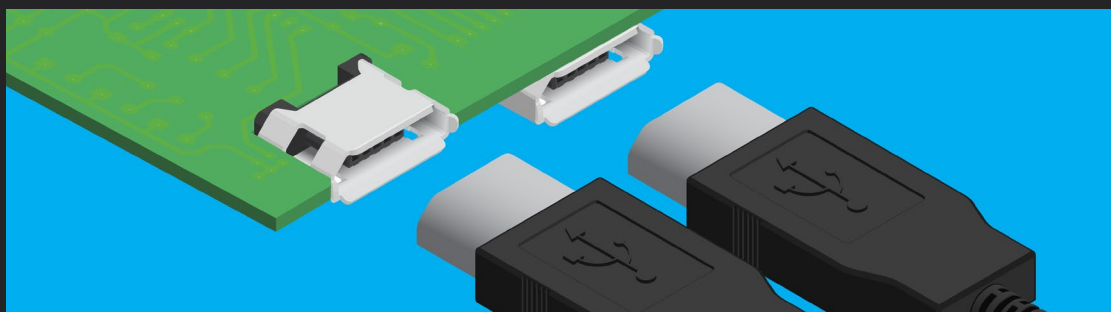
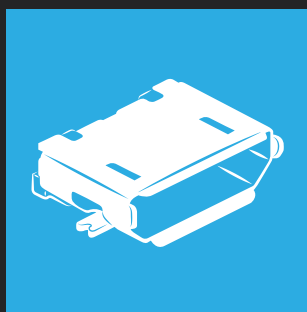
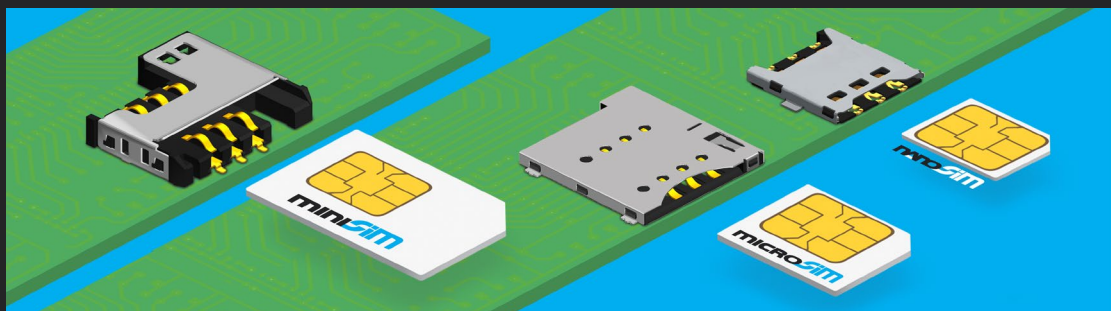
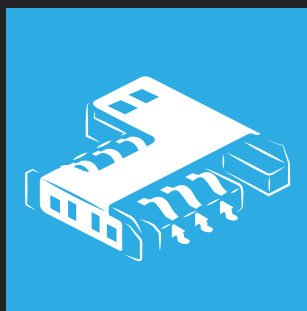
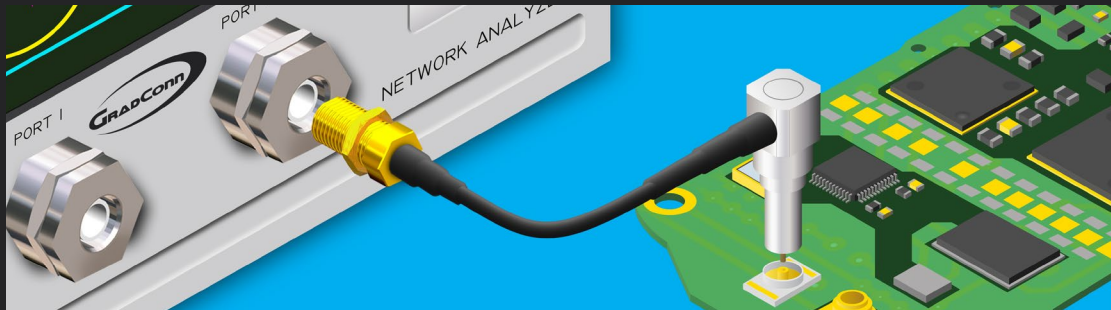
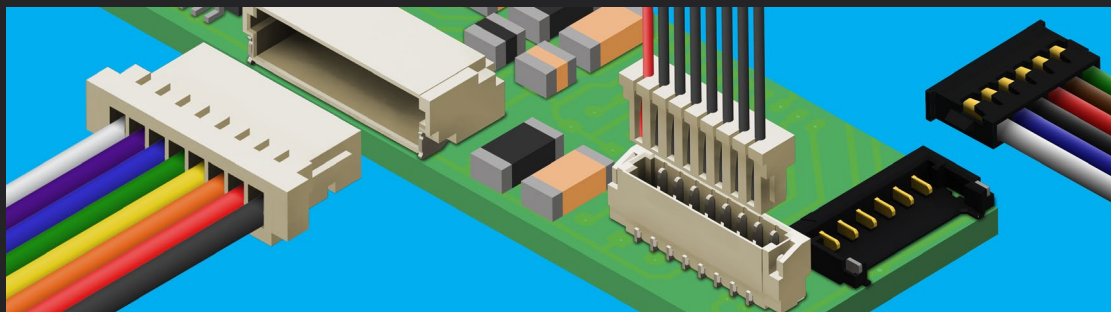
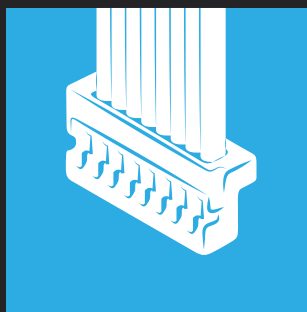
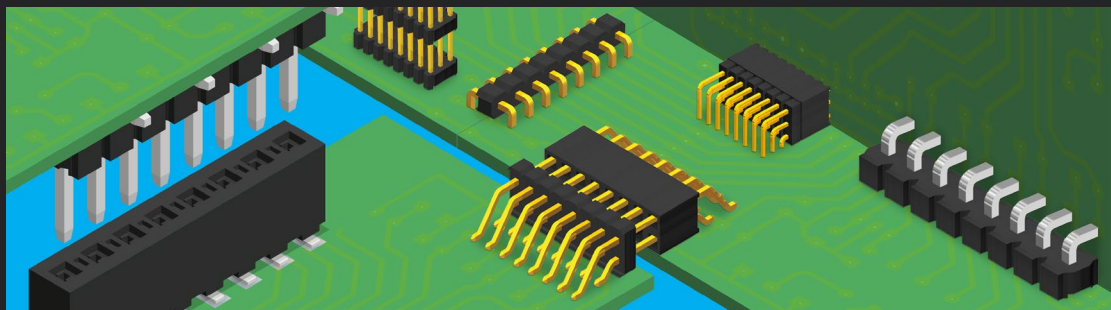
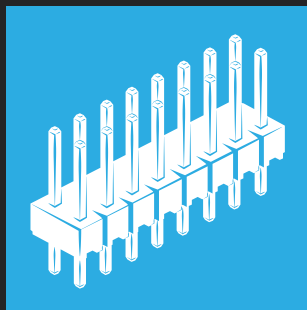




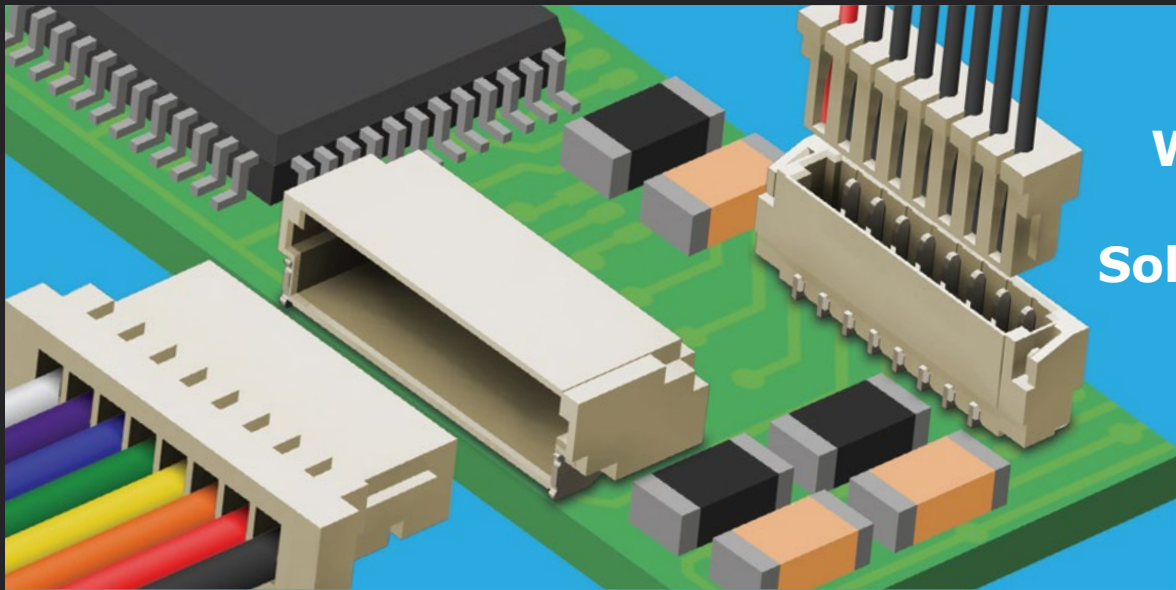
**Board to Board Connectors**  
**Wire to Board Solutions**  
**Coaxial Cable Assemblies**  
**SIM Card Connectors**  
**Micro USB Connectors**

2016 Edition





# NEW FROM



**Wire to  
Board  
Solutions**  
Page 26



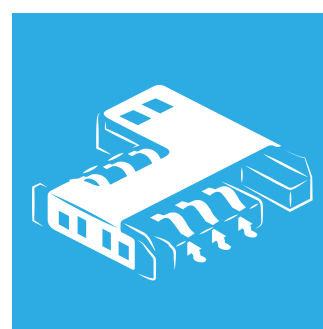
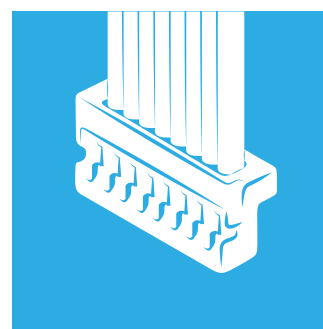
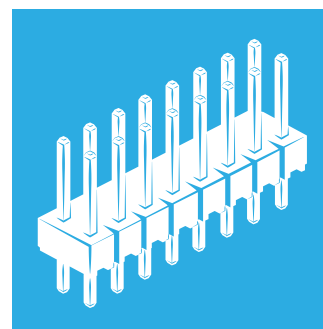
**Nautilus  
Waterproof  
Coaxial Cable  
Assemblies**  
Page 32



**MOSIM**  
(4ff)  
Page 36

# Contents

<b>About Infratron</b>	<b>2</b>
<b>Board to Board Connectors</b>	<b>3</b>
PCB Stacking Solutions	4
PCB Right Angle & Planar Mating Solutions	7
Plating & Materials	8
Contact Styles, Boxed & Polarised Parts	9
Custom Solutions	10
1.00mm (.039")	11
0.80mm x 1.20mm (.031" x .047")	12
1.27mm (.050")	13
1.27mm x 2.54mm (.050" x .100")	15
2.00mm (.079")	16
2.54mm (.100")	19
3.96mm (.156")	22
5.08mm (.200")	23
<b>Wire to Board Connectors</b>	<b>26</b>
0.80mm (.031") & 1.00mm (.039")	27
1.20mm (.047")	28
<b>Coaxial Cable Assemblies</b>	<b>29</b>
Connector Types	30
Cable Information	31
Nautilus Waterproof Cable Assemblies	32
Test Probes	34
<b>SIM Card Connectors</b>	<b>35</b>
Nano SIM	36
Micro SIM	37
Mini SIM - Push-Push	38
Mini SIM - Push-Pull	39
Mini SIM - Hinged	40
Mini SIM - Dual	41
Mini SIM - Contact	41
<b>Micro USB 2.0 Connectors</b>	<b>42</b>
Type B	43
Type AB	44

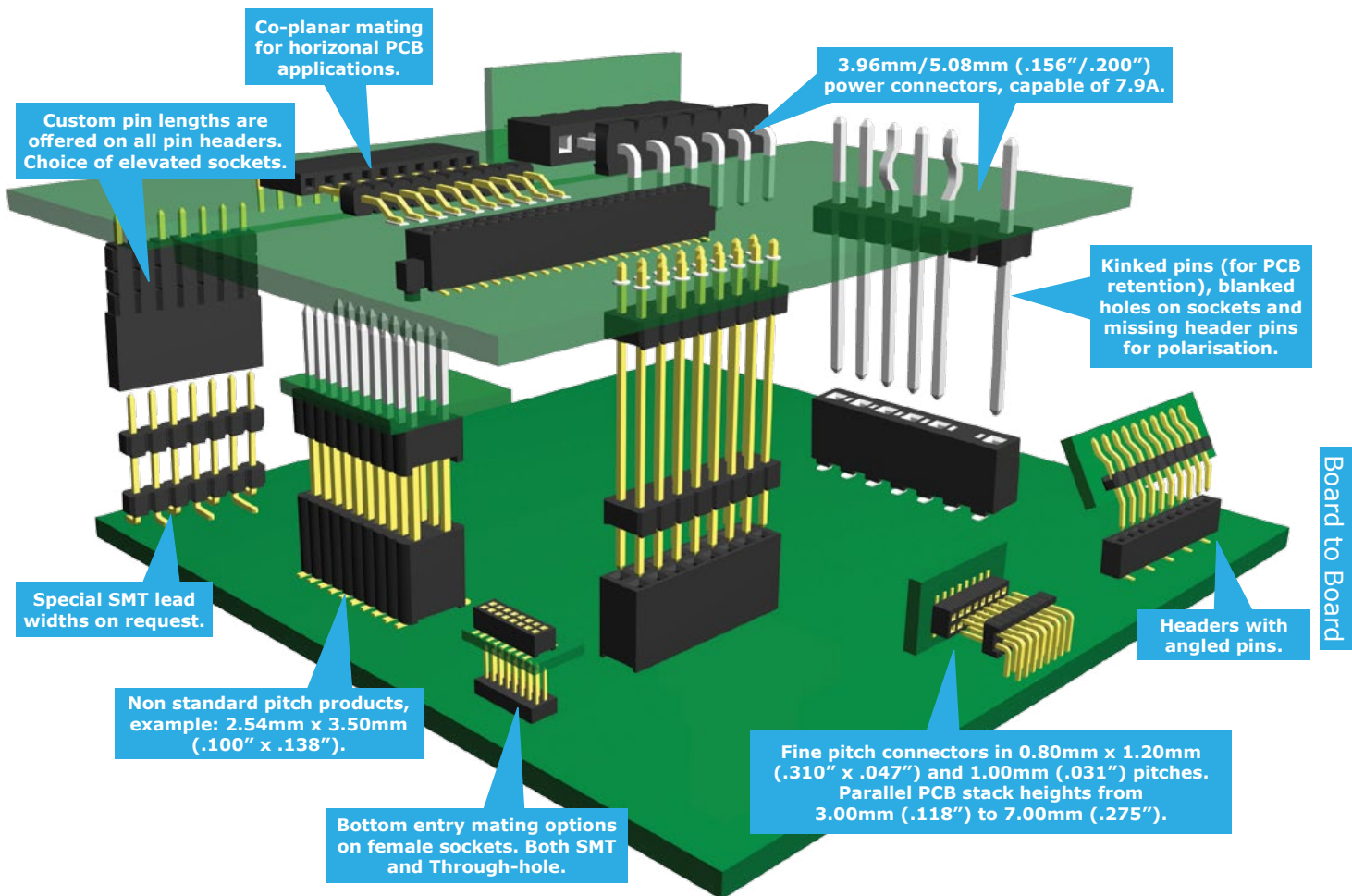




# PCB Board to Board Connectors

Available in single, dual row, triple and quad row in through hole and surface mount termination, Infratron offer a huge range of board to board PCB header and socket connectors in pin spacing pitches from 1.0mm (.039") through to 5.08mm (.200") Headers and sockets have a contact range from 2 to 120 and are available in vertical and horizontal orientation.

## Range Overview & Capability



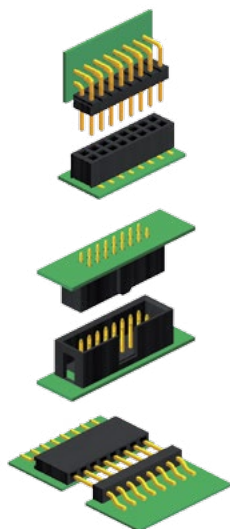
## Connector Pitches




0.80 x 1.20mm (.310" x .047")	1.00mm (.039")	1.27mm (.050")	1.27 x 2.54mm (.050" x .100")	2.00mm (.079")	2.54mm (.100")	3.96mm (.156")	5.08mm (.200")



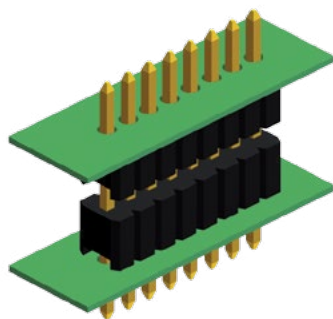
# PCB Stacking

## PCB Mating Options by Pitch

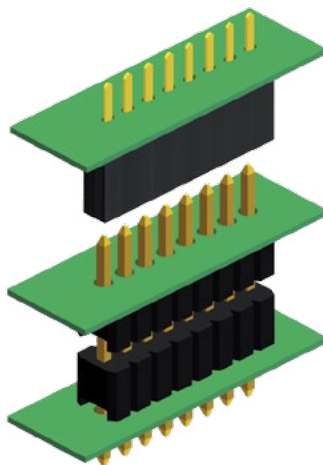


Pitch	Orientation		
	 Right Angle	 Parallel	 Planar
0.80x1.20mm (.031x.047")		•	
1.00mm (.039")	•	•	•
1.27mm (.050")	•	•	
1.27x2.54mm (.050x.100")	•	•	
2.00mm (.079")	•	•	•
2.54mm (.100")	•	•	•
3.96mm (.156")	•	•	
5.08mm (.200")	•	•	

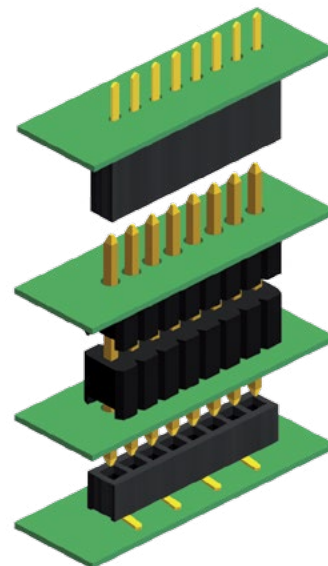
## Parallel Stacking - Elevated Headers



Header - 2 boards

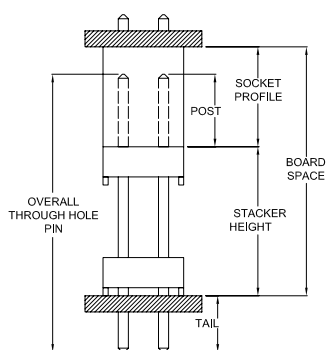


Header & Socket - 3 boards

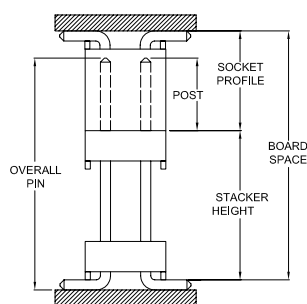


Header & 2 Sockets - 4 boards

### Through Hole



### Surface Mount



### 2.54mm (.100") - Through Hole

Socket BB02 - KH	Header BB02 - TG	Total Board Spacing
Socket Profile	Stacker Height	
7.10mm (.280")	20.00mm (.787")	27.10mm (1.067")

### 1.00mm (.039") - Surface Mount

Socket BB02 - WA	Header BB02 - TG	Total Board Spacing
Socket Profile	Stacker Height	
2.40mm (.094")	10.00mm (.393")	12.40mm (.488")

# PCB Parallel Stacking

Infratron offer a large range of board to board connectors for parallel PCB mating. The PCB connector stacking guide allows a simple step-by-step system to find the perfect mating connector design solution. You'll be guided to the lowest cost option, helping you design in the perfect balance of a suitable design solution at a great price!

