14, 16, 20, 32 | Others |

All dimensions in mm.

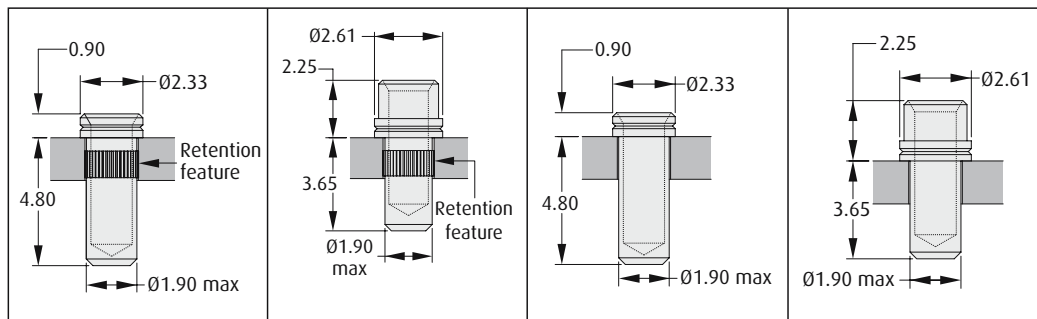
PC Board Sockets

Ø0.80mm Mating Pin

- Compatible with Ø0.80mm mating pins – see table below.
- Knurled option available for added board retention.
- See the next page for sockets compatible with Ø1.00mm mating pins, and page 173 for sockets compatible with Ø2.00mm mating pins.



PCB SOCKETS



| ORDER CODE | H8501-XX | H8502-XX | H8504-XX | H8505-XX |
|-----------------|--------------|--------------|--------------|--------------|
| Contact Depth | 3.30mm | 3.30mm | 3.30mm | 3.30mm |
| Max Pin Length | 4.65mm | 4.85mm | 4.65mm | 4.85mm |
| Mounting Hole | Ø1.91-1.96mm | Ø1.91-1.96mm | Ø1.91-2.01mm | Ø1.91-2.01mm |
| Mating Pin Size | Ø0.60-0.85mm | Ø0.60-0.85mm | Ø0.60-0.85mm | Ø0.60-0.85mm |

HOW TO ORDER

H85 XX - XX

SERIES CODE

SEE TABLE ABOVE

FINISH

| | | |
|-----------|--------------------------|--|
| 01 | Gold contact, Tin shell | |
| 05 | Gold contact, Gold shell | |

All dimensions in mm.

