

PCB Hardware

Contents

SMT Test Points

SMT Cable Clips

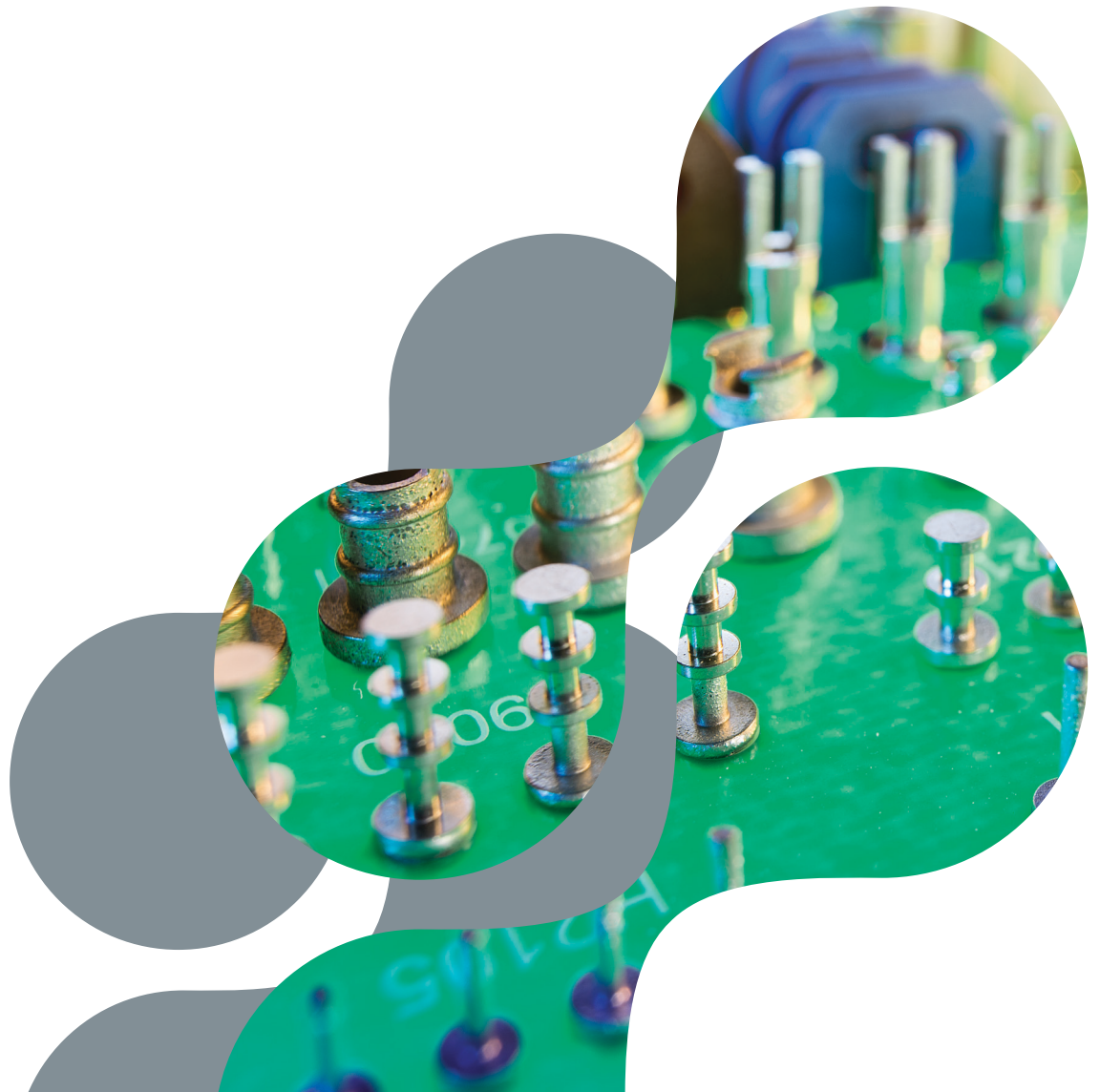
Coin Cell Holders

SMT Jumper Links

PCB Jumper Links

PCB Terminals, Turret Lugs

Spacers / Pillars / Standoffs



SMT Hardware

Test Points

- ❖ Ideal for use with standard probes, clips and hooks.
- ❖ Can be placed using industry standard equipment.
- ❖ Suitable for automatic or manual test.
- ❖ High speed placement.
- ❖ Industry standard tape and reel packaging.
- ❖ Strong and durable.