Simply enter the PCB stacking dimension required, then use the narrow your search filter which allows multiple choices for you to compare and contrast solutions. The search displays results 0.5mm either side of your required PCB stack height to offer alternative options where your design is flexible.

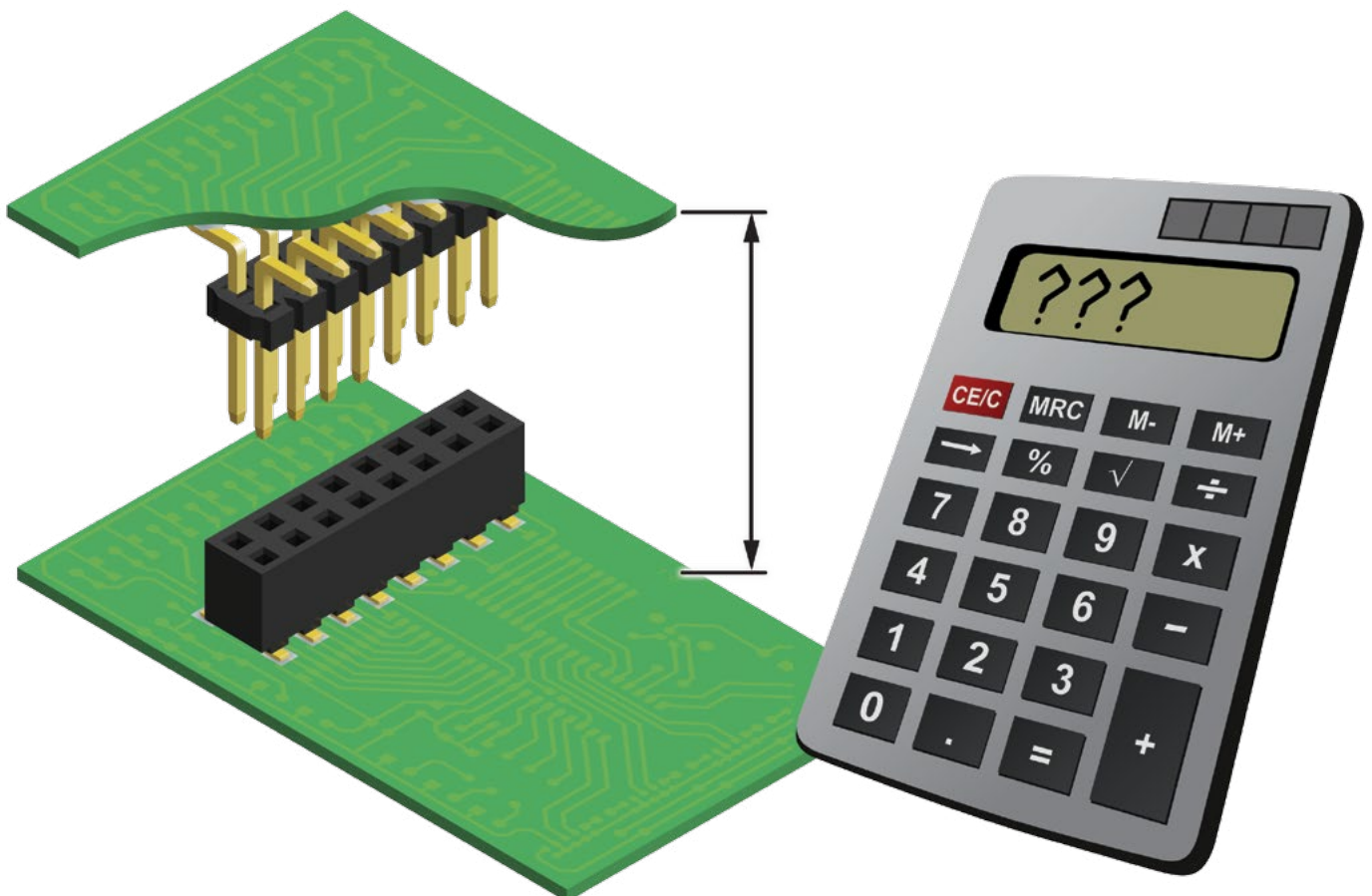
Search by:

- Stacking Heights: From 3.0mm (.118") to 60.0mm (2.262").
- Connector Pitch: From 1.00mm (0.039") to 5.08mm (0.200").
- Number of Rows: Single, dual, triple or quad row connectors.
- PCB Mount Type: Surface mount, through-hole or SMT mating with through hole.

Once you've found your perfect height solution, both halves of the connector may then be added to your shopping basket and samples ordered.

If you seek advice on PCB mating speak to your local Infratron sales office, where there is always a connector expert on hand.

## Infratron PCB Stacking Calculator



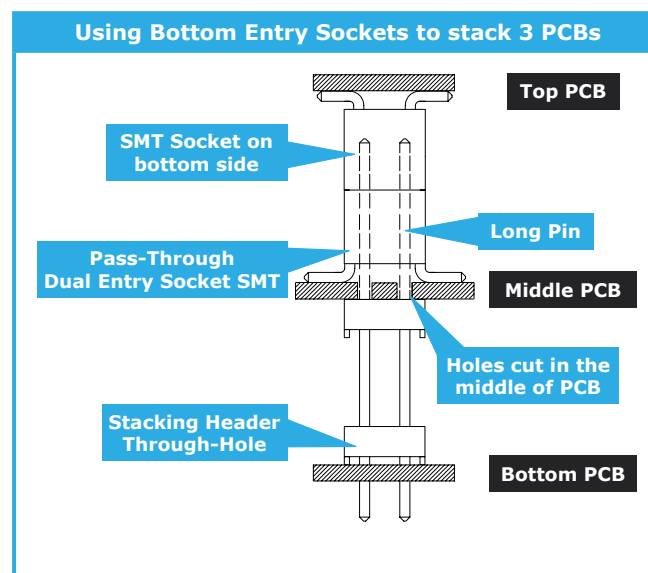
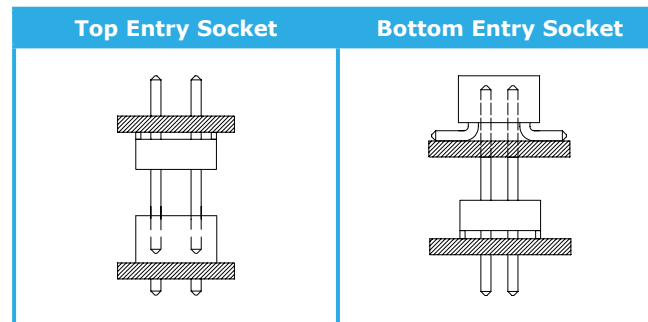
# PCB Parallel Stacking

## Bottom Entry Sockets

Bottom entry sockets (Through Hole and SMT) may be used to:

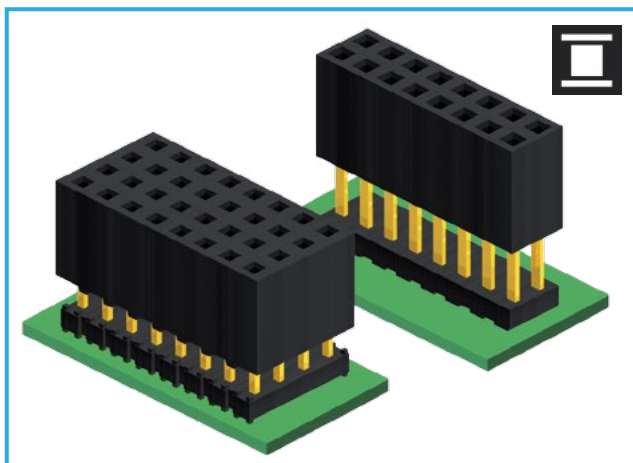
- Reduce distance between stacked PCB's.
- Allow 'plug up' applications for connection of three PCB's.
- To allow the use of single sided PCB's.

## Style of Socket Mating



Check samples in your application before approval.

## Stacking Sockets - Through Hole

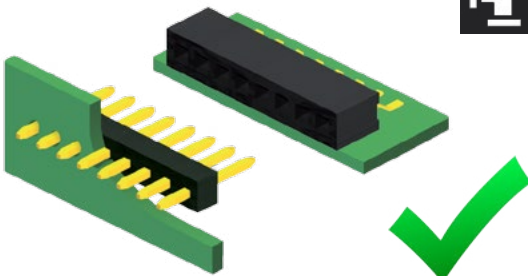
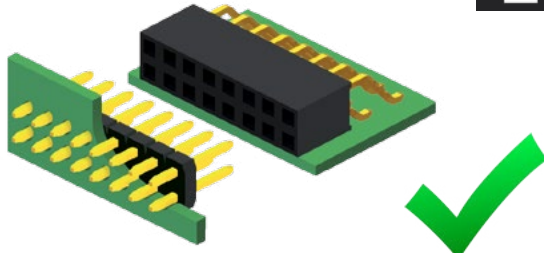


Pitch	SIL	DIL	Triple	Quad
2.00mm	n/a	BB02-GP	n/a	BB02-GW
2.54mm	BB02-JC	BB02-KD	BB02-LB	n/a

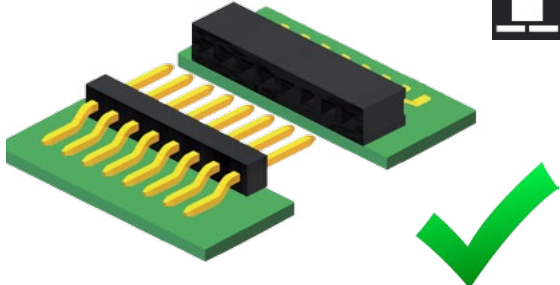
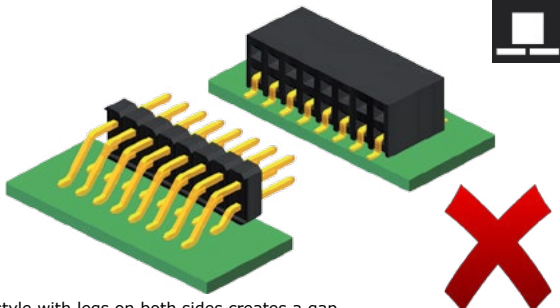


# PCB Right Angle & Planar Mating

## Right Angle Mating

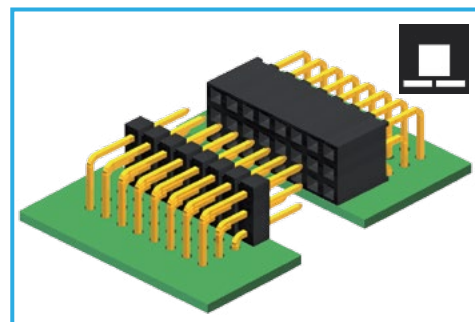
Through Hole	Surface Mount	Through Hole	Surface Mount
BB02-YJ	BB02-WF	BB02-HJ	BB02-LE
			

## Planar (End-to-end) Mating

Through Hole	Surface Mount	Through Hole	Surface Mount
BB02-YN	BB02-WF	BB02-TD	BB02-KQ
		 <p>Socket style with legs on both sides creates a gap.</p>	

## Pluggable Solutions

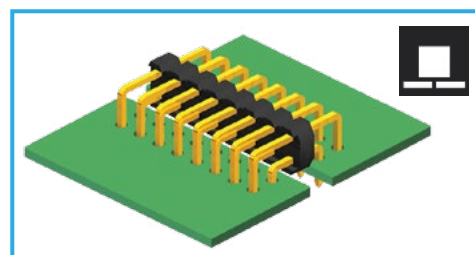
Pitch	Number of rows	Header	Socket	Height above PCB	Mount
1.00mm	1	BB02-YN	BB02-WF	1.50mm	Surface Mount
2.00mm	1	BB02-FB	BB02-RK	2.00mm	Through Hole
2.00mm	1	BB02-FK	BB02-RW	2.00mm	Surface Mount
2.00mm	2	BB02-FD	BB02-RL	4.00mm	Through Hole
2.00mm	2	BB02-RH	BB02-RX	4.00mm	Surface Mount
2.00mm	3	BB02-RR	BB02-RQ	6.00mm	Through Hole
2.54mm	1	BB02-HH	BB02-JS	2.50mm	Surface Mount
2.54mm	1	BB02-HA	BB02-JE	2.54mm	Through Hole
2.54mm	1	BB02-TK	BB02-JE	2.54mm	Through Hole
2.54mm	2	BB02-TH	BB02-LE	5.00mm	Surface Mount



## U-Shaped Solutions

Pitch	Number of rows	Header	Orientation	Height above PCB	Mount
1.27mm	1	BB02-5B	U Shaped	2.50mm	Through Hole
2.00mm	1	BB02-1F	U Shaped	2.00mm	Through Hole
2.00mm	1	BB02-2F	U Shaped	2.00mm	Through Hole
2.54mm	2	BB02-2H	U Shaped	5.00mm	Through Hole

BB02-1F/2F may be plugged directly into PCB or plugged into vertical sockets.

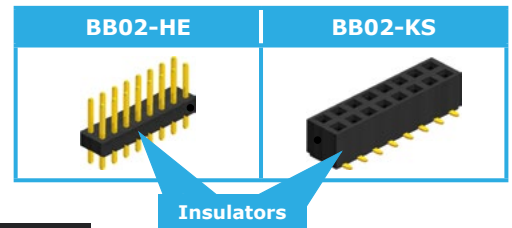


# Plating and Materials

## Insulators

### Through Hole & SMT Connectors

Insulators are produced in Polyamide 6T (Nylon6T) or LCP as standard, both materials are suitable for with standing high temperature wave and reflow RoHS solder processes.



## Pins & Contacts Base Materials

**Base material of either Brass or Phosphor bronze depending on product.**

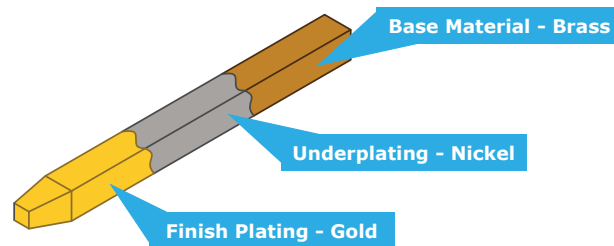
Brass

- Lowest cost.
- Good spring properties and strength.
- Reasonably good conductor.

Phosphor Bronze

- Good strength and conductivity.
- Superior elasticity.
- Excellent fatigue resistance.

## Plating



**Base pins and contacts under-plated with nickel.**

**Finish plating added for improved conductivity, high temperature protection and resistance to corrosion and wear.**

**Finish plating is available in variants of gold and/or tin.**

Gold

- Excellent corrosion resistance and durability.
- Excellent conductivity and low resistance.
- General Rule: Use thicker gold for applications above 100 cycles and less than 1 Amp.

Tin

- Excellent solderability and conductivity.
- Low durability and can form an oxide film.

**Finish Plating options.**

- Various levels of gold thickness available.
- Options for gold in contact area and tin in solder area (selective plating).
- Gold flash is standard - most economical and lowest MOQ.
- Tin - Bright or Matt.

# Female Socket Contact Styles

## Tuning Fork



Two points of contact.

### Strengths

- Lower cost
- Higher retention force

### Weaknesses

- Mating pin length limited
- Higher force required
- Top entry only

## Leaf Spring

Two points of contact.



### Strengths

- No limit on mating pin length
- Less force required
- Suitable for dual entry
- Allows lower profile sockets

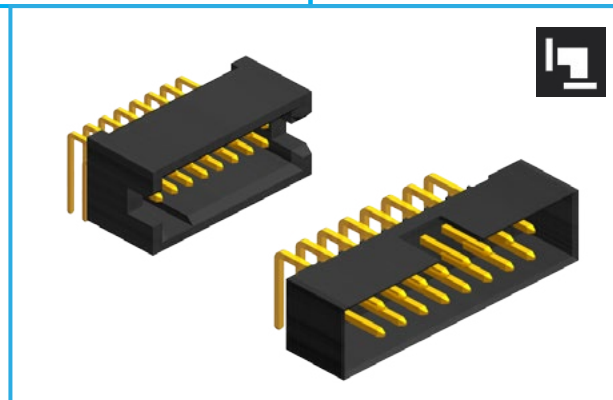
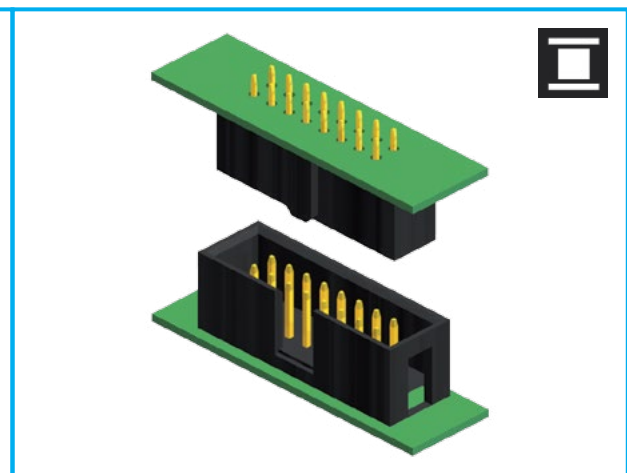
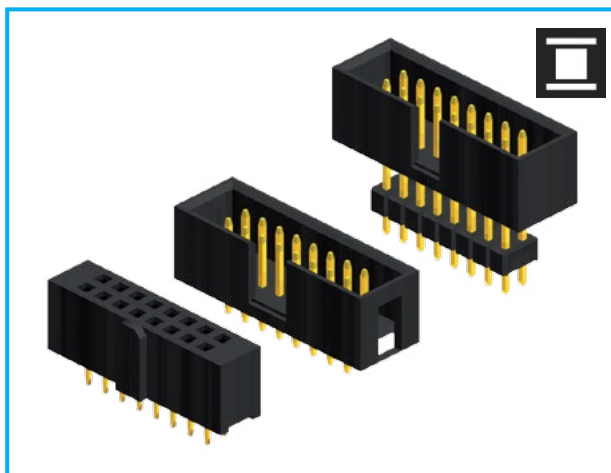
### Weaknesses

- Higher cost
- Low retention force

## Boxed and Polarised Products

Shrouded headers and sockets with a 'bump' allow for mating polarisation. Sockets may be plugged into a header in one orientation only.