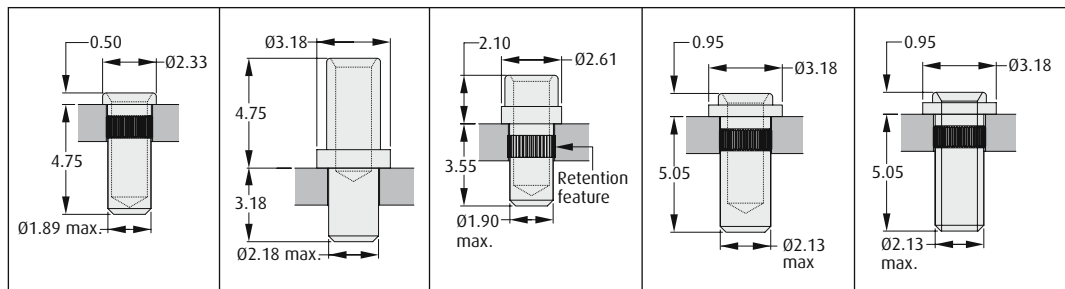
PC Board Sockets

Ø1.00mm Mating Pin

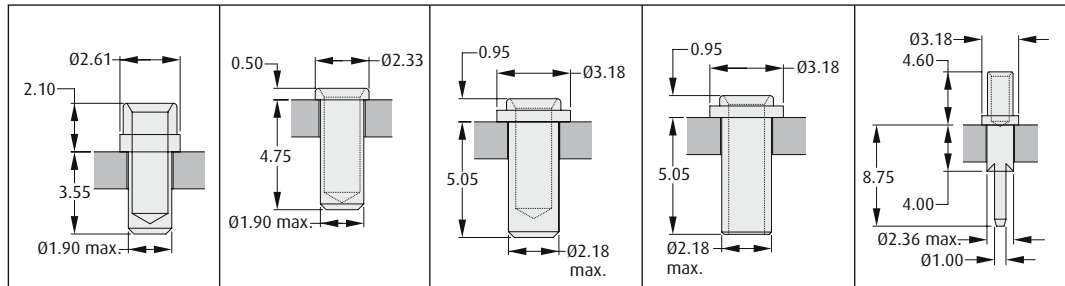
- Compatible with Ø1.00mm mating pins – see table below.
- Knurled option available for added pin retention.



PCB SOCKETS



| ORDER CODE | H3161-XX | H3163-XX | H3165-XX | H3167-XX | H3169-XX |
|-----------------|--------------|--------------|--------------|--------------|--------------|
| Contact Depth | 3.55mm | 3.55mm | 3.55mm | 3.55mm | 3.55mm |
| Max Pin Length | 4.60mm | 5.00mm | 4.85mm | 4.75mm | Through hole |
| Mounting Hole | Ø1.91-1.96mm | Ø2.19-2.29mm | Ø1.91-1.96mm | Ø2.19-2.24mm | Ø2.19-2.24mm |
| Mating Pin Size | Ø0.90-1.05mm | Ø0.90-1.05mm | Ø0.90-1.05mm | Ø0.90-1.05mm | Ø0.90-1.05mm |



| ORDER CODE | H3182-XX | H3183-XX | H3184-XX | H3185-XX | H3194-XX |
|-----------------|--------------|--------------|--------------|--------------|--------------|
| Contact Depth | 3.55mm | 3.55mm | 3.70mm | 3.55mm | 3.55mm |
| Max Pin Length | 4.85mm | 4.54mm | 4.75mm | Through Hole | 4.30mm |
| Mounting Hole | Ø1.91-2.01mm | Ø1.91-2.01mm | Ø2.19-2.24mm | Ø2.19-2.29mm | Ø2.37-2.47mm |
| Mating Pin Size | Ø0.90-1.05mm | Ø0.90-1.05mm | Ø0.90-1.05mm | Ø0.90-1.05mm | Ø0.90-1.05mm |

Panel thickness = 3.2mm

HOW TO ORDER

H31 XX - XX

SERIES CODE

SEE TABLE ABOVE

| FINISH | |
|--------|--------------------------|
| 01 | Gold contact, Tin shell |
| 05 | Gold contact, Gold shell |

All dimensions in mm.

SOCKETS

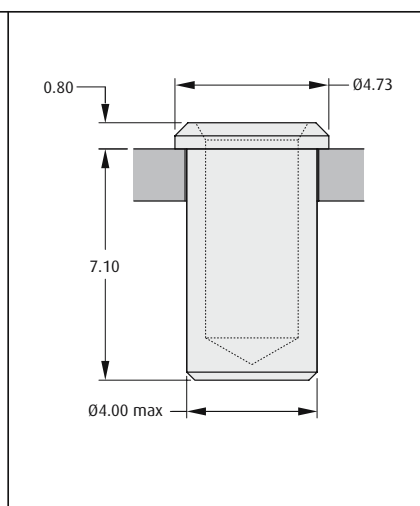
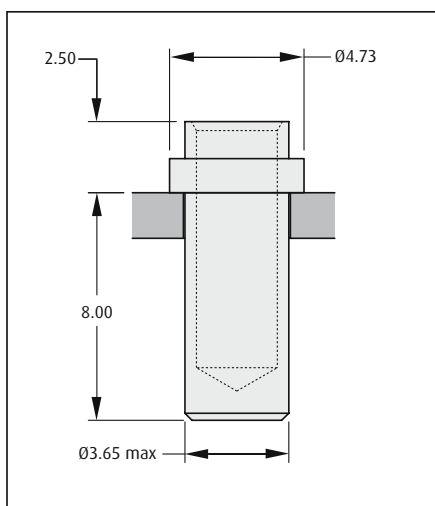
PC Board Sockets

Ø2.00mm Mating Pin

Compatible with Ø2.00mm mating pins – see table below.