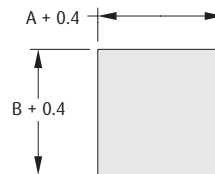
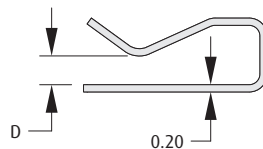
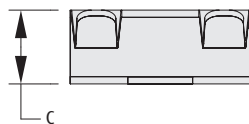
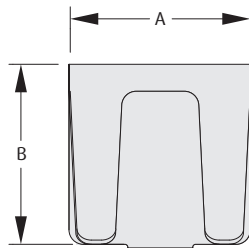
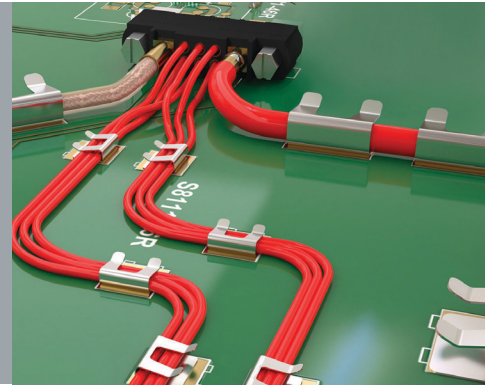
❖ Materials Material: Copper Alloy Finish: Tin ❖ Packaging Format: Tape & Reel Reel quantity S1751-46R: 2,500 on a Ø330mm reel S2751-46R: 2,500 on a Ø178mm reel S2761-46R: 3,000 on a Ø178mm reel	2.00mm HIGH Recommended PC Board Pattern ORDER CODE S1751-46R
1.40mm HIGH Recommended PC Board Pattern ORDER CODE S2751-46R	1.15mm HIGH Recommended PC Board Pattern ORDER CODE S2761-46R

All dimensions in mm.

SMT Hardware

Cable Management & Grounding Clips

- ❖ Suitable for use with insulated cables with outer diameters Ø0.9 to Ø3mm and grounding braided coax cables.
- ❖ Cable clip can be soldered at same time as rest of board, reducing additional operation time required for mounting plastic clip types.
- ❖ Low profile & small footprint saves PCB space.



Recommended PCB Board Pattern

❖ Materials

Material: Copper Alloy
Finish: Tin

❖ Packaging

Format: Tape & Reel
Reel quantity: Ø330mm reel, see table

HOW TO ORDER

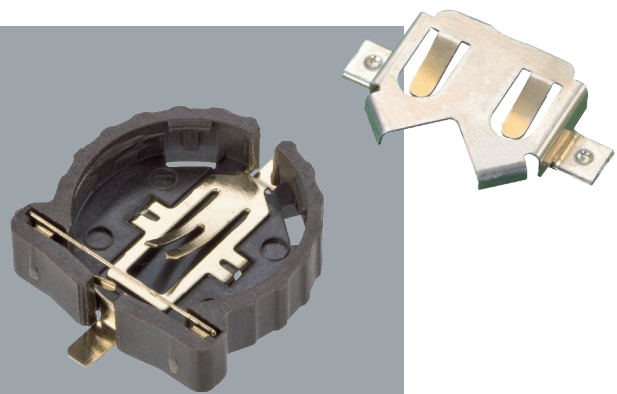
PART NO.	A	B	C	D	COAX GROUNDING	CABLE RETENTION	REEL QUANTITY
S8091-46R	5.00	4.00	1.35	0.70	Ø1.12mm	2 x Ø0.9mm	3,000
S8101-46R	5.00	4.00	1.50	0.80	RG178, RG179, RG316	2 x Ø1.0mm	3,000
S8111-46R	5.00	5.00	2.05	0.80	RG174, RG179, RG316	3 x Ø1.0mm, 2 x Ø1.5mm	1,500
S8121-46R	7.00	5.50	2.55	1.30	n/a	2 x Ø1.5mm, 1 x Ø2.0mm	1,300
S8131-46R	10.00	8.00	3.55	1.80	RG58	3 x Ø2.0mm, 1 x Ø3.0mm	800

All dimensions in mm.