Pitch	Headers			Elevated Headers		Sockets		
	Through Hole		Surface Mount	Through Hole	Surface Mount	Through Hole		Surface Mount
	Vertical	Horizontal	Vertical	Vertical	Vertical	Vertical	Horizontal	Vertical
1.27mm	BB02-BE	BB02-BZ	BB02-BY	n/a	BB02-NN	BB02-CU	n/a	BB02-CM
2.00mm	BB02-FP	BB02-FQ	BB02-FY	BB02-FS	BB02-FW	BB02-RP		n/a
2.54mm	BB02-HQ	BB02-BQ	BB02-HR	BB02-HF	n/a	BB02-KW	BB02-KW	


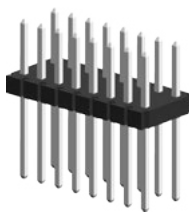
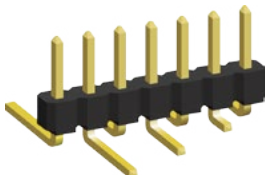
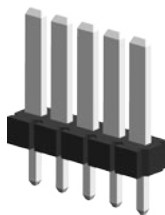


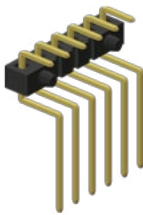
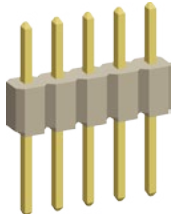

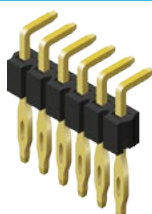

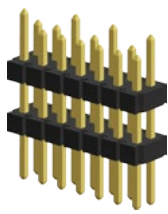
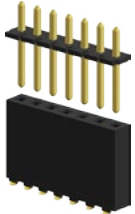


Board to Board

# Custom PCB Connectors

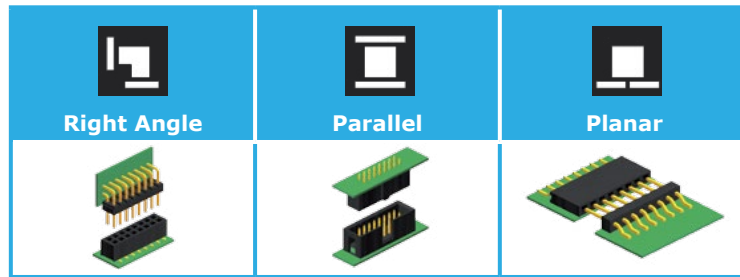
Infratron offer a full custom connector service, from making minor changes on existing products to designing and manufacturing bespoke connectors. With affordable and flexible tooling our experienced engineers will guide you every step of the way, from helping design a solution specific to your needs, onto first draft drawings, then samples, approvals and production. Turnaround time on design to finish can take from a few days to a few weeks depending on complexity.

Examples of special connectors which Infratron created working in partnership with customers include:

	<p>Pin Headers Custom Lead lengths –</p> <p>Drawings offer selectable lead lengths for mating &amp; PCB terminating pins.</p>		<p>Non standard pin spacing pitch –</p> <p>This example is 2.54mm between pins and 3.5mm between rows, we can offer other variations upon request.</p>
	<p>Custom SMT lead lengths –</p> <p>Often selectable on Infratron drawings, if our parts don't fit the PCB footprint you require, contact us.</p>		<p>Bladed mating pins –</p> <p>Allows connection to tab receptacle type connectors but uses a 0.64mm square pin for PCB termination.</p>
	<p>Blanked holes on sockets and missing pins on headers –</p> <p>Offers inexpensive connector polarisation. Header and socket may only be mated together in the orientation. Useful in limited space applications where shrouded header solutions would not fit.</p>		<p>Alternative insulator materials –</p> <p>This example shows a receptacle normally produced in LCP, being available in Nylon 9T.</p>
	<p>PCB Header with pins bent in 3 places –</p> <p>Allows mating on a lower or higher plane</p>		<p>Different insulator colours –</p> <p>For example, Natural.</p>
	<p>Kinked Pins on through-hole parts –</p> <p>For PCB retention during soldering. Infratron offer kinked pins upon request.</p>		<p>Press fit custom special –</p> <p>This example was created for a specific custom PCB header design requirement.</p>
	<p>Angled pins on headers –</p> <p>Angled specific to your design.</p>		<p>Headers with selectively longer pins –</p> <p>Allows 'make first – break last' contact.</p>
	<p>PCB Header and receptacle insulators –</p> <p>Non standard sizes. For a modest tooling fee we can produce non-standard header insulators, sockets can be more tricky as sometimes a special contact design is required, however often a standard existing contact can be used.</p>		



# PCB Mating Options Key





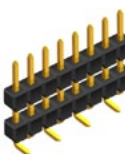


PCB Mating Options-



## Specification

Current Rating	1 Amp	Insulator Material	LCP	Header Pin Size	0.30mm sq. (.011")
Operating Temp.	-40°to +105°C			Plating	Gold Flash or Tin over 30-50µ" Nickel. For more plating options see page 8.
Contact Material	Brass or Phosphor Bronze	Flammability Rating	UL 94V-0		

## Headers - Single In Line

Vertical				Horizontal			
Through Hole		Surface Mount		Through Hole		Surface Mount	
				Elevated			
BB02-YJ		BB02-YK		BB02-YR		BB02-YM	
BB02-YL							

Type	Range	Mount	Orientation	Stacking Profile	Ways	Peg
Header	BB02-YJ	Through Hole	Vertical	1.00mm	2-35	No
	BB02-YM	Through Hole	Horizontal	n/a	4-40	No
	BB02-YN	Surface Mount	Vertical	2.00mm	2-35	No
	BB02-YK	Surface Mount	Horizontal	n/a	2-35	No
Elevated Header	BB02-YL	Through Hole	Vertical	5.10mm - 20.00mm	2-40	No
	BB02-YR	Surface Mount	Vertical	2.50mm - 22.00mm	2-40	No

## Sockets - Single In Line

Vertical				Horizontal	
Through Hole		Surface Mount		Surface Mount	
BB02-WD		BB02-WE		BB02-WF	

Range	Mount	Orientation	Stacking Profile	Ways	Entry	Contact	Peg	Recommended Mating Length
BB02-WD	Through Hole	Vertical	2.10mm	2-35	Top	Leaf	No	1.50mm
BB02-WE	Through Hole	Vertical	2.25mm	2-35	Dual	Leaf	No	1.50 - 1.80mm
BB02-WF	Surface Mount	Horizontal	n/a	2-35	Side	Leaf	No	1.50mm

## 1.00mm (.039") Pitch









## Specification

Current Rating	1 Amp	Insulator Material	LCP	Header Pin Size	0.30mm sq. (.011")
Operating Temp.	-40°to +105°C			Plating	Gold Flash or Tin over 30-50µ" Nickel For more plating options see page 8.
Contact Material	Brass or Phosphor Bronze	Flammability Rating	UL 94V-0		

Infratron

## Headers &amp; Sockets - Dual In Line

Vertical Headers				Horizontal Header		Vertical Socket	
Through Hole		Surface Mount		Surface Mount		Surface Mount	
BB02-YC		BB02-YF		BB02-YP		BB02-WA	
BB02-YG		BB02-YH					

Type	Range	Mount	Orientation	Stacking Profile	Ways	Peg	Entry	Contact	Recommended Mating Length
Header	BB02-YC	Through Hole	Vertical	1.50mm	4-80	No	n/a	n/a	n/a
	BB02-YF	Surface Mount	Vertical	1.40mm - 1.90mm	4-80	No			
	BB02-YP	Surface Mount	Horizontal	n/a	4-30	No			
Elevated Header	BB02-YG	Through Hole	Vertical	2.40mm - 20.00mm	6-80	No	n/a	n/a	n/a
	BB02-YH	Surface Mount	Vertical	2.70mm - 22.00mm	4-80	No			
Socket	BB02-WA	Surface Mount	Vertical	2.25mm	4-70	Option	Dual	Leaf	1.50mm - 1.80mm

PCB Mating Option

## 0.80mm x 1.20mm (.031" x .047") Pitch






## Specification

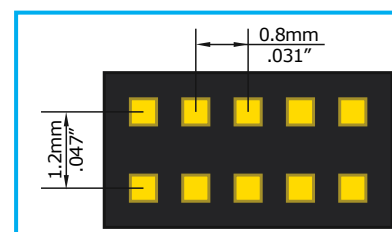
Current Rating	0.5 Amp	Insulator Material	LCP	Header Pin Size	0.30mm sq. (.011")
Operating Temp.	-40°to +105°C			Plating	Gold Flash or Tin over 30-50µ" Nickel For more plating options see page 8.
Contact Material	Phosphor Bronze	Flammability Rating	UL 94V-0		

Full specifications available at Infratron

## Headers &amp; Sockets - Dual In Line

Vertical					
SMT - Elevated Header		SMT - Header		SMT - Socket	
BB02-AW		BB02-AY		BB02-AZ	

Range	Mount	Orientation	Stacking Profile	Ways	Peg
BB02-AW	Surface Mount	Vertical	2.40mm - 12.80mm	6-100	Option
BB02-AY	Surface Mount	Vertical	4.75mm	6-100	Yes
BB02-AZ	Surface Mount	Vertical	1.50mm	6-100	Option



# 1.27mm (.050") Pitch



## Specification

Current Rating	1 Amp	Insulator Material	PA6T or LCP	Header Pin Size	0.40mm (.0158") or SIL option 0.46mm (.018")
Operating Temp.	-40°to +105°C			Plating	Gold, Tin or selective over 30-50µ" Nickel. For more plating options see page 8.
Contact Material	Brass or Phosphor Bronze	Flammability Rating	UL 94V-0		

Full specifications available at Infratron

## Headers - Single In Line

Vertical		Horizontal		U-Shaped
Through Hole	Surface Mount	Through Hole	Surface Mount	Through Hole
BB02-BL BB02-NC	BB02-BM BB02-NA	BB02-NB BB02-NH	BB02-NS	BB02-5B
BB02-NM				

Type	Range	Mount	Orientation	Post Size	Stacking Profile	Ways	Peg
Header	BB02-NC	Through Hole	Vertical	0.40mm	1.00mm - 2.54mm	2-33	No
	BB02-NB	Through Hole	Horizontal		n/a	2-33	No
	BB02-NA	Surface Mount	Vertical		1.50mm - 3.00mm	3-33	No
	BB02-NS	Surface Mount	Horizontal		n/a	2-20	No
	BB02-5B	Through Hole	U-Shaped	0.46mm	n/a	1-50	No
	BB02-BL	Through Hole	Vertical		1.70mm - 3.00mm	2-50	No
	BB02-NH	Through Hole	Horizontal		n/a	2-50	No
	BB02-BM	Surface Mount	Vertical		3.00mm	3-32	No
Elevated Header	BB02-NM	Through Hole	Vertical	0.46mm	2.00mm - 36.00mm	2-50	No

Best Price!

Best Price!

Best Price!

Best Price!

1.27mm Board to Board

## Sockets - Single In Line

Vertical		Horizontal
Through Hole	Surface Mount	Through Hole
BB02-NU BB02-CE BB02-CT	BB02-CP BB02-NP	BB02-CT
BB02-CF	BB02-CY	

Range	Mount	Orientation	Mates with Post Size	Stacking Profile	Ways	Entry	Contact	Peg	Recommended Mating Length
BB02-CT	Through Hole	Vertical/Horizontal	0.40mm	4.30mm	2-40	Top	Leaf	No	4.00mm
BB02-CY	Surface Mount	Vertical		2.20mm	2-40	Dual	Leaf	No	1.50mm
BB02-CP	Surface Mount	Vertical		4.60mm	2-40	Dual	Leaf	No	3.50mm
BB02-NU	Through Hole	Vertical	0.46mm	3.40mm	2-33	Top	Leaf	No	1.80mm
BB02-CF	Through Hole	Vertical		4.60mm	2-50	Top	Tuning Fork	No	2.80mm
BB02-CE	Through Hole	Vertical		8.50mm	2-35	Top	Tuning Fork	No	4.00mm
BB02-NP	Surface Mount	Vertical		6.00mm	2-50	Dual	Leaf	No	4.00mm











Best Price!

Best Price!

## 1.27mm (.050") Pitch



## Headers - Dual In Line

Vertical				Horizontal			
Through Hole		Surface Mount		Through Hole		Surface Mount	
BB02-BC		BB02-BS		BB02-BD		BB02-NE	
BB02-BE		BB02-BY					
BB02-BP		BB02-BK		BB02-BZ			
		BB02-NN					

Type	Range	Mount	Orientation	Stacking Profile	Ways	Boxed	Peg
Socket	BB02-BC	Through Hole	Vertical	1.00mm - 3.00mm	4-66	No	No
	BB02-BE	Through Hole	Vertical	1.60mm	4-100	Yes	No
	BB02-BD	Through Hole	Horizontal	n/a	4-100	No	No
	BB02-BZ	Through Hole	Horizontal	n/a	6-100	Yes	No
	BB02-BS	Surface Mount	Vertical	1.50mm - 3.50mm	4-100	No	Option
	BB02-BY	Surface Mount	Vertical	1.60mm	10-100	Yes	Option
Elevated Socket	BB02-NE	Surface Mount	Horizontal	n/a	6-80	No	Option
	BB02-BP	Through Hole	Vertical	2.00mm - 33.00mm	4-100	No	No
	BB02-BK	Surface Mount	Vertical	2.50mm - 29.00mm	4-100	No	Option
	BB02-NN	Surface Mount	Vertical	5.40mm - 15.00mm	10-80	Yes	Option

Best Price!

Best Price!

Best Price!

## Sockets - Dual In Line

Vertical				Horizontal			
Through Hole		Surface Mount		Through Hole		Surface Mount	
BB02-CN		BB02-CQ BB02-CR BB02-CL		BB02-CW		BB02-CX	
BB02-CU (Polarised)		BB02-CM (Polarised)		BB02-CZ			

Range	Mount	Orientation	Stacking Profile	Ways	Entry	Contact	Peg	Recommended Mating Length
BB02-CN	Through Hole	Vertical	3.40mm - 4.40mm	6-100	Top	Leaf	No	3.00mm
BB02-CU	Through Hole	Vertical	4.40mm	8-100	Dual	Leaf	Option	3.00mm
BB02-CW	Through Hole	Horizontal	n/a	4-100	Side	Leaf	No	3.00mm
BB02-CZ	Through Hole	Horizontal	n/a	6-80	Side	Leaf	No	3.50mm
BB02-CQ	Surface Mount	Vertical	2.15mm	6-80	Dual	Leaf	Option	1.50mm
BB02-CR	Surface Mount	Vertical	3.60mm	6-100	Dual	Leaf	Option	3.00mm
BB02-CL	Surface Mount	Vertical	4.60mm	4-100	Dual	Leaf	Option	4.00mm
BB02-CM	Surface Mount	Vertical	4.60mm	8-100	Dual	Leaf	Option	4.00mm
BB02-CX	Surface Mount	Horizontal	n/a	6-80	Side	Leaf	No	3.50mm

Best Price!

Best Price!

Best Price!



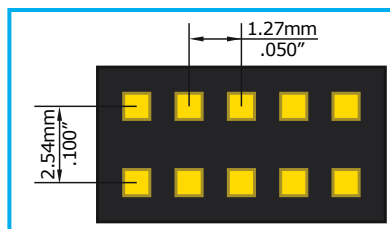
# 1.27mm x 2.54mm (.050" x .100") Pitch



## Specification

Current Rating	1 Amp	Insulator Material	PA6T	Header Pin Size	0.46mm (.018")
Operating Temp.	-40°to +105°C			Plating	Gold, Flash or Tin over 30-50µ" Nickel. For more plating options see page 8.
Contact Material	Brass	Flammability Rating	UL 94V-0		

Full specifications available at Infratron



## Headers - Dual In Line

Vertical		Horizontal	
Through Hole	Surface Mount	Through Hole	
BB02-DA 	BB02-DF 	BB02-DE 	
BB02-DG 			

Type	Range	Mount	Orientation	Stacking Profile	Ways	Peg
Header	BB02-DA	Through Hole	Vertical	1.70mm - 3.00mm	6-80	No
	BB02-DE	Through Hole	Horizontal	n/a	6-80	No
	BB02-DF	Surface Mount	Vertical	3.81mm	6-80	No
Elevated Header	BB02-DG	Through Hole	Vertical	5.10mm - 40.00mm	6-80	No

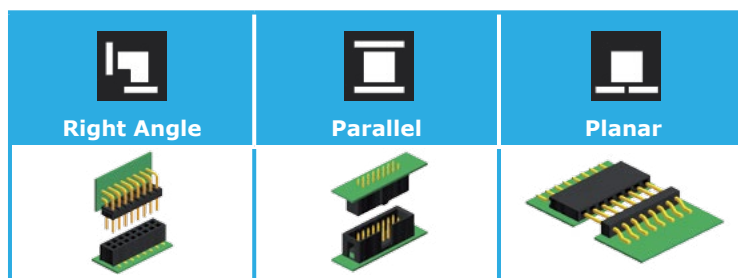
## Sockets - Dual In Line

Vertical	
Through Hole	Surface Mount
BB02-EA 	BB02-EB 
BB02-EC 	

Range	Mount	Orientation	Stacking Profile	Ways	Entry	Contact	Peg	Recommended Mating Length
BB02-EA	Through Hole	Vertical	4.60mm	6-100	Top	Tuning Fork	No	2.50mm
BB02-EC	Through Hole	Vertical	8.50mm	6-70	Top	Tuning Fork	No	4.50mm
BB02-EB	Surface Mount	Vertical	6.00mm	6-80	Dual	Leaf	Option	4.00mm

1.27 x  
2.4mm  
Board to Board

# PCB Mating Options Key



PCB Mating Options



2.00mm (.079") Pitch

## Specification

Current Rating	2 Amp	Insulator Material	PA6T, PA9T, LCP	Header Pin Size	0.50mm (.0197")
Operating Temp.	-40°to +105°C	Flammability Rating	UL 94V-0	Plating	Gold, Tin or selective over 30-50µ" Nickel. For more plating options see page 8.
Contact Material	Brass or Phosphor Bronze				

Full specifications available at Infratron

## Headers - Single In Line

Vertical		Horizontal		U Shaped
Through Hole	Surface Mount	Through Hole	Surface Mount	Through Hole
BB02-FB	BB02-FL	BB02-FB	BB02-FK	BB02-1F
BB02-RM	BB02-RT			

Type	Range	Mount	Orientation	Stacking Profile	Ways	Peg
Header	BB02-FB	Through Hole	Vertical/Horizontal	1.50mm - 2.00mm	2-40	No
	BB02-FL	Surface Mount	Vertical	3.80mm	2-40	No
	BB02-FK	Surface Mount	Horizontal	n/a	2-40	No
	BB02-1F	Through Hole	U Shaped	n/a	2-40	No
Elevated Header	BB02-RM	Through Hole	Vertical	3.00mm - 38.20mm	2-40	No
	BB02-RT	Surface Mount	Vertical	4.30mm - 36.00mm	2-40	No

Best Price!