PCB SOCKETS



| ORDER CODE | H3490-XX | H3492-XX |
|-----------------|--------------|--------------|
| Contact Depth | 4.10mm | 4.10mm |
| Max Pin Length | 8.50mm | 6.30mm |
| Mounting Hole | Ø3.67-3.77mm | Ø4.02-4.12mm |
| Mating Pin Size | Ø2.00-2.30mm | Ø2.00-2.30mm |

HOW TO ORDER

H34 XX - XX

SERIES CODE

SEE TABLE ABOVE

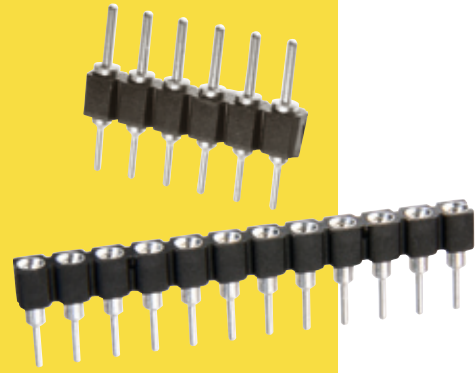
| FINISH | |
|--------|--------------------------|
| 01 | Gold contact, Tin shell |
| 05 | Gold contact, Gold shell |

All dimensions in mm.

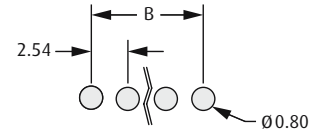
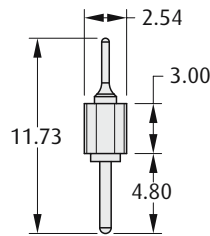
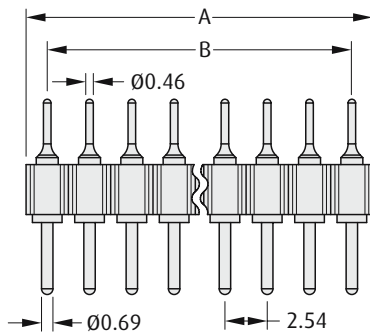
IC Sockets

Modular Single Row Male & Female

- Connectors can be cut to smaller sizes.
- Socket accepts mating pin $\varnothing 0.40$ to 0.56mm , using four finger Beryllium Copper contact technology (see the Datamate range for more detail).
- Please consult drawings for specification.

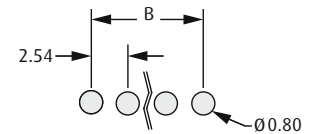
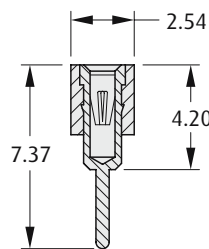
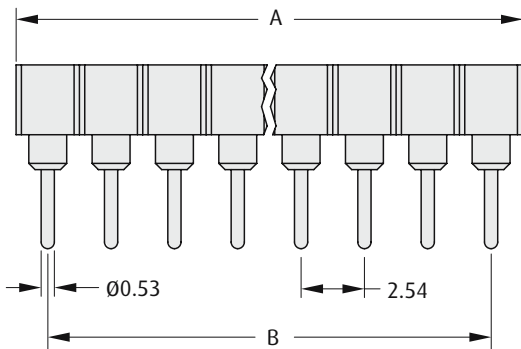


MALE



Recommended PC Board Pattern

FEMALE



Recommended PC Board Pattern

CALCULATION

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

HOW TO ORDER

D01 - 99 X XX XX

SERIES CODE

TYPE

| | |
|----------|--------|
| 2 | Male |
| 7 | Female |

FINISH

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

NO. OF CONTACTS

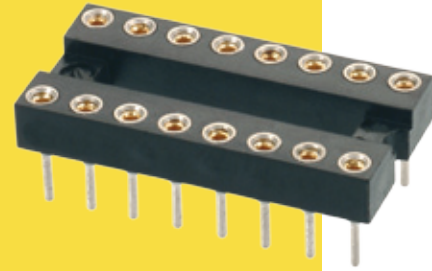
20, 32

All dimensions in mm.