SMT Coin Cell Holder

Battery Retainer for Ø12mm Coin Cell

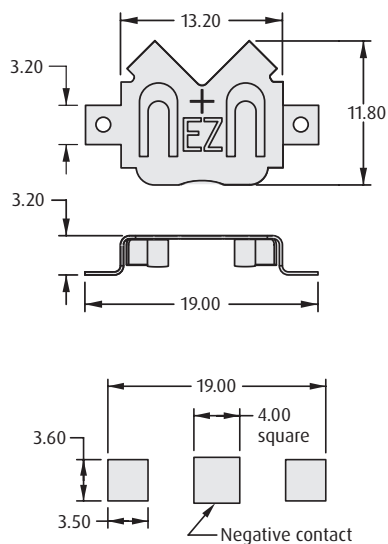
- ❖ Tape & reel packaged for auto-placement to PCB.
- ❖ Highly effective retention of coin cell batteries.
- ❖ Eliminates the need for soldered-in coin cells.
- ❖ Low profile design available with dual independent contact points for enhanced electrical reliability.
- ❖ Accommodates CR1220, CR1225 and similar coin cell batteries.



LOW PROFILE

❖ Packaging

Format: Tape & Reel
 Reel quantity: 1,000 on a Ø330mm reel
 Suitable for battery size: BR1225, CR1216, CR1220, CR1225

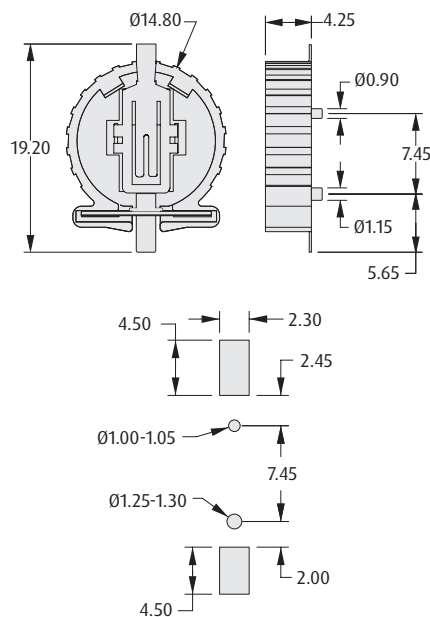


Recommended PC Board Pattern

STANDARD

❖ Packaging

Format: Tape & Reel
 Reel quantity: 500 on a Ø330mm reel
 Suitable for battery size: CR1220



Recommended PC Board Pattern

HOW TO ORDER

SERIES CODE

TYPE

201	Low Profile
411	Standard

S8 XX1 - XX R

PACKAGING

R Tape & Reeled

FINISH

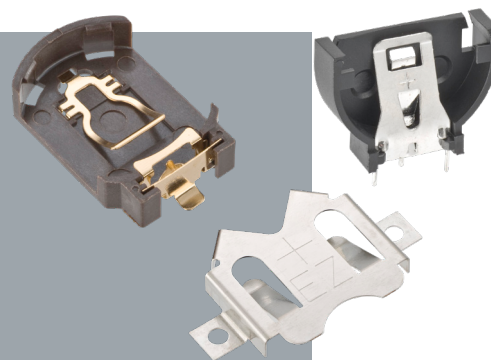
45	Gold (S8411)
46	Tin (S8201)

All dimensions in mm.