## Sockets - Dual In Line

Vertical		Horizontal	
Through Hole	Surface Mount	Through Hole	Surface Mount
BB02-GD BB02-RK	BB02-GS BB02-RS	BB02-GD BB02-RK	BB02-RW

Range	Mount	Orientation	Stacking Profile	Ways	Entry	Contact	Peg	Recommended Mating Length
BB02-GD	Through Hole	Vertical/Horizontal	4.30mm	2-40	Top	Leaf Style	No	4.00mm
BB02-RK	Through Hole	Vertical/Horizontal	6.35mm	2-40	Top	Tuning Fork	No	4.00mm
BB02-RS	Surface Mount	Vertical	2.35mm	2-40	Dual	Leaf Style	Option	1.60mm
BB02-GS	Surface Mount	Vertical	4.50mm	2-40	Dual	Leaf Style	No	4.00mm
BB02-RW	Surface Mount	Horizontal	n/a	2-40	n/a	Tuning Fork	No	3.20mm

Best Price!

Best Price!

# 2.00mm (.079") Pitch



## Headers - Dual In Line

Vertical				Horizontal				U Shaped	
Through Hole		Surface Mount		Through Hole		Surface Mount		Through Hole	
BB02-FA BB02-4F* BB02-FD BB02-FG		BB02-FE		BB02-FD		BB02-FG		BB02-RH	BB02-2F
BB02-FP		BB02-FY		BB02-FG		BB02-RH		BB02-2F	
BB02-RN		BB02-FU		BB02-FQ					
BB02-FS		BB02-FW		BB02-FZ					

Type	Range	Mount	Orientation	Stacking Profile	Ways	Boxed	Peg
Header	BB02-FA	Through Hole	Vertical	1.00mm	4-80	No	No
	BB02-4F*	Through Hole	Vertical	1.50mm - 2.00mm	4-60	No	No
	BB02-FD	Through Hole	Vertical/Horizontal	1.50mm - 2.00mm	4-80	No	No
	BB02-FP	Through Hole	Vertical	1.70mm	6-50	Yes	No
	BB02-FG	Through Hole	Vertical/Horizontal	4.00mm	4-80	No	No
	BB02-FQ	Through Hole	Horizontal	n/a	6-50	Yes	No
	BB02-2F	Through Hole	U Shaped	n/a	2-80	No	No
	BB02-FE	Surface Mount	Vertical	1.80mm - 3.45mm	4-80	No	Option
	BB02-FY	Surface Mount	Vertical	1.70mm	8-50	Yes	Option
	BB02-RH	Surface Mount	Horizontal	n/a	4-80	No	Option
Elevated Header	BB02-RN	Through Hole	Vertical	4.00mm - 38.20mm	4-80	No	No
	BB02-FS	Through Hole	Vertical	3.70mm - 27.70mm	8-50	Yes	No
	BB02-FU	Surface Mount	Vertical	4.80mm - 36.00mm	6-80	No	Option
	BB02-FW	Surface Mount	Vertical	4.30mm - 21.80mm	8-50	Yes	Option
	BB02-FZ	Through Hole	Horizontal	n/a	4-80	No	No

\* Compatible for surface mount process. Insulator standoffs allow solder paste to sit beneath.

Best Price!

Best Price!

2.00mm Board to Board

## Headers - Triple In Line

Vertical	Horizontal
Through Hole	Through Hole
BB02-RR	BB02-RR

Range	Mount	Orientation	Stacking Profile	Ways	Peg
BB02-RR	Through Hole	Vertical/Horizontal	2.00mm	9-120	No

## Headers - Quad In Line

Vertical	Horizontal
Through Hole	Through Hole
BB02-FM	BB02-FM

Range	Mount	Orientation	Stacking Profile	Ways	Peg
BB02-FM	Through Hole	Vertical/Horizontal	1.50mm	24-120	No

## 2.00mm (.079") Pitch



## Sockets - Dual In Line

Vertical				Horizontal			
Through Hole		Surface Mount		Through Hole		Surface Mount	
BB02-GH BB02-RL BB02-RP (Polarised)		BB02-GQ BB02-GZ BB02-RG		BB02-RL BB02-GL		BB02-GY	
BB02-GP		BB02-RJ		BB02-GK		BB02-RX	

Type	Range	Mount	Orientation	Stacking Profile	Ways	Entry	Contact	Peg	Recommended Mating Length	
Socket	BB02-RP	Through Hole	Vertical	4.00mm	6-80	Top	Leaf	No	4.00mm	Best Price!
	BB02-GH	Through Hole	Vertical	4.00mm - 4.30mm	4-80	Top	Leaf	No	3.00 - 3.80mm	
	BB02-GM	Through Hole	Vertical	4.30mm	6-80	Dual	Leaf	No	4.00mm	
	BB02-RL	Through Hole	Vertical/Horizontal	6.35mm	4-80	Top	Tuning Fork	No	4.00mm	
	BB02-GK	Through Hole	Horizontal	n/a	4-50	Side	Leaf	No	4.00mm	
	BB02-GL	Through Hole	Horizontal	n/a	6-80	Side	Leaf	No	4.00mm	Best Price!
	BB02-RG	Surface Mount	Vertical	2.20mm	4-80	Dual	Leaf	Option	1.50mm	
	BB02-GZ	Surface Mount	Vertical	2.80mm	6-70	Dual	Leaf	Option	2.00mm	
	BB02-GQ	Surface Mount	Vertical	4.30mm - 4.60mm	6-80	Dual	Leaf	Option	3.00mm	Best Price!
	BB02-RJ	Surface Mount	Vertical	6.35mm	4-80	Top	Tuning Fork	Option	4.00mm	
	BB02-GY	Surface Mount	Horizontal	n/a	4-50	Side	Leaf	No	4.00mm	
	BB02-RX	Surface Mount	Horizontal	n/a	4-80	Side	Tuning Fork	No	3.20mm	Best Price!
Elevated Socket	BB02-GP	Through Hole	Vertical	8.25mm - 18.55mm	6-80	Top	Tuning Fork	No	4.00mm	

## Sockets - Triple In Line

Vertical		Horizontal	
Through Hole		Through Hole	
BB02-RQ		BB02-RQ	

Range	Mount	Orientation	Stacking Profile	Ways	Entry	Contact	Peg	Recommended Mating Length
BB02-RQ	Through Hole	Vertical/Horizontal	6.35mm	9-120	Top	Tuning Fork	No	4.00mm

## Sockets - Quad In Line

Vertical	
Socket	Elevated Socket
BB02-GA	BB02-GW

Type	Range	Mount	Orientation	Stacking Profile	Ways	Entry	Contact	Peg	Recommended Mating Length
Socket	BB02-GA	Through Hole	Vertical	6.35mm	8-120	Top	Tuning Fork	No	3.50mm - 4.00mm
Elevated Socket	BB02-GW	Through Hole	Vertical	7.85mm - 14.39mm	16-120	Top	Tuning Fork	No	3.50mm - 4.00mm



# 2.54mm (.100") Pitch



## Headers - Single In Line

Vertical				Horizontal				U-Shaped	
Through Hole		Surface Mount		Through Hole		Surface Mount		Through Hole	
BB02-HC BB02-TP* BB02-HA BB02-TC*		BB02-HY		BB02-HA		BB02-HG BB02-HH		BB02-1H	
BB02-HD		BB02-TJ		BB02-TK					

Type	Range	Mount	Orientation	Stacking Profile	Ways	Peg
Header	BB02-HC	Through Hole	Vertical	1.50mm	2-40	No
	BB02-TP*	Through Hole	Vertical	1.50mm	2-40	No
	BB02-HA	Through Hole	Vertical/Horizontal	2.54mm	2-40	No
	BB02-TC*	Through Hole	Vertical	2.54mm	2-40	No
	BB02-1H	Through Hole	U Shaped	2.54mm	2-40	No
	BB02-HY	Surface Mount	Vertical	2.91mm - 4.16mm	2-40	Yes
	BB02-HG	Surface Mount	Horizontal	n/a	2-30	Option
	BB02-HH	Surface Mount	Horizontal	n/a	2-40	No
Elevated Header	BB02-HD	Through Hole	Vertical	5.08mm - 41.00mm	2-40	No
	BB02-TJ	Surface Mount	Vertical	6.10mm - 40.00mm	2-40	No
	BB02-TK	Through Hole	Horizontal	n/a	2-40	No

\* Compatible for surface mount process. Insulator standoffs allow solder paste to sit beneath.

Best Price!

Best Price!

## Sockets - Single In Line

Vertical				Horizontal			
Through Hole		Surface Mount		Through Hole		Surface Mount	
BB02-JB BB02-JE BB02-JF BB02-JT		BB02-JG BB02-KR		BB02-JB BB02-JE		BB02-JR	
BB02-JL				BB02-JJ		BB02-JS	
BB02-JC						BB02-JU	

Type	Range	Mount	Orientation	Stacking Profile	Ways	Entry	Contact	Peg	Recommended Mating Length
Socket	BB02-JT	Through Hole	Vertical	3.50mm	2-40	Top	Leaf Style	No	2.50mm
	BB02-JL	Through Hole	Vertical	5.00mm	2-40	Dual	Leaf Style	No	4.50mm
	BB02-JE	Through Hole	Vertical/Horizontal	5.00mm	2-40	Top	Leaf Style	No	4.50mm
	BB02-JF	Through Hole	Vertical	7.10mm	2-40	Top	Leaf Style	No	4.50mm
	BB02-JB	Through Hole	Vertical/Horizontal	8.50mm	2-40	Top	Tuning fork	No	6.00mm
	BB02-JJ	Through Hole	Horizontal	n/a	2-40	Side	Leaf Style	No	4.50mm
	BB02-JG	Surface Mount	Vertical	7.50mm	2-40	Dual	Leaf Style	No	4.00mm
	BB02-KR	Surface Mount	Vertical	5.00mm	2-40	Dual	Leaf Style	Yes	4.50mm
	BB02-JR	Surface Mount	Horizontal	n/a	2-40	Side	Leaf Style	No	4.50mm
	BB02-JS	Surface Mount	Horizontal	n/a	2-30	Side	Tuning fork	No	6.00mm
	BB02-JU	Surface Mount	Horizontal	n/a	2-20	Side	Leaf Style	No	4.50mm
Elevated Socket	BB02-JC	Through Hole	Vertical	11.05mm - 18.67mm	2-40	Top	Tuning fork	No	6.00mm

Best Price!

Best Price!

Best Price!

2.54mm Board to Board

# 2.54mm (.100") Pitch



## Specification

Current Rating	3 Amp	Insulator Material	PA6T, or LCP	Header Pin Size	0.64mm (.025")
Operating Temp.	-40°to +105°C			Plating	Gold or Tin over 30-50µ" Nickel. For more plating options see page 8.
Contact Material	Brass or Phosphor Bronze	Flammability Rating	UL 94V-0		

Full specifications available at Infratron

## Headers - Dual In Line

Vertical				Horizontal				U Shaped	
Through Hole		Surface Mount		Through Hole		Surface Mount		Through Hole	
BB02-HE BB02-HJ BB02-TF		BB02-HP		BB02-HE		BB02-TD BB02-TH		BB02-2H	
BB02-HQ		BB02-HR							
BB02-HF		BB02-HU		BB02-HQ					
BB02-TG									




Type	Range	Mount	Orientation	Stacking Profile	Ways	Boxed	Peg
Header	BB02-HJ	Through Hole	Vertical	1.50mm	4-80	No	No
	BB02-HE	Through Hole	Vertical/Horizontal	2.54mm	4-80	No	No
	BB02-TF	Through Hole	Vertical	2.54mm	4-60	No	No
	BB02-HQ	Through Hole	Vertical/Horizontal	2.70mm	6-64	Yes	No
	BB02-2H	Through Hole	U Shaped	5.00mm	2-80	No	No
	BB02-HP	Surface Mount	Vertical	2.60mm - 3.81mm	4-80	No	Option
	BB02-HR	Surface Mount	Vertical	3.80mm	6-64	Yes	No
	BB02-TD	Surface Mount	Horizontal	n/a	6-60	No	Option
	BB02-TH	Surface Mount	Horizontal	n/a	4-80	No	No
Elevated Header	BB02-HF	Through Hole	Vertical	5.20mm - 28.70mm	6-64	Yes	No
	BB02-TG	Through Hole	Vertical	5.10mm - 41.00mm	4-80	No	No
	BB02-HU	Surface Mount	Vertical	6.10mm - 41.00mm	6-80	No	Option

Best Price!

Best Price!

Best Price!

## Headers - Triple In Line



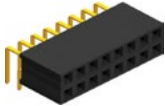




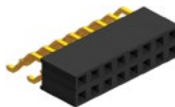

Vertical				Horizontal	
Standard - TH		Elevated - TH		Through Hole	
BB02-HL		BB02-TE		BB02-HL	

Type	Range	Mount	Orientation	Stacking Profile	Ways	Peg
Header	BB02-HL	Through Hole	Vertical/Horizontal	2.54mm	9-120	No
Elevated Header	BB02-TE	Through Hole	Vertical	5.10mm - 41.00mm	9-120	No

# 2.54mm (.100") Pitch



## Sockets - Dual In Line

Vertical			Horizontal		
Through Hole	Surface Mount		Through Hole	Surface Mount	
BB02-KA BB02-KF BB02-KG BB02-KH BB02-KK BB02-KW BB02-KZ 	BB02-KS BB02-KU BB02-KY 		BB02-KA BB02-KW (Polarised) 	BB02-KQ 	
BB02-KM BB02-LD 					
BB02-KT 			BB02-JM 	BB02-LE 	
BB02-KD 					

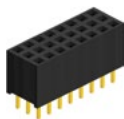

Type	Range	Mount	Orientation	Stacking Profile	Ways	Entry	Contact	Peg	Recommended Mating Length
Socket	BB02-KZ	Through Hole	Vertical	3.50mm	4-80	Top	Leaf Style	No	2.00mm
	BB02-KF	Through Hole	Vertical	5.00mm	4-80	Top	Leaf Style	No	4.50mm
	BB02-KM	Through Hole	Vertical	5.00mm	4-80	Dual	Leaf Style	No	4.50mm
	BB02-KG	Through Hole	Vertical	6.80mm	4-60	Top	Leaf Style	No	6.00mm
	BB02-KH	Through Hole	Vertical	7.10mm	4-80	Top	Leaf Style	No	6.00mm
	BB02-LD	Through Hole	Vertical	7.60mm	4-80	Dual	Leaf Style	No	6.00mm
	BB02-KK	Through Hole	Vertical	8.50mm	4-80	Top	Leaf Style	No	6.00mm
	BB02-KA	Through Hole	Vertical/Horizontal	8.50mm	4-80	Top	Tuning fork	No	6.00mm
	BB02-KW	Through Hole	Vertical/Horizontal	8.50mm	6-72	Top	Tuning fork	No	6.00mm
	BB02-KT	Through Hole	Vertical	11.00mm	4-80	Top	Tuning fork	No	4.50mm
	BB02-JM	Through Hole	Horizontal	n/a	4-80	Side	Leaf Style	No	4.50mm
	BB02-KY	Surface Mount	Vertical	3.65mm	4-80	Dual	Leaf Style	Option	2.00mm
	BB02-KS	Surface Mount	Vertical	5.00mm	4-80	Dual	Leaf Style	Option	4.50mm
	BB02-KU	Surface Mount	Vertical	7.50mm	6-80	Dual	Leaf Style	Option	4.50mm
	BB02-LE	Surface Mount	Horizontal	n/a	4-80	Side	Tuning fork	No	6.00mm
	BB02-KQ	Surface Mount	Horizontal	n/a	4-80	Side	Leaf Style	No	4.50mm
Elevated Socket	BB02-KD	Through Hole	Vertical	8.50mm - 16.13mm	4-80	Top	Tuning Fork	No	6.00mm

Best Price!

Best Price!

Best Price!