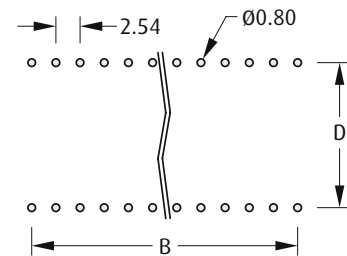
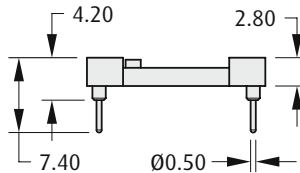
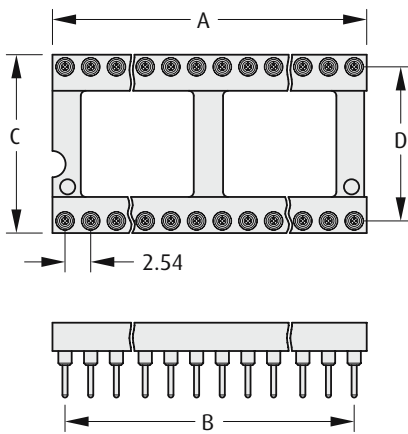
IC Sockets

Dual Row IC Socket

- ❖ Socket accepts IC leads $\varnothing 0.41$ to 0.56 mm.
- ❖ End and side stackable.
- ❖ Utilises four finger Beryllium Copper contact technology (see the Datamate range for more detail).
- ❖ Please consult drawings for specifications.



IC SOCKET



Recommended PC Board Pattern

| A | B | C | D | No. OF CONTACTS | ORDER CODE |
|-------|-------|-------|--------------|-----------------|-----------------|
| 7.60 | 5.08 | 10.02 | 7.62 (0.3") | 6 | D2806-42 |
| 10.10 | 7.62 | 10.02 | 7.62 (0.3") | 8 | D2808-42 |
| 17.70 | 15.24 | 10.02 | 7.62 (0.3") | 14 | D2814-42 |
| 20.30 | 17.78 | 10.02 | 7.62 (0.3") | 16 | D2816-42 |
| 22.80 | 20.32 | 10.02 | 7.62 (0.3") | 18 | D2818-42 |
| 25.30 | 22.86 | 10.02 | 7.62 (0.3") | 20 | D2820-42 |
| 27.80 | 25.40 | 10.02 | 7.62 (0.3") | 22 | D2922-42 |
| 27.80 | 25.40 | 12.60 | 10.16 (0.4") | 22 | D2822-42 |

| A | B | C | D | No. OF CONTACTS | ORDER CODE |
|-------|-------|-------|--------------|-----------------|-----------------|
| 30.40 | 27.94 | 10.02 | 7.62 (0.3") | 24 | D2924-42 |
| 30.40 | 27.94 | 12.60 | 10.16 (0.4") | 24 | D2724-42 |
| 30.40 | 27.94 | 17.64 | 15.24 (0.6") | 24 | D2824-42 |
| 35.50 | 33.02 | 10.02 | 7.62 (0.3") | 28 | D2928-42 |
| 35.50 | 33.02 | 17.64 | 15.24 (0.6") | 28 | D2828-42 |
| 40.60 | 38.10 | 17.64 | 15.24 (0.6") | 32 | D2832-42 |
| 50.80 | 48.26 | 17.64 | 15.24 (0.6") | 40 | D2840-42 |
| 60.90 | 58.42 | 17.64 | 15.24 (0.6") | 48 | D2948-42 |
| 81.2 | 78.74 | 25.4 | 22.86 (0.9") | 64 | D2864-42 |

HOW TO ORDER

D2 XXX - 42

SERIES CODE

TYPE

See table above

FINISH

42 Gold + Tin

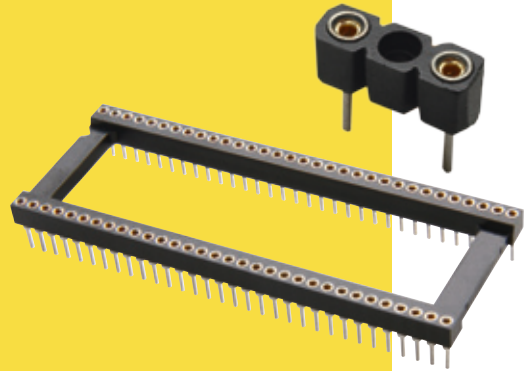


All dimensions in mm.