SMT Coin Cell Holder

Battery Retainer for Ø20mm Coin Cell

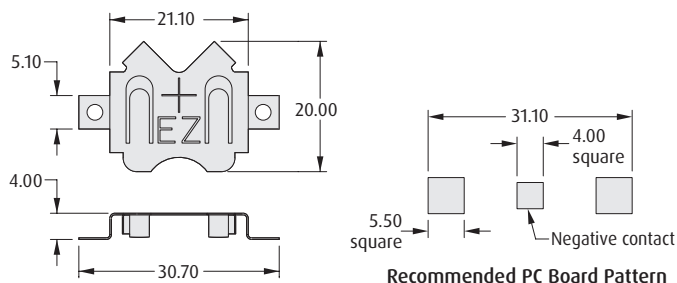
- Horizontal designs are tape & reel packaged for auto placement.
- Highly effective retention of coin cell batteries.
- Eliminates the need for soldered-in cells.
- Vertical mount minimises PCB real estate usage.
- Low profile design available with dual independent contact points for enhanced electrical reliability.
- Accommodates CR2032 and similar coin cell batteries.



LOW PROFILE

⚡ Packaging

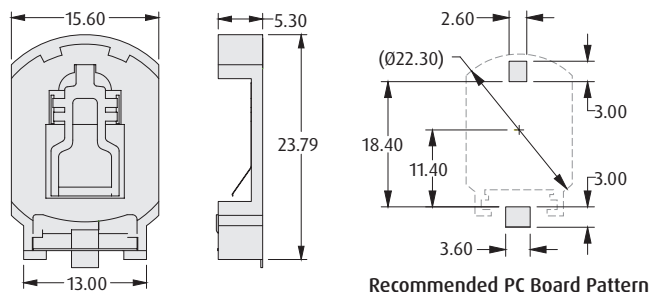
Format: Tape & Reel
 Reel quantity: 550 on a Ø330mm reel
 Suitable for battery size: CR2016, CR2025, CR2032



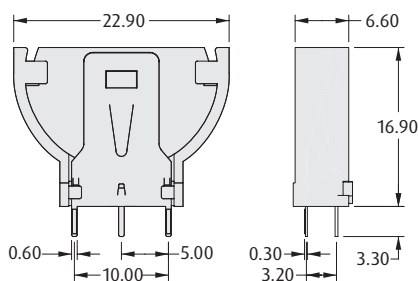
STANDARD

⚡ Packaging

Format: Tape & Reel
 Reel quantity: 500 on a Ø330mm reel
 Suitable for battery size: CR2032

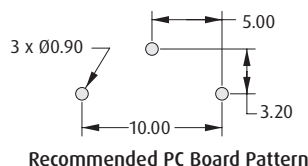


VERTICAL



⚡ Packaging

Format: Reeled Tray
 Suitable for battery size: CR2032



HOW TO ORDER

SERIES CODE

TYPE

211	Low Profile
401	Vertical
421	Standard

S8 XX1 - XX R

PACKAGING

R	Tape & Reeled
Blank	Reeled Tray (S8401)

FINISH

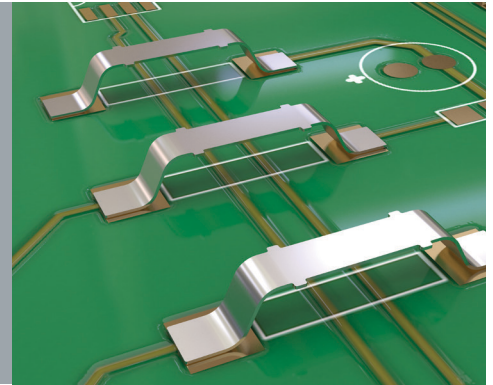
45	Gold (S8421)
46	Tin (S8201, S8401)

All dimensions in mm.

SMT Hardware

SMT Fixed Jumper Link

- Designed to link PCB tracks where through hole links are not possible.
- Typical applications include use on aluminium backplanes in power applications.
- High current.
- Small footprint.
- Low profile options available for space saving design.