## Sockets - Triple In Line

Vertical - Through Hole			
Standard		Elevated	
BB02-LA		BB02-LB	

Type	Range	Mount	Orientation	Stacking Profile	Ways	Entry	Contact	Peg	Recommended Mating Length
Socket	BB02-LA	Through Hole	Vertical	8.50mm	9-120	Top	Tuning Fork	No	6.00mm
Elevated Socket	BB02-LB	Through Hole	Vertical	11.05mm - 18.67mm	9-120	Top	Tuning Fork	No	6.00mm

2.54mm Board to Board

## 3.96mm (.156") Pitch







## Specification

Current Rating	7.9 Amp	Insulator Material	LCP	Header Pin Size	1.14mm (.0449")
Operating Temp.	-40° to +105°C	Flammability Rating	UL 94V-0	Plating	Matt Tin over 30-50µ" Nickel. For more plating options see page 8.
Contact Material	Headers - Brass Sockets - Phosphor Bronze				

Full specifications available at Infratron



## Headers - Single In Line

Vertical		Horizontal	
Through Hole	Surface Mount	Through Hole	
BB02-UG 	BB02-UK 	BB02-UH 	
BB02-UJ 			

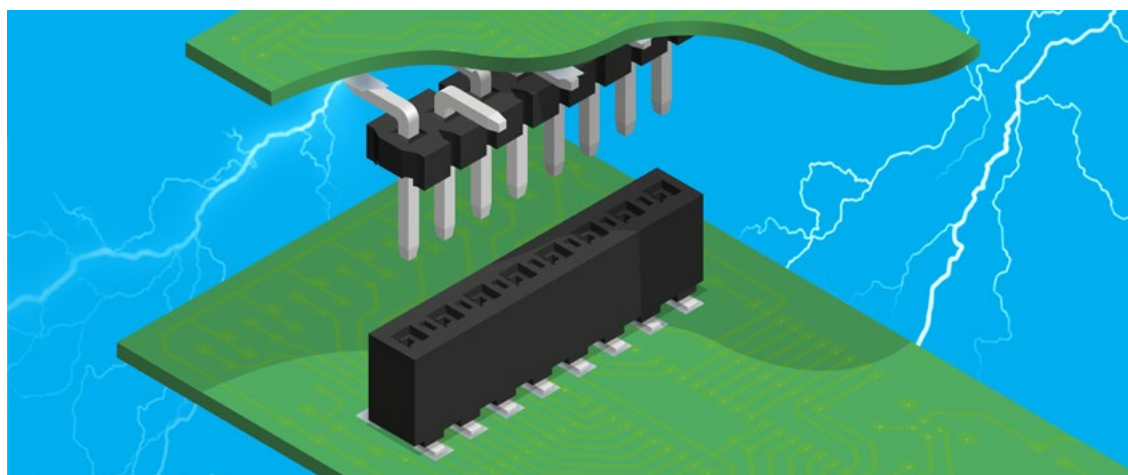
  

Type	Range	Mount	Orientation	Stacking Profile	Ways	Peg
Header	BB02-UG	Through Hole	Vertical	3.18mm	2-24	No
	BB02-UH	Through Hole	Horizontal	n/a	2-24	No
	BB02-UK	Surface Mount	Vertical	5.73mm	2-24	No
Elevated Header	BB02-UJ	Through Hole	Vertical	6.36mm - 19.80mm	2-24	No

## Sockets - Single In Line

Vertical	
Through Hole	Surface Mount
BB02-US 	BB02-UT 

Range	Mount	Orientation	Stacking Profile	Ways	Entry	Contact	Peg	Recommended Mating Length
BB02-US	Through Hole	Vertical	8.89mm	2-24	Top	3 Points	No	5.00mm
BB02-UT	Surface Mount	Vertical	9.35mm	2-24	Dual	3 Points	No	5.00mm





# 5.08mm (.200") Pitch







## Specification

Current Rating	7.9 Amp	Insulator Material	LCP	Header Pin Size	1.14mm (.0449")
Operating Temp.	-40° to +105°C	Flammability Rating	UL 94V-0	Plating	Matt Tin over 30-50µ" Nickel. For more plating options see page 8.
Contact Material	Headers - Brass Sockets - Phosphor Bronze				



Full specifications available at Infratron

## Headers - Single In Line

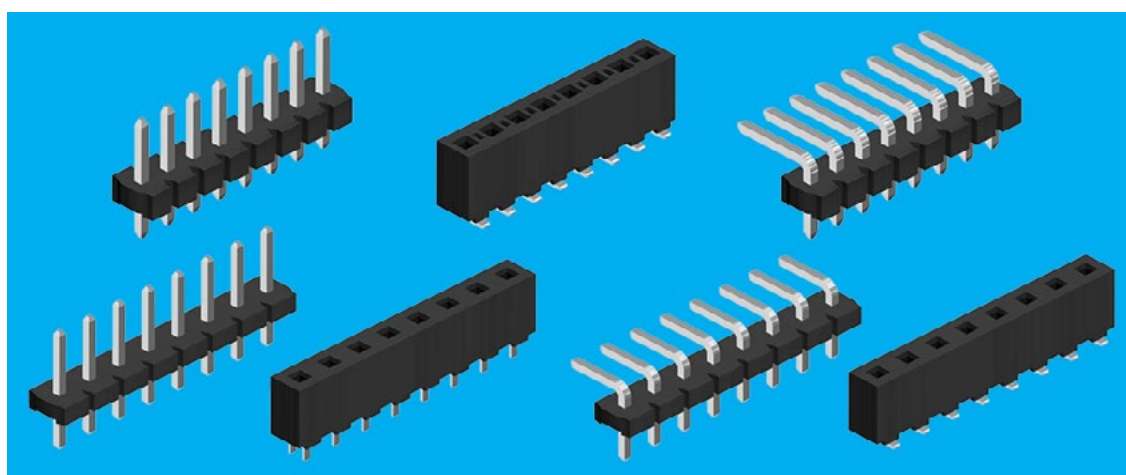
Vertical		Horizontal	
Through Hole	Surface Mount	Through Hole	
BB02-VA 	BB02-VD 	BB02-VB 	
BB02-VC 			

Type	Range	Mount	Orientation	Stacking Profile	Ways	Peg
Header	BB02-VA	Through Hole	Vertical	2.54mm	2-20	No
	BB02-VB	Through Hole	Horizontal	n/a	2-20	No
	BB02-VD	Surface Mount	Vertical	4.00mm	2-20	No
Elevated Header	BB02-VC	Through Hole	Vertical	5.00mm - 29.00mm	2-20	No

## Sockets - Single In Line

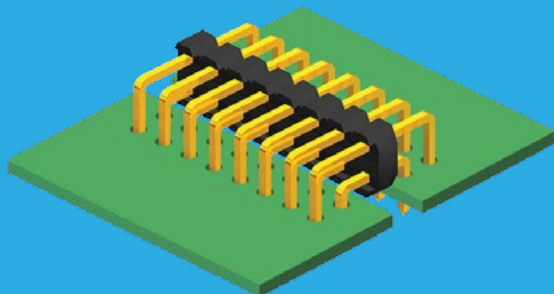
Vertical	
Through Hole	Surface Mount
BB02-VM 	BB02-VN 

Range	Mount	Orientation	Stacking Profile	Ways	Entry	Contact	Peg	Recommended Mating Length
BB02-VM	Through Hole	Vertical	8.89mm	2-24	Top	3 Points	No	5.00mm
BB02-VN	Surface Mount	Vertical	9.35mm	2-24	Dual	3 Points	No	5.00mm

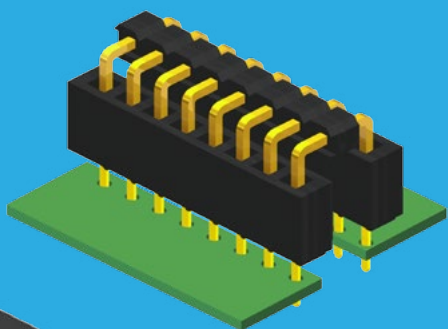


# Planar Mating for LED Lighting Applications

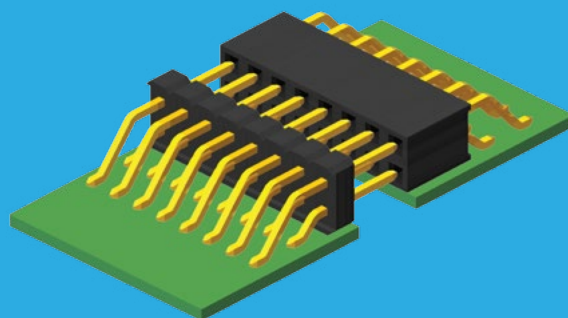
## U-Shaped Direct to PCB



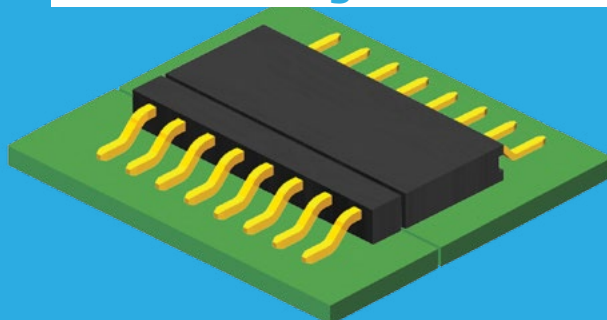
## U-Shaped with Vertical Sockets



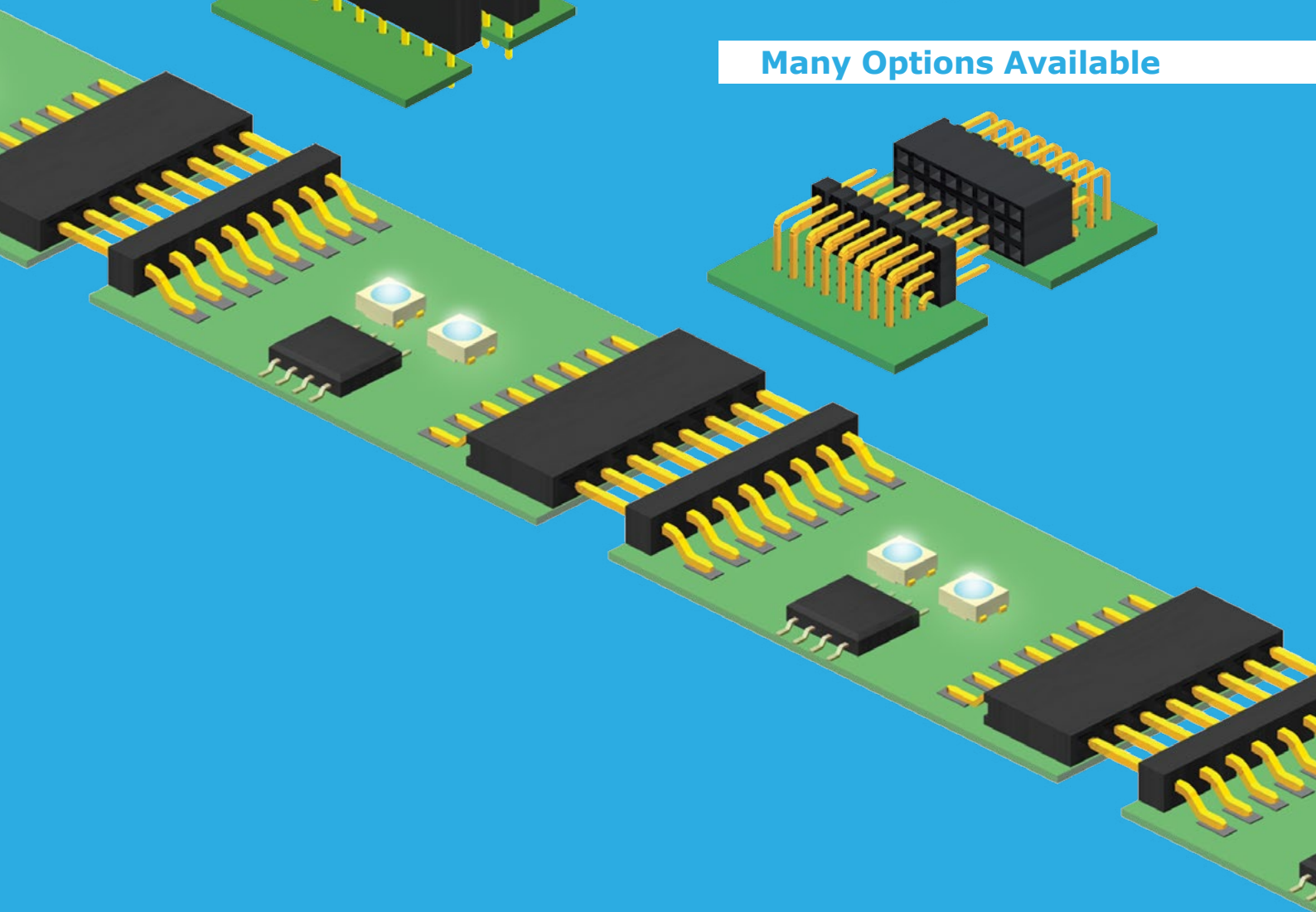
## Pluggable Solutions



## Perfect Height



## Many Options Available



# Online Board to Board Narrow Your Search

Filter Options (Showing 176 products)

[Reset Search](#)

Pitch Range	Mount Type	Orientation	Number of Rows	Gender	Elevated?
0.8 x 1.2mm (.031"x.047")	Surface mount	Right angle	Single	Socket (Female)	No
1.00mm (.039")	Thru hole	Straight	Dual	Header (Male)	Yes
1.27mm (.050")	Thru hole SMT compatible	U shaped	Triple		
1.27x2.54mm (.050"x.100")			Quad		
2.00mm (.079")	Accessory Type			Locating Peg?	Polarised?
2.54mm (.100")	Shunt			With	No
3.96mm (.156")				Without	Yes
5.08mm (.200")					



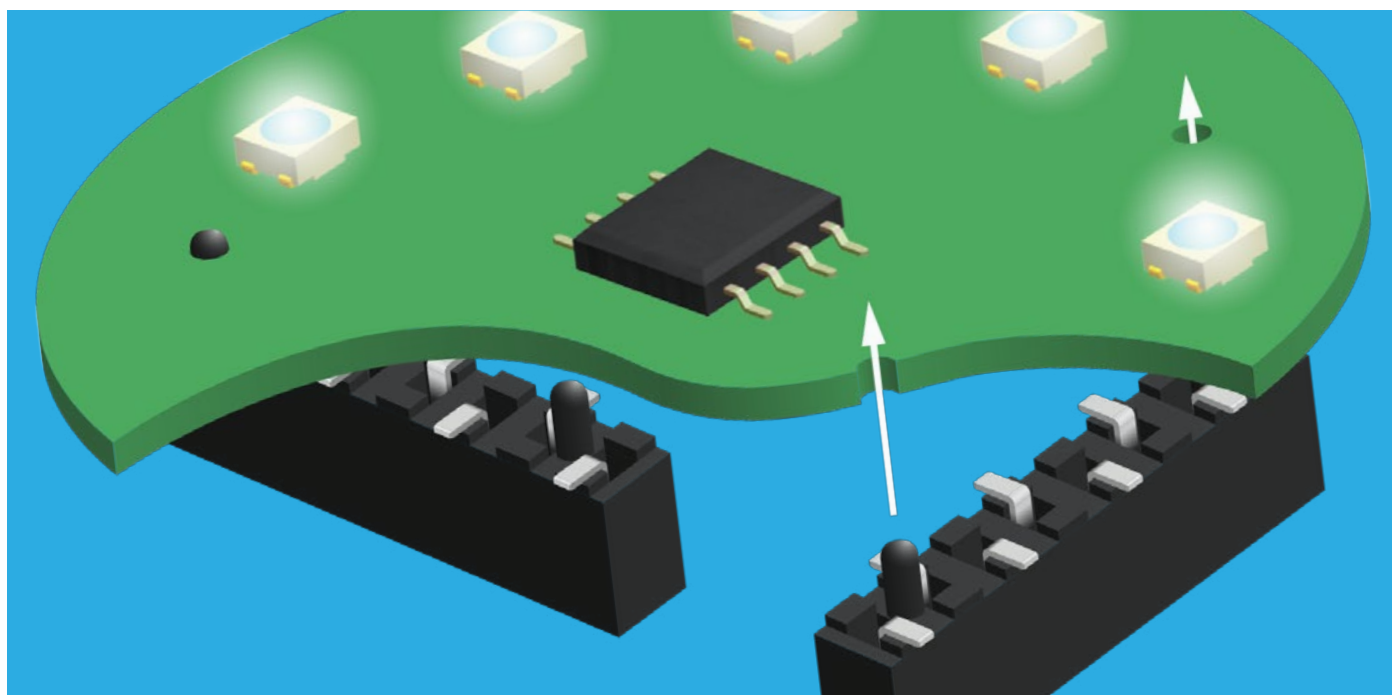
Infratron online narrow your search facility is fast and easy to use. Filtering by multiple attributes allows you to find your precise requirement in a few clicks. Once you've selected the parts you seek, find drawings, product specifications, 3D models and easily specify mating halves.

Filter Options (Showing 9 products)

[Reset Search](#)

Pitch Range	Mount Type	Orientation	Number of Rows	Gender	Elevated?
0.8 x 1.2mm (.031"x.047")	Surface mount	Right angle	Single	Socket (Female)	No
1.00mm (.039")	Thru hole	Straight	Dual	Header (Male)	Yes
1.27mm (.050")	Thru hole SMT compatible	U shaped	Triple		
1.27x2.54mm (.050"x.100")			Quad		
2.00mm (.079")				Locating Peg?	Polarised?
2.54mm (.100")				With	No
3.96mm (.156")				Without	Yes
5.08mm (.200")					

## Pegs for Alignment Critical Applications

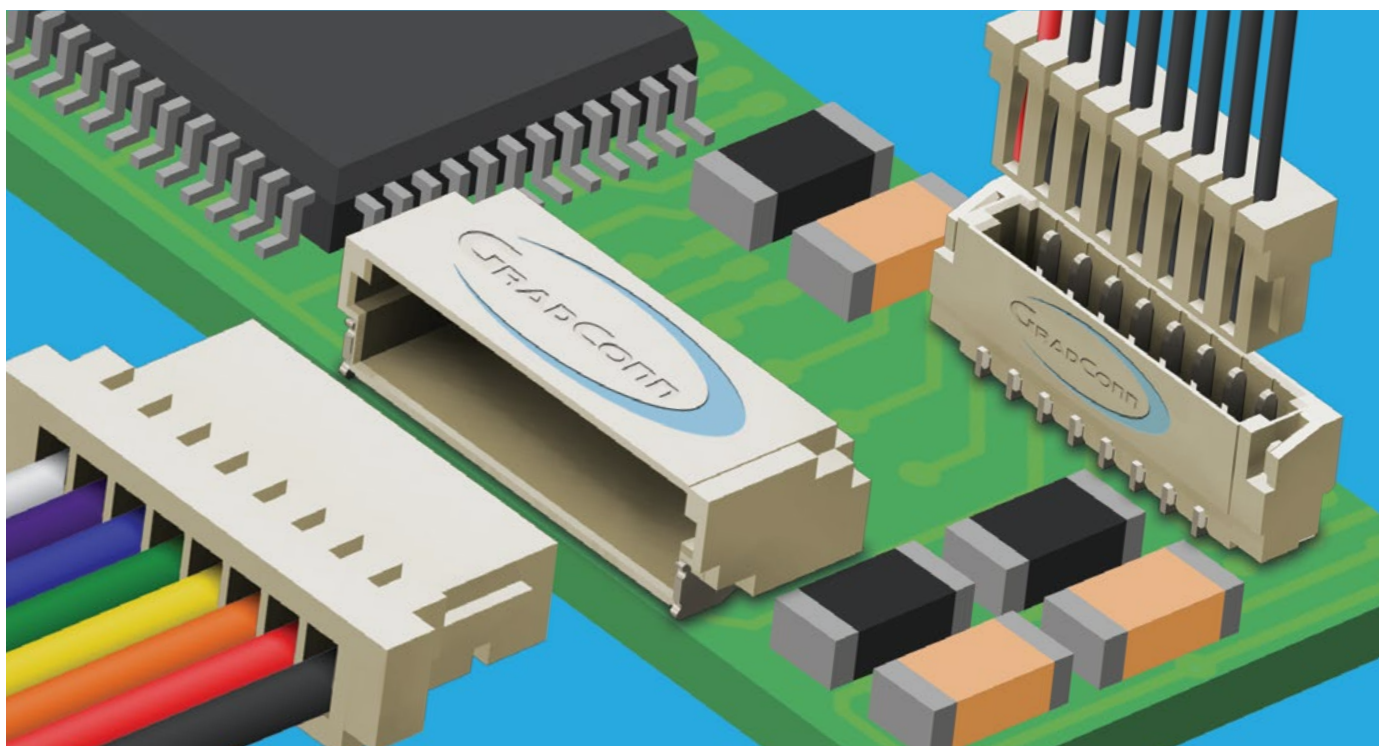


Infratron offers a range of SMT board to board connectors with locating pegs. Lead-free alloys are often found to spread less than traditional tin lead solders, pad edges can be left exposed and lower wetting means reduced realignment is possible during reflow. Initial placement accuracy is critical. Pegs allow connectors to be placed perfectly onto the PCB, allowing matching alignment between mating halves.

Connector mating can be critical in many applications, for example in circular LED PCB designs where PCB's are encased in a molded case, misalignment of connectors has implications for final product builds.