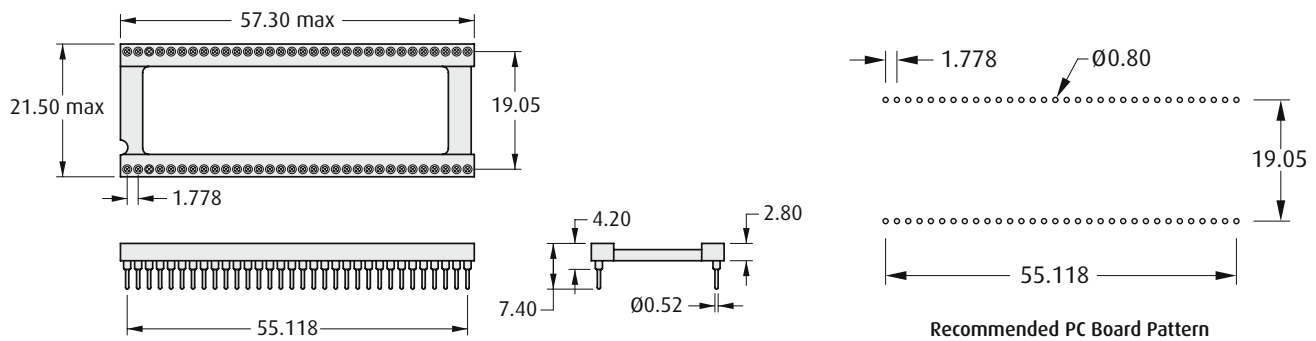
IC Sockets

Special Purpose Connectors

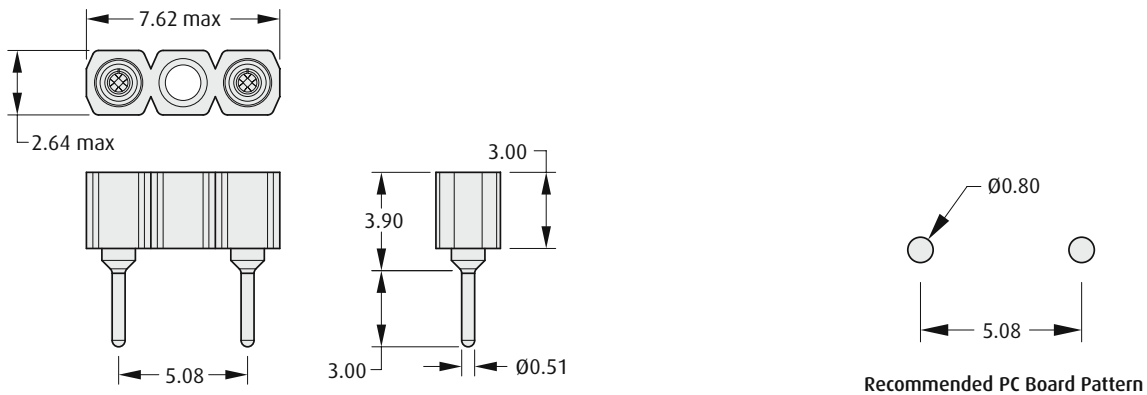
- ❖ “Shrink Dip” socket for high density IC leads – 1.778mm pitch, Ø0.40 to 0.56mm.
- ❖ Fuse socket accepts leads of Ø0.41 to 0.53mm.
- ❖ Please consult drawings for specifications.



SHRINK DIP IC SOCKET



FUSE SOCKET



HOW TO ORDER

D XXXX - 42

SERIES CODE

TYPE

| | |
|-------------|-------------|
| 8864 | Shrink Dip |
| 2899 | Fuse Socket |

FINISH

42 Gold + Tin



All dimensions in mm.