# Wire to Board Connectors & Cable Assemblies



Suitable for any application where space is at a premium, Infratron's fine-pitch wire-to-board range offers tiny PCB footprints and low profile mounted heights.

Vertical and horizontal PCB headers in single in line orientation are shrouded and polarized to avoid mis-mating. 1.20mm pitch (.047") products allow mating termination in tight spaces allowing ease of use for operators.

A combination of vertical PCB header and cable assembly has a tiny footprint with a mating height of only 3.95mm (.155")\*. Where height above the PCB is critical, right angle headers offer a 1.45mm (.057") mated height\*\*.

Rated currents range from are 0.5A (0.8mm pitch) to 1.5A (1.2mm pitch 28AWG).

Cable assemblies are available to suit whichever design you choose, see examples on page 28.

Cable Sockets and PCB headers are available in a selection of colours for polarisation purposes.

\* 0.80mm pitch example \*\* 1.20mm pitch example

## Specifications


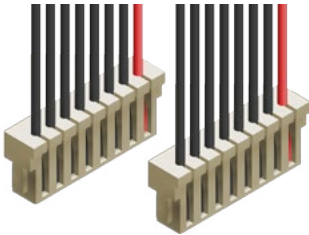

Pitch	0.80mm	1.00mm	1.20mm
Number of Contacts	2 to 22*	2 to 20	2 to 6
Current Rating	0.7A AC/DC (AWG 32)	1.0A AC/DC (AWG 28)	1.5A AC/DC (AWG 28) 1.0A AC/DC (AWG 30)
Voltage Rating	30V AC/DC	50V AC/DC	
Insulator Resistance	100 MΩ minimum		
Dielectric Withstanding	200V AC/minute	500V AC/minute	
Operating Temperature	-25°C to +85°C		
Contact Resistance	20 mΩ maximum		
Insulator Material	Nylon 6T, UL 94V-0		
Header Plating	Matte tin over Nickel	Bright tin over Nickel	Gold Flash over Nickel

Full specifications available at Infratron

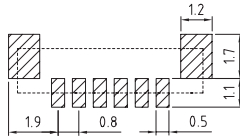
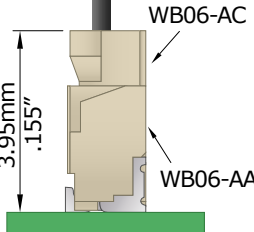
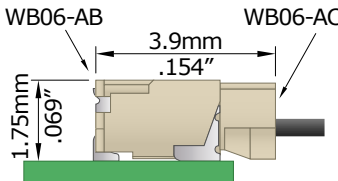
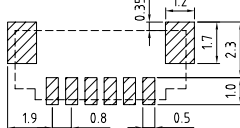
\* Header only

# 0.80mm (.031") Pitch

## PCB Headers & Cable Assemblies


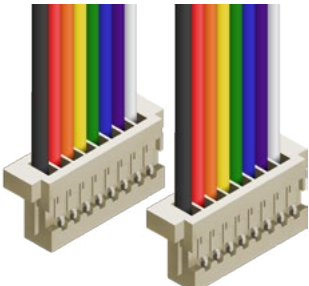

Vertical	WB06-AA Unmated profile of 2.70mm (.106")		WH0046 (example part number)		Options	
	WB06-AB Unmated profile of 1.70mm (.067")				Wire Gauge	AWG32
Horizontal					Cable Colours	Black, White Grey, Brown Red, Orange Yellow, Green Blue, Purple
					Min. Cable Length	30mm

## Mating Profiles & PCB Layouts

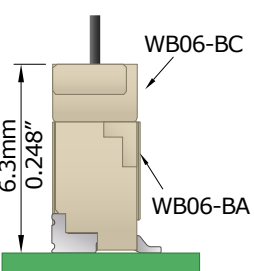
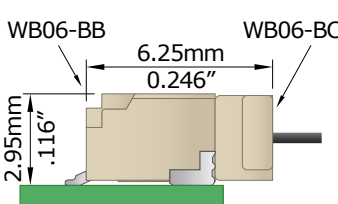
Vertical		Horizontal		Vertical	WB06-AA Recommended PCB Layout (mm)	
						
Horizontal				Horizontal	WB06-AB Recommended PCB Layout (mm)	

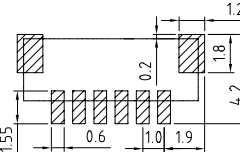
# 1.00mm (.039") Pitch

## PCB Headers & Cable Assemblies

Vertical	WB06-BA Unmated profile of 4.25mm (.167")		WH0058 (example part number)		Options	
	WB06-BB Unmated profile of 2.90mm (.114")				Wire Gauge	AWG28 AWG30 AWG32
Horizontal					Cable Colours	Black, White Grey, Brown Red, Orange Yellow, Green Blue, Purple
					Min. Cable Length	40mm

## Mating Profiles & PCB Layouts

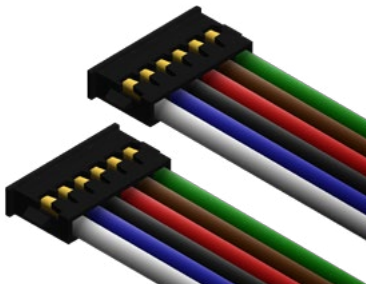
Vertical		Horizontal	
			

Vertical	WB06-BA Recommended PCB Layout (mm)	
	Horizontal	WB06-BB Recommended PCB Layout (mm)

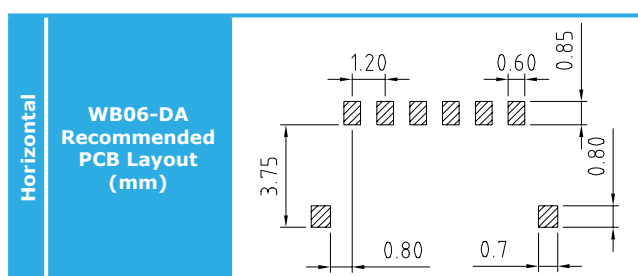
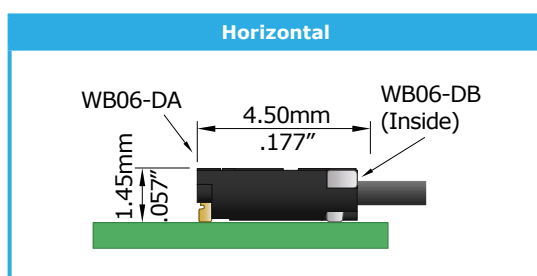


# 1.20mm (.047") Pitch

## PCB Headers & Cable Assemblies

Horizontal	WB06-DA (Unmated profile of 1.45mm)		Assembly		Options	
					Wire Gauge	AWG28 AWG30
					Cable Colours	Black, White Grey, Brown Red, Orange Yellow, Green Blue, Purple
					Min. Cable Length	40mm

## Mating Profiles & PCB Layouts



## Online Wire-to-Board Cable Builder

Infratron's wire to board assembly builder allows you to build a custom cable assembly, it's a simple and quick way to request the perfect cable to suit your design.

The builder allows you to specify simple point to point cables and more complex types such as breakout cables. In addition to using Infratron connectors, you may also specify competitor part numbers allowing thousands of variations. The builder allows you to specify connector pin layouts and colour cable identification for each contact.

Choose from options including: Connector type, number of connector contacts, cable length and diameter. Specify extra options - heat shrink, cable marking and jacketing.

10-way Infratron to 10-way Infratron



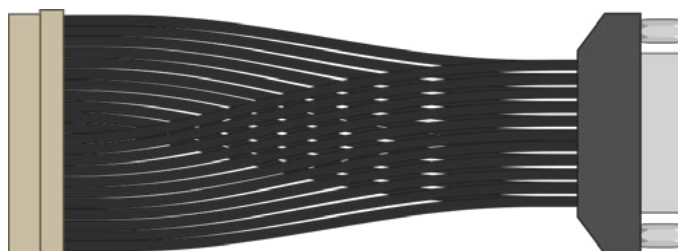
10-way Infratron to 2x5-way Infratron



15-way Infratron to  
15-way Competitor Connector

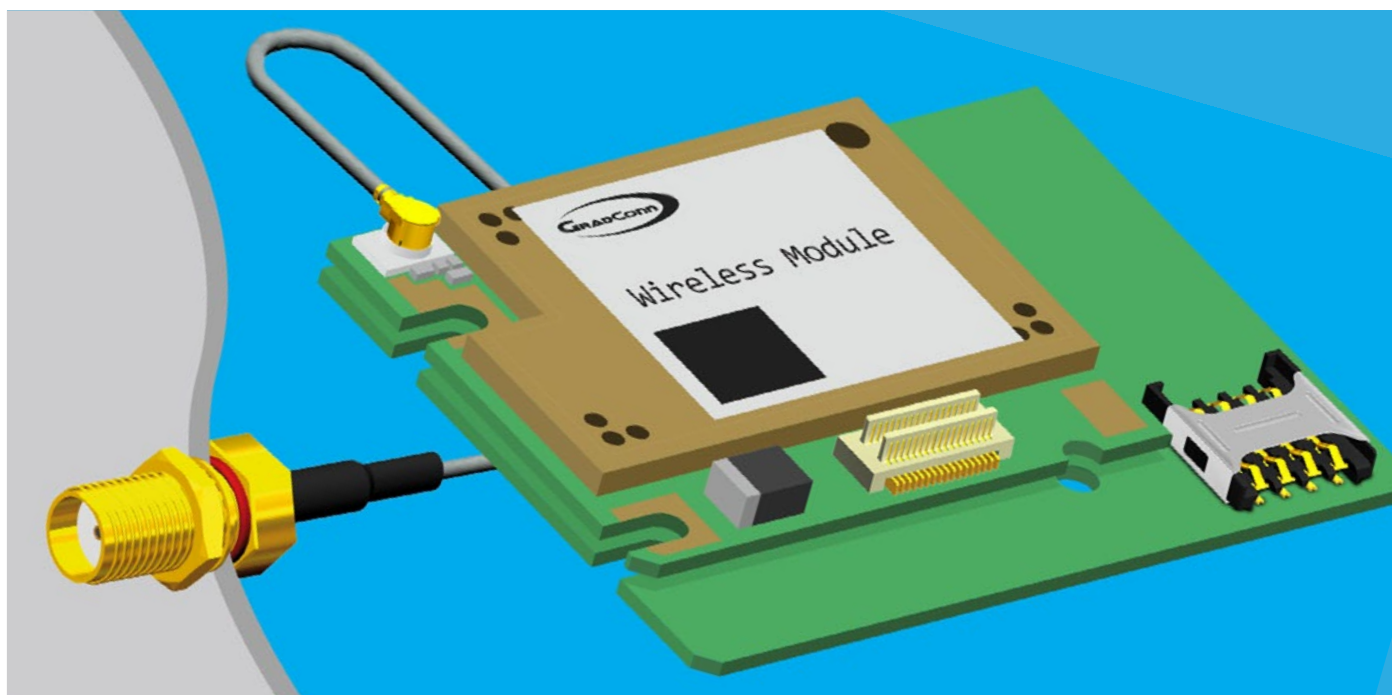


22-way Infratron to Micro D-Sub



# Coaxial Cable Assemblies

Infratron offer a wide variety of coaxial cable assemblies, with particular strength in micro coaxial cables for wireless markets, such as GSM, GPS, Wireless LAN (WLAN), Wi-Fi, Zigbee Z-Wave, EnOcean and Bluetooth.

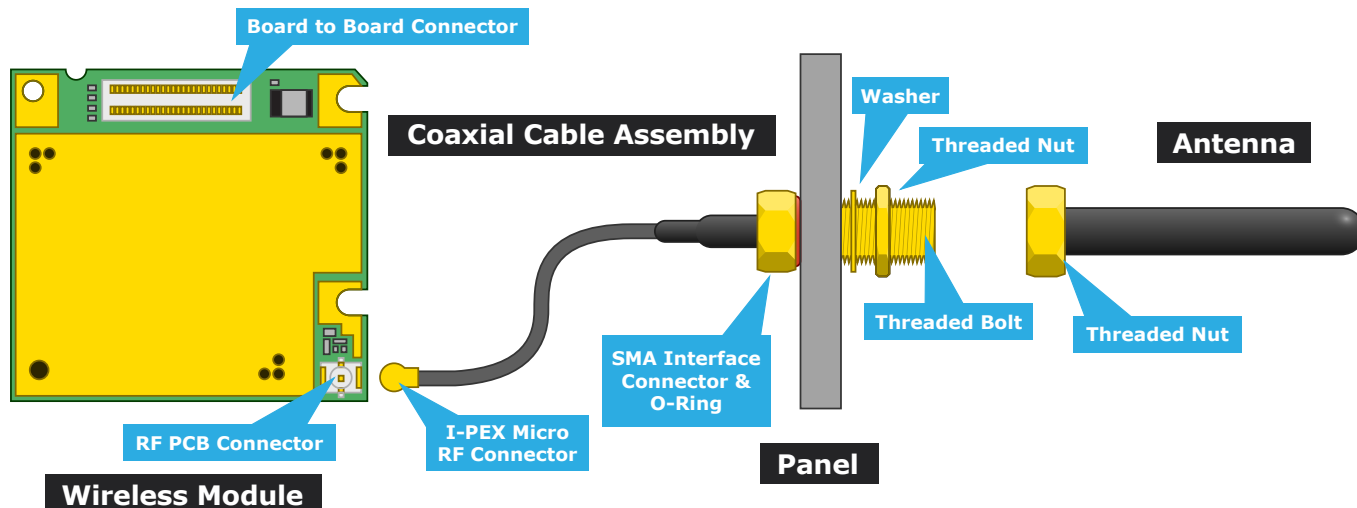


- Extensive range of drawn cable assemblies online.
- Online cable assembly builder.
- Huge range of micro and interface connector options.
- Original Hirose and Murata micro connectors.
- Economical micro connector options from I-Pex.
- Stripped and tinned cables.
- IP68 Nautilus assemblies.
- Test Probe assemblies.



Coaxial Cable  
Assemblies

## Typical Micro Coaxial Cable Assembly Application

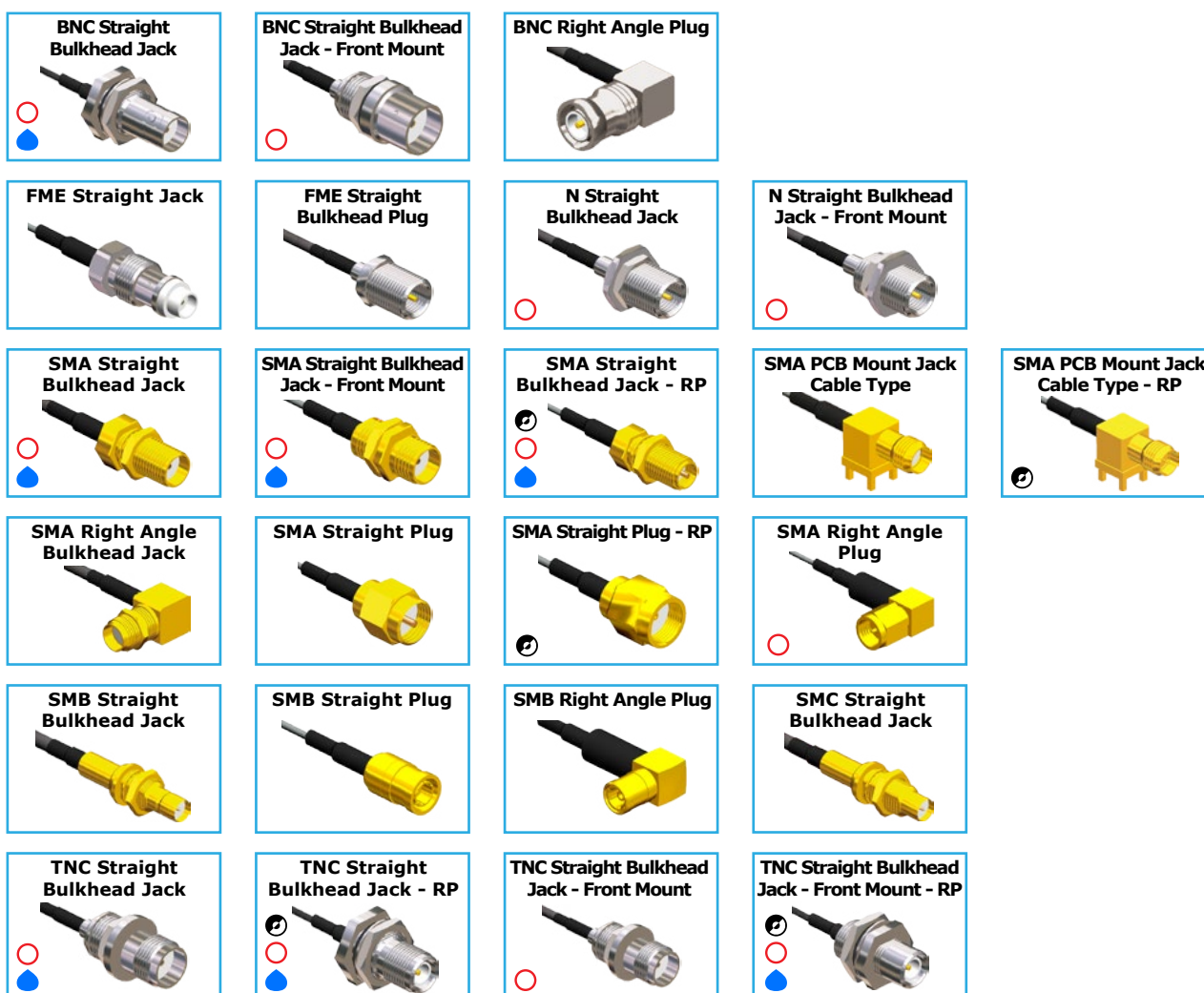


# Coaxial Connector Types

## Micro Connectors



## Interface Connectors



⊖ = Reverse Polarity (RP)

○ = Optional O-Ring for thru-panel water resistance

● = Optional IP67 & IP68 rated for particle and moisture ingress protection (See page 32 - Nautilus)

# Coaxial Cable Assembly Information

## Stripped & Tinned Cable

Stripped cable with tinned centre conductor and braid, used for solder termination of cable assemblies to a printed circuit board. If the braid length is less than 10.00mm then the braid itself will be tinned, for lengths of 10.00mm or above a piece of tinned flexible copper wire is soldered to the braid.



## Frequency Range by Application

Application	Frequency	Popular Interface Connector Types
Bluetooth	2.4 GHz	RP SMA
GPS	1,575 MHz	SMA
GSM (EUR)	900 or 1,800 MHz	SMA, FME
IMS	125 KHz to 50 GHz	Various
UMTS (USA)	1,900 or 2,100 MHz	SMA, FME
WiFi	2.4 GHz	RP TNC
WIMAX	2.4 GHz (mainly)	RP SMA
WLAN	2.4 GHz or 5.8 GHz	RP SMA - Choose appropriate connector at either 3 or 6 GHz.
Zigbee	2.4 GHz	SMA or RP SMA

This is a quick reference guide. Infracor accept no responsibility for incorrect product choice. Check technical specifications of your wireless device to find the correct cable and test samples before volume order.

## Connector Orientation

Customers may specify the orientation of right angle connectors within assemblies longer than 40mm. See cable assembly drawings for details

'F1' Opposite Orientation	'F2' Same Orientation

## Cable Information

- Wide variety of cable diameters available from  $\varnothing 0.80\text{mm}$  to RG58 and beyond.
- Assemblies are available in lengths to suit your design, from 25mm to 2000mm.
- Special cable types such as Double Shielded or PTFE available request.
- Cable specifications are available online.

## Quality Information

- Automatic cable cut & strip machines provide stable & highly efficient production.
- Strict production processes increase stability of quality control.
- All cables 100% electrical conductivity tested.
- Frequency analysis reports (insertion loss and VWSR) available on request.
- 100% production testing available on request.



# Nautilus Waterproof Coaxial Cable Assemblies



Nautilus is a range of panel-mounted waterproof coaxial cable assemblies which offer IP67 & IP68 protection from moisture and particle ingress, both mated and unmated.

An internal seal and panel mount O-Ring prevents ingress of water and dust particles through the inner contact or panel cut out. The Nautilus connectors have been stringently tested, for example IPx8 is tested to five meters underwater for a twelve hour period. Applications include remote monitoring, metering, asset tracking and security.

For the other end of the cable assembly, Infracor specialise in micro coax types such as Hirose, Murata and I-Pex. You may also choose from a large range of other standard coaxial connectors.

Find a range of existing IP rated cable assemblies online, or alternatively create your own custom Nautilus cable assembly using Infracor's online coaxial cable assembly builder.

## Nautilus Connector Range



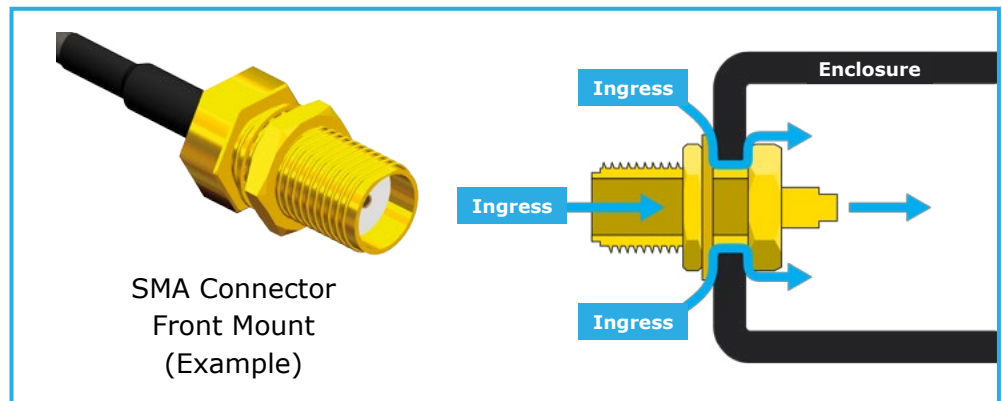
 = Reverse Polarity (RP)



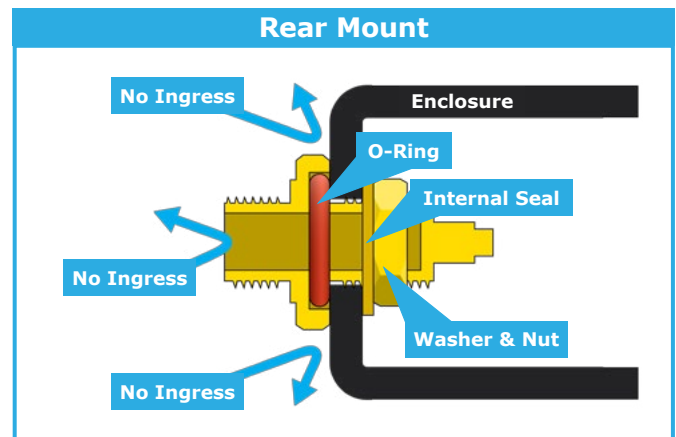
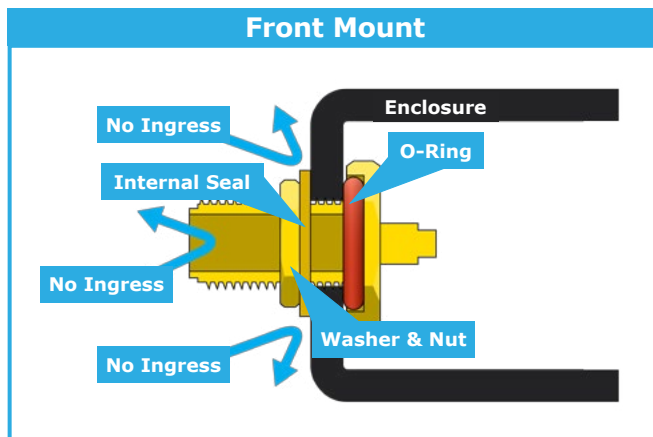
# Nautilus Waterproof Coaxial Cable Assemblies

## The Problem

Moisture and particles may ingress through panel and through the connector centre contact. Customers in many industries seek a fully sealed solution, from splash-proof to being fully immersed in water.



## The Nautilus Solution



An O-Ring and inner seal provide protection from ingress from the inner contact and between the connector and bulkhead cut out.

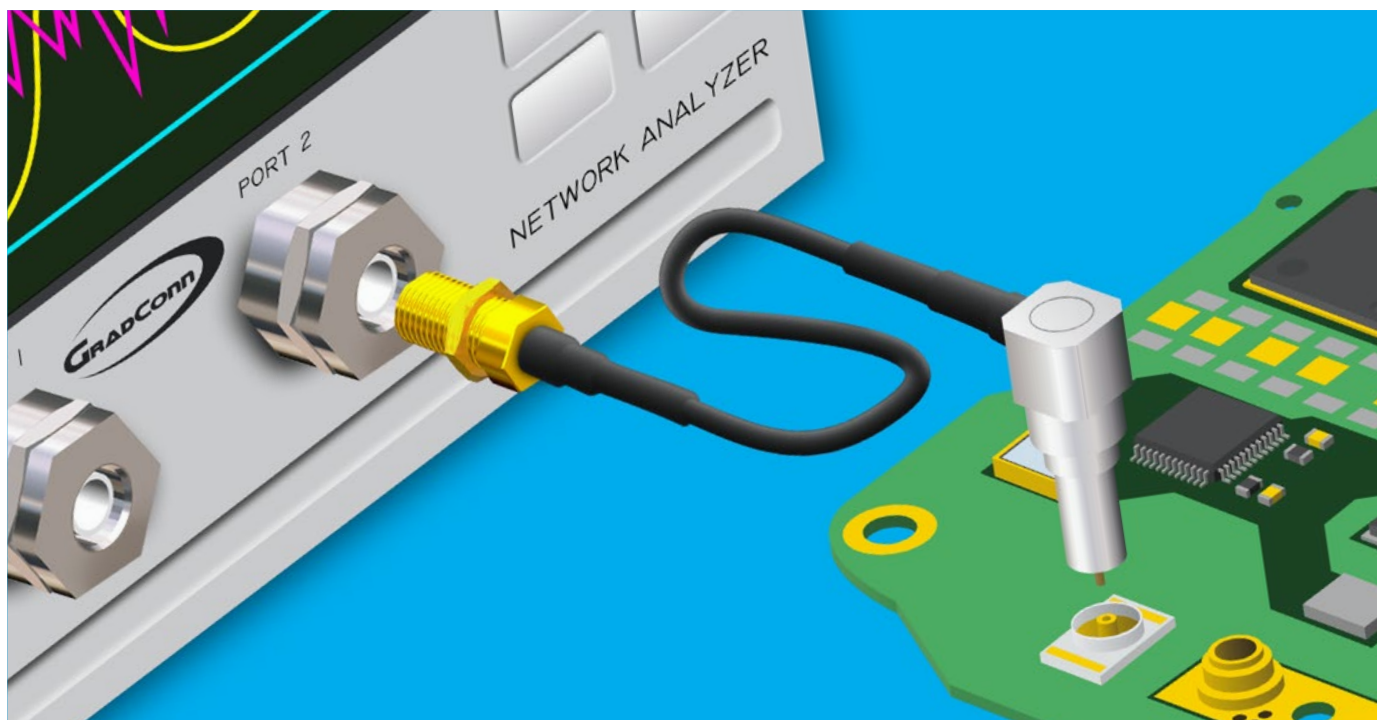
## Standards & Testing

Connectors are tested to the following exacting specifications:

- IP 6x Dust tight – no particle ingress.
- IP x7 Waterproof for 30 minutes up to 1 meter underwater.
- IP x8 Waterproof for 48 hours at 1 meter underwater.
- IP x8 Waterproof for 12 hours at 5 meters underwater.
- Pressure test – 1 bar = 14.5 PSI (pounds/square inch) for 10 seconds.



# Coaxial Test Probes



In line with its strategy for new product development Infratron has launched a new range of low cost co-axial test probe cable assemblies for the inspection of high frequency circuits.

Suitable for testing Hirose MS-156 and Murata MM8030 sub miniature coaxial switch connectors, the new probes offer reliable testing of RF circuits from development through to final production. Mating with Hirose PCB connectors MS156-C (358-0251-2) and MS156 (358-0167-8) the test probe cable assemblies have a mating test cycle durability of 500 operations and 2000 with Murata MM8030-2610.

## Test Probes

### Right Angle Crimp Type



Mates with:  
Hirose MS156,  
Hirose MS156-HF

### Right Angle Crimp Type



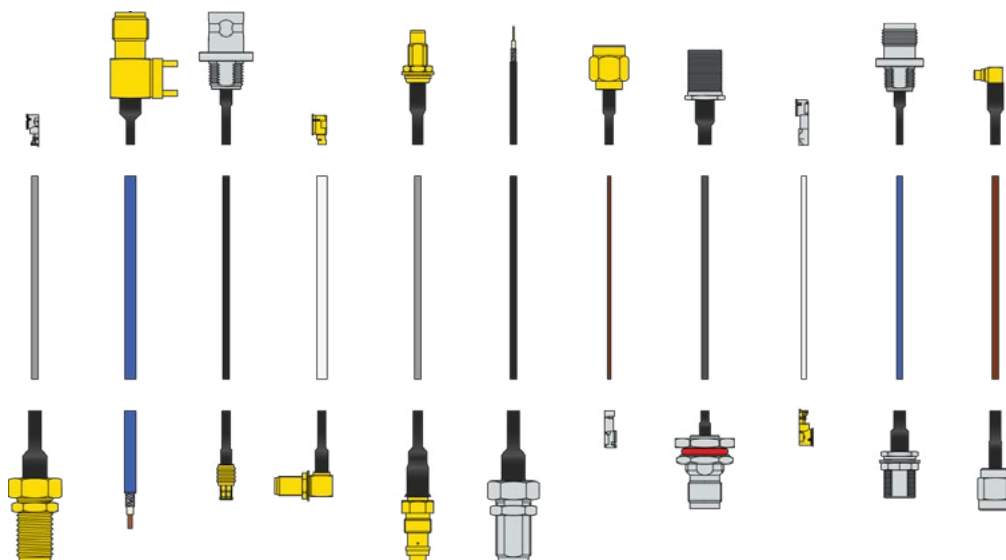
Mates with:  
Murata  
MM8030-2610

### Right Angle Crimp Type



Mates with:  
Hirose  
MS156-C

## Online Coaxial Cable Builder

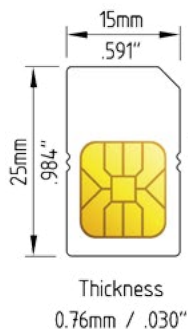


Choose from over 100 existing Cable Assemblies. If you can't find the exact part you seek you may build a custom cable, defining connector type and orientation, cable length, diameter and frequency.

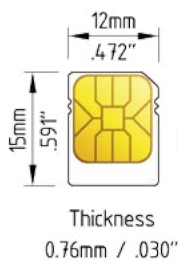
# SIM Card Connectors

Infratron offer connectors for SIM card types 2FF Mini, 3FF Micro & 4FF Nano in five connector types.

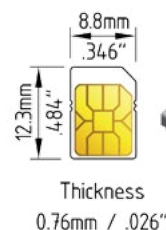
**miniSIM**  
(2FF)



**microSIM**  
(3FF)



**nanoSIM**  
(4FF)



- **Push-Push:** Push card into place, another push operates a spring which automatically ejects the card.
- **Push-Pull:** An economical option. Card slots into place and is held by contact force and friction.
- **Hinged:** Cards are inserted into a hinged cover, the hinge is closed, then locked into place.
- **Dual:** Accepts two SIM cards, saving space and allowing applications such as dual network.
- **Contact:** Connector with contacts only, no means of holding the card in place.

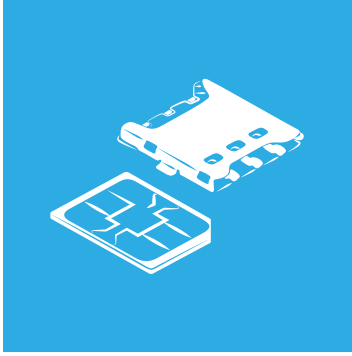
## Connector Type

	Push-Push	Push-Pull	Hinged	Dual	Contact
nanoSIM					
microSIM					
miniSIM					

Card Size

SIM Card  
Connectors

# Nano SIM Card Connectors



Nano SIM card is also known as 4FF or 4th form factor. The Nano SIM card measures only 8.8mm x 12.3mm (.346" x .484") and has a 0.67mm (.026") thickness. The contact arrangement is identical to Mini and Micro SIM cards.

CH03-KB includes card stop functionality which prevents the Nano SIM card being inserted in an incorrect orientation, either upside down or the wrong way around.

## CH03-KB

Style: Push-Pull

Card Type: Nano 4FF

Number of contacts: 6

Height: 1.35mm

Switch: Without

Durability: 1,500 cycles

Locating Peg: With

Packing: Tape & Reel (of 1500)



Communication really is making the world smaller. The ever expanding demand for mobile connectivity combined with the desire for smaller lighter devices has led to a number of developments in both mobile devices and SIM cards themselves.

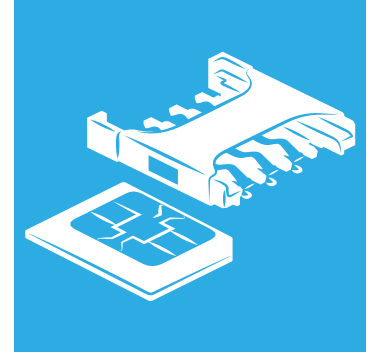
The latest addition to Infracron's SIM Card Connector family reflects this. CH03-KB, our smallest SIM product, is ideal when space is at a premium, for example hand held devices or wearable mobile products. Our Nano SIM connector is a 6 contact, push-pull connector that measures 12.3mm x 9.8mm with a 1.35mm profile. It's rated for 1,500 card insertion cycles and has an operating temperature range of -40° to +85°C. Accurate PCB placement is achieved via the locating pegs; hold downs offer PCB retention strength.



# Micro SIM Card Connectors

Micro SIM card is also known as 3rd form factor (3FF). The card measures only 12mm x 15mm (.472" x .59") and has a 0.76mm (.029") thickness. Contact arrangement is identical to the standard Mini card. Micro cards use the same size and position of pads as Mini SIM.

The optional solder tab provides extra physical strength and grounding for parts with a metal shell, and an optional card detection switch is designed to detect the presence of a SIM card when inserted.



## CH03-FB

**Best Price!**

Style: Push-Pull

Card Type: Micro 3FF

Number of contacts: 6 or 8

Height: 2.40mm

Switch: Without

Durability: 5,000 cycles

Locating peg: Without

Packing: Tape & reel (of 900)

## CH03-GB

Style: Push-Push

Card Type: Micro 3FF

Number of contacts: 6 or 8

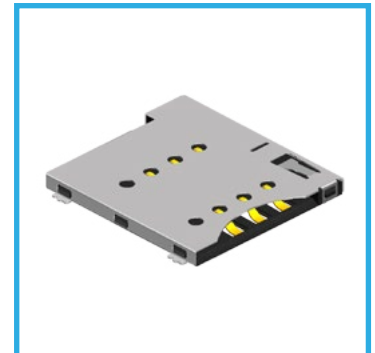
Height: 1.50mm

Switch: With, Normally Closed

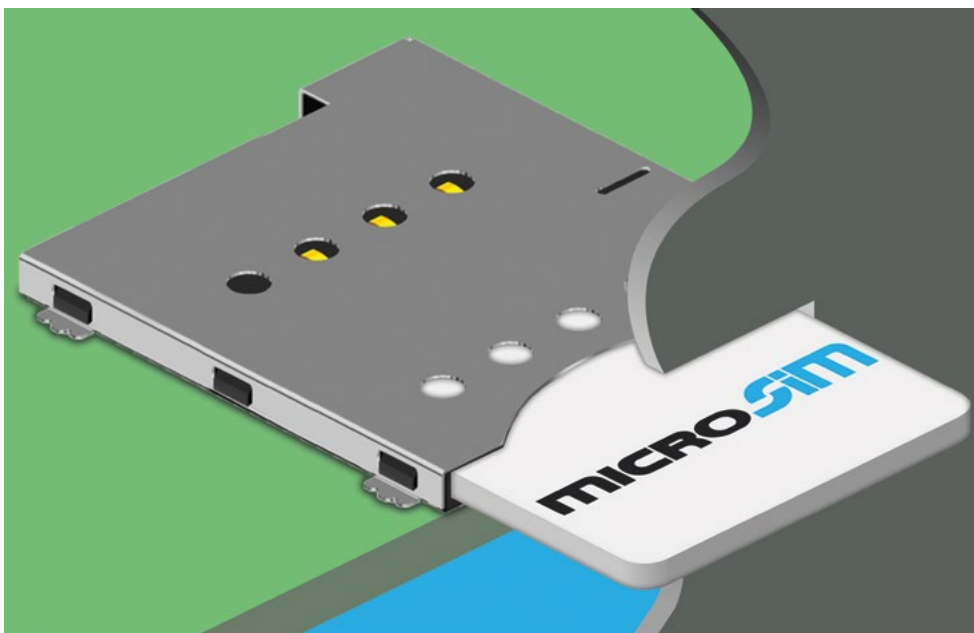
Durability: 1,500 cycles

Locating Peg: Without

Packing: Tape & Reel (of 1000)



Micro SIM Card Connectors

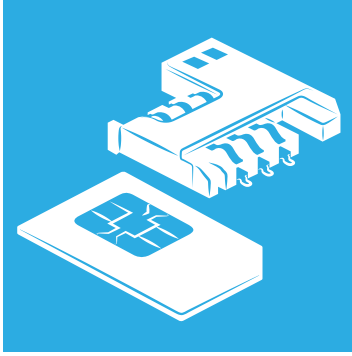


Push-Push type SIM connectors allow a Micro SIM card to be pushed into place, the 2nd push operates a spring which ejects the card, eliminating the need to extract the tiny card by hand.

Push-Push technology is often used in applications where the end user insets a card from outside the equipment, the connector is normally mounted on the edge of a PCB with the mating face accessible via customer's panel design.

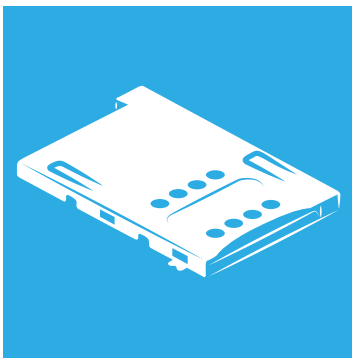


# Mini SIM Card Connectors



A Subscriber Identity Module (SIM) Card is available in numerous varieties. Infracor offer connectors for Mini SIM card, also known as 2FF. The SIM card standard reference is ISO/IEC 7810:2003, the card itself measures 25.00mm x 15.00mm (.984" x .59") with a thickness of 0.76mm (.029").

## Push-Push Mini SIM Card Connectors



Push-push/push-eject surface mount SIM connectors are either 6 or 8 contact pins. This connector type allows customers to push a SIM card into place, the 2nd push operates a spring which pushes out the card, this removes the need to extract the small and fiddly cards by hand. An optional card detection switch is designed to detect the presence of a SIM card when inserted.

Push-Push is normally used in applications where the end user insets a card from outside the equipment, the connector is normally mounted on the edge of a PCB with the mating face accessible via the customer's panel design. The metal shell provides resistance to heat damage.

### CH03-DD-A

Style: Push-Push

Card Type: Mini 2FF

Number of contacts: 6 or 8

Height: 1.90mm

Switch: With, Normally Closed

Durability: 5,000 cycles

Locating Peg: Optional



### CH03-DD-B

Style: Push-Push

Card Type: Mini 2FF

Number of contacts: 6 or 8

Height: 1.90mm

Switch: Without

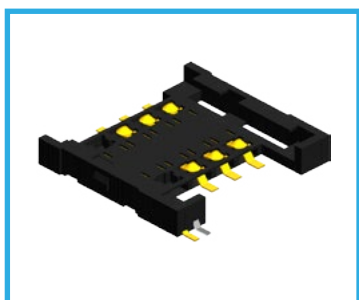
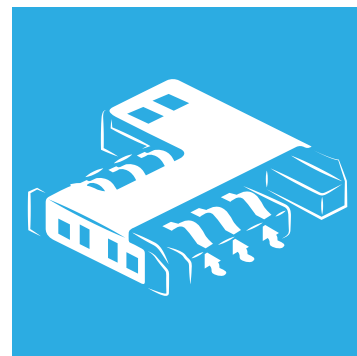
Durability: 5,000 cycles

Locating peg: Without

# Push-Pull Mini SIM Card Connectors

Push-Pull type works by pushing the SIM card into place. The card is held in place against the plastic frame or metal shell by the force of the contacts, and the card is removed by pulling by hand. The optional solder tab provides extra physical strength and grounding for parts with a metal shell. An optional card detection switch is designed to detect the presence of a card when inserted, and optional locating pegs hold the connector in place during the SMT reflow solder process.

This connector type is an economical option and often used in fit and forget solutions where the card is rarely (or never) plugged and unplugged.



## CH03-AA-A

Style: Push-Pull

Card Type: Mini 2FF

Number of contacts: 6 or 8

Height: 2.40mm

Switch: With, Normally Open

Durability: 10,000 cycles

Locating Peg: Optional

Packing: Tubes or Reels

## CH03-AA-B

Style: Push-Pull

Card Type: Mini 2FF

Number of contacts: 6 or 8

Height: 2.40mm

Switch: Without

Durability: 10,000

Optional locating peg

Packing: Tubes or Reels



Mini SIM Card  
Connectors



## CH03-AJ

Style: Push-Pull

Card Type: Mini 2FF

Number of contacts: 6

Height: 3.44mm

With metal cover

Switch: Optional, Normally Open or  
Normally Closed

Durability: 5,000 cycles

Locating Peg: Optional

Packing: Reels (of 700)

## CH03-AL

Style: Push-Pull

Card Type: Mini 2FF

Number of contacts: 6 or 8

Height: 1.80mm

Switch: Without

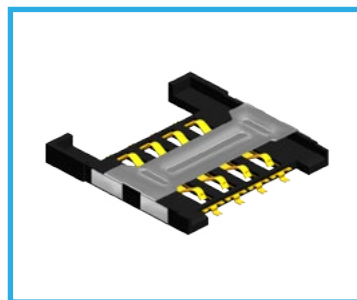
Durability: 5,000

Locating Peg: Without

With metal cover

Packing: Reels (of 1000)

Best  
Price!



# Hinged Mini SIM Card Connectors



Hinged SIM connectors allow operators to insert the SIM card into a hinged cover, that cover holds the SIM card in place, the hinge is closed, then locked into place. An optional card detection switch is designed to detect the presence of a SIM card when inserted, and optional locating pegs hold the connector in place during the SMT reflow solder process.

Hinged SIM connectors are often preferred for higher vibration environments, compared to Push-Pull or Push-Push types because of the positive lock characteristics. Polarised molding ensures the cover can only be closed if the card is in the correct position.

## CH03-BE

Style: Hinged

Card Type: Mini 2FF

Number of contacts: 6 or 8

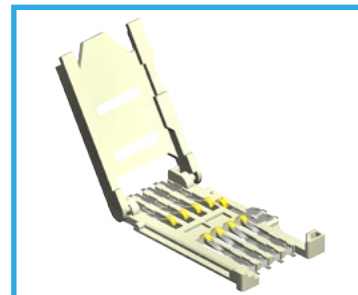
Height: 3.00mm

Switch: With, Normally Open

Durability: 10,000 cycles

Locating peg: Optional

Packing: In Reels



## CH03-BH

Style: Hinged

Card Type: Mini 2FF

Number of contacts: 6

Height: 2.50mm

Switch: With, Normally Open

Durability: 5,000 cycles

Locating peg: Optional

Packing: In Trays or Reels

**Best Price!**

## CH03-BL

Style: Hinged

Card Type: Mini 2FF

Number of contacts: 6 or 8

Height: 2.50mm

Switch: Without

Durability: 5,000 cycles

Locating peg: Optional

Packing: Reels (of 800)

**Best Price!**



## Dual Mini SIM Card Connectors

Dual connectors allow for the plugging of two SIM cards into a single connector. This saves physical space on the PCB and cuts the cost of PCB placement.

In the push-pull configuration, the SIM cards slot into place and are held by friction. The cards are not locked in place and are removed manually. The metal shell provides resistance to heat damage.



### CH03-AN

Style: Dual

Card Type: Mini 2FF

Number of contacts: 8

Height: 3.00mm

With metal cover

Switch: Without

Durability: 5,000 cycles

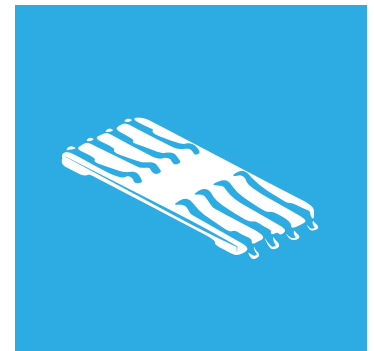
Locating Peg: Without

Packing: Reels (of 700)

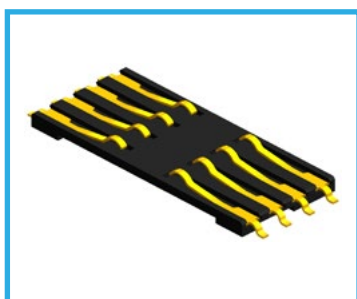
## Contact Mini SIM Card Connectors

A 'contact' SIM Connector describes a connector with open contacts and no integral means of holding SIM card in place. That is handled by customers own design, usually by means of a plastic moulding. An optional locating pegs hold the connector in place during the SMT reflow solder process.

Contact type connectors are suitable for Mini (2ff) and Micro (3ff) and Nano (4ff) SIM cards as there is no change in SIM card contact design between all three GSM card specifications.



Mini SIM Card  
Connectors



### CH03-CJ

Style: Contact

Card Type: All

Number of contacts: 8

Height: 1.30mm, 2.00mm

Switch: Without

Durability: 100,000 cycles

Locating Peg: Optional

Packing Tubes (of 40)

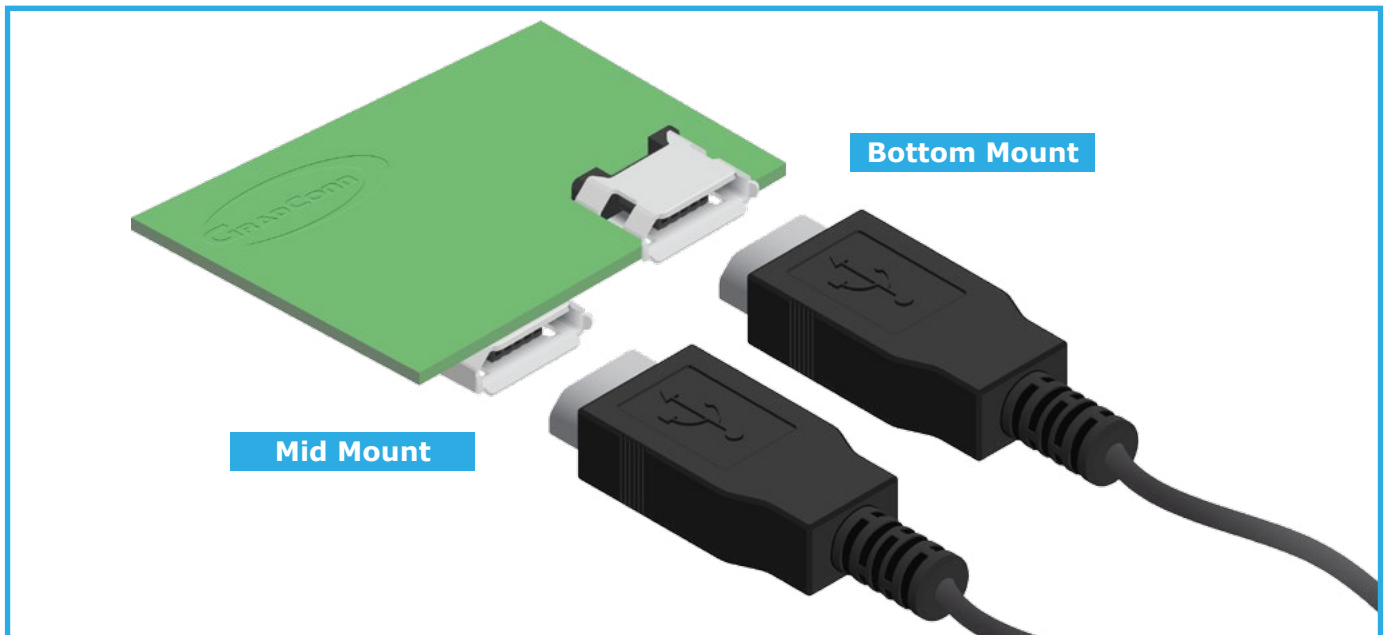
# Micro USB 2.0 Connectors

Infratron's range of Micro USB2.0 connectors are available in both B & AB types, mid & bottom mount, 5 contacts a height from 1.59mm above the PCB, up to 10,000 cycles and packed in tape & reel.

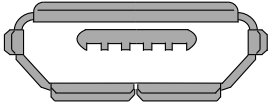
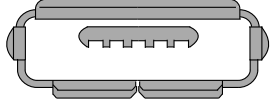
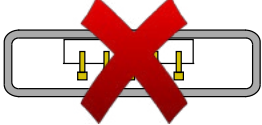
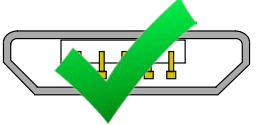
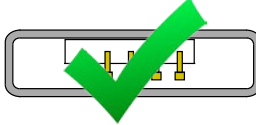
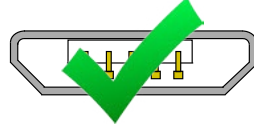
- Wide range of PCB receptacles.
  - Variety of mount types.
  - Shell stake options for PCB strength.
  - Plastic locating peg options.
- 30µ" gold contact plating.
  - Meets USB2.0 specification.
  - High durability - 10,000 mating cycles.
- On-The-Go (OTG) specification supported by A/B type.



## PCB Mount Types



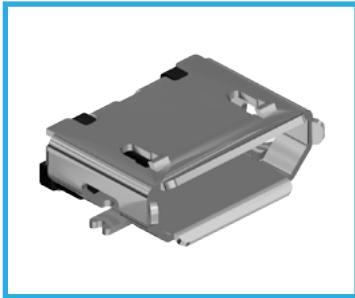
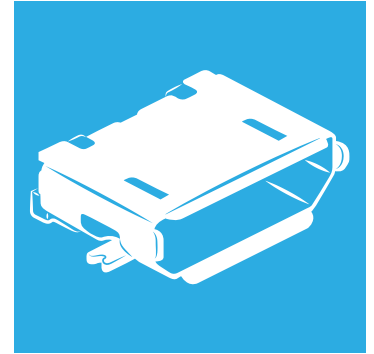
## B & AB Mating Configurations

Micro B Receptacle		Micro AB Receptacle	
			
Micro A Plug	Micro B Plug	Micro A Plug	Micro B Plug
			



# Type B Micro USB 2.0 Connectors

- Small high reliability input/output connector.
- Complies with physical, electrical & environmental requirements of micro USB 2.0 standard.
- Data transfer rate of up to 480 mbps.
- Passive latching prevents unintentional cable release.
- Approx 60% smaller than mini USB.
- Supports Plug-And-Play and hot plugging.
- 30μ" Gold plating in contact area.
- -25°C ~+85°C Operating temperature.
- B Type mates with B cable plugs.



## UC04-LA

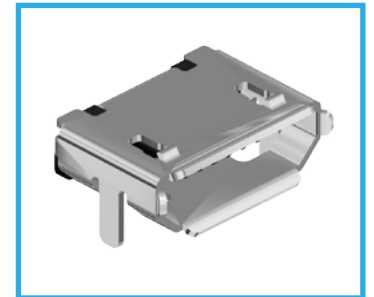
PCB Type: Surface mount  
PCB Position: Bottom  
Number of Contacts: 5  
Mating Cable Type: B  
Durability: 10,000 cycles

Orientation: Horizontal  
Height: 2.40mm  
Plastic Locating Peg: Optional  
Thru hole shell stakes: Without

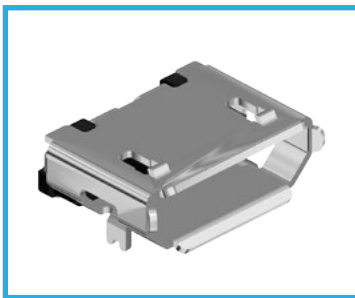
## UC04-LB

PCB Type: Surface mount  
PCB Position: Bottom  
Number of Contacts: 5  
Mating Cable Type: B  
Durability: 10,000 cycles

Orientation: Horizontal  
Height: 2.35mm  
Plastic Locating Peg: Without  
Thru hole shell stakes: With - Outer



Type B μUSB  
Connectors



## UC04-LC

PCB Type: Surface mount  
PCB Position: Bottom  
Number of Contacts: 5  
Mating Cable Type: B  
Durability: 10,000 cycles

Orientation: Horizontal  
Height: 2.35mm  
Plastic Locating Peg: Optional  
Thru hole shell stakes: With - Inner

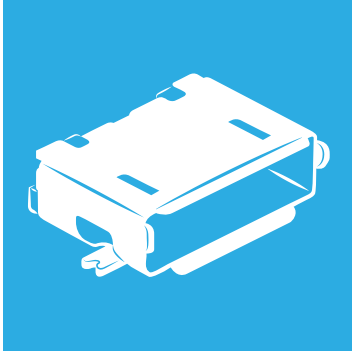
## UC04-LD

PCB Type: Surface mount  
PCB Position: Middle - Bottom  
Number of Contacts: 5  
Mating Cable Type: B  
Durability: 10,000 cycles

Orientation: Horizontal  
Height: 1.59mm  
Plastic Locating Peg: Without  
Thru hole shell stakes: Without



# Type AB Micro USB 2.0 Connectors

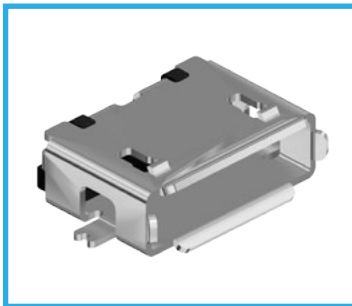
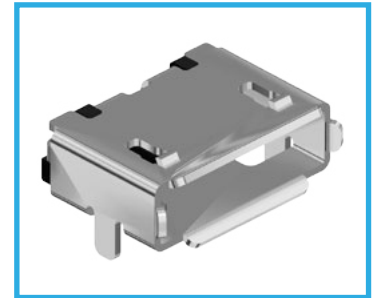


- Small high reliability input/output connector.
- Complies with physical, electrical & environmental requirements of micro USB 2.0 standard.
- Data transfer rate of up to 480 mbps.
- Passive latching prevents unintentional cable release.
- Approx 60% smaller than mini USB
- Supports Plug-And-Play and hot plugging.
- 30µ" Gold plating in contact area.
- -25°C ~+85°C Operating temperature.
- B Type mates with B cable plugs.
- For use in USB On-The-Go applications.

## UC04-NA

PCB Type: Surface mount  
PCB Position: Bottom  
Number of Contacts: 5  
Mating Cable Type: AB  
Durability: 10,000 cycles

Orientation: Horizontal  
Height: 2.35mm  
Plastic Locating Peg: Without  
Thru hole shell stakes: With



## UC04-NB

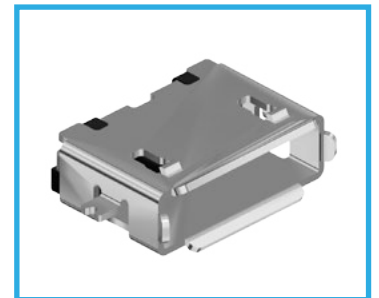
PCB Type: Surface mount  
PCB Position: Bottom  
Number of Contacts: 5  
Mating Cable Type: AB  
Durability: 10,000 cycles

Orientation: Horizontal  
Height: 2.35mm  
Plastic Locating Peg: Without  
Thru hole shell stakes: Without

## UC04-NC

PCB Type: Surface mount  
PCB Position: Middle - Bottom  
Number of Contacts: 5  
Mating Cable Type: AB  
Durability: 10,000 cycles

Orientation: Horizontal  
Height: 1.59mm  
Plastic Locating Peg: Without  
Thru hole shell stakes: Without





Infratron GmbH  
Produktion und Vertrieb  
Postfach 50 03 06  
80973 München  
Tel.: +49 (0) 89 /158 126-0  
info@infratron.de

2016 Edition



**Board-to-Board Connectors**  
**Wire-to-Board Solutions**  
**Coaxial Cables Assemblies**  
**Micro USB2.0 Connectors**  
**SIM Card Connectors**

**[www.infratron.de](http://www.infratron.de)**