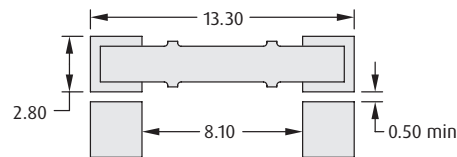
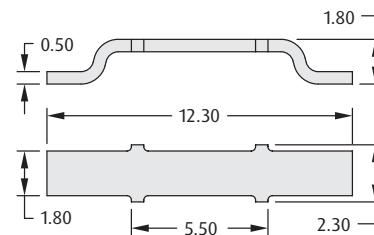
Materials

Material: Copper Alloy (S1621, S1911)
Copper (S1731)
Finish: Tin

Packaging

Format: Tape & Reel
Reel quantity
S1621-46R: 5,000 on a Ø330mm reel
S1731-46R: 2,500 on a Ø330mm reel
S1911-46R: 4,000 on a Ø330mm reel

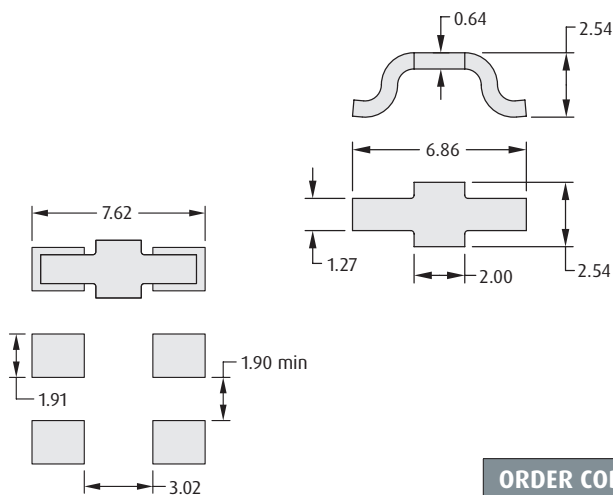
12.3mm LONG



Recommended PC Board Pattern

ORDER CODE
S1621-46R

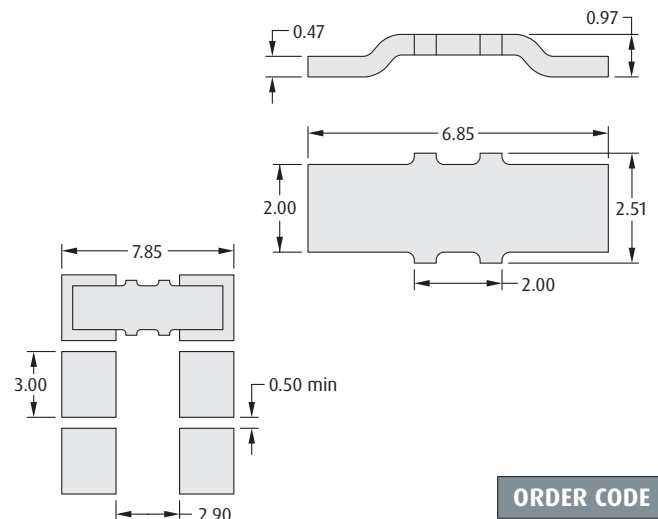
6.86mm LONG, 2.54mm HIGH



Recommended PC Board Pattern

ORDER CODE
S1731-46R

6.85mm LONG, 0.97mm HIGH



Recommended PC Board Pattern

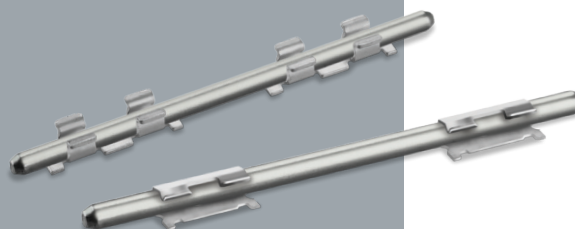
ORDER CODE
S1911-46R

All dimensions in mm.

SMT Hardware

Removable Jumper Link - SMT Clip and Bar

- ❖ Simple & effective method for connecting across LED arrays and PCBs.
- ❖ Vertical and horizontal configurations available.
- ❖ Connecting bars available in two lengths.
- ❖ SMT clips packaged in tape and reel to suit automated placement.
- ❖ Allows easy replacement of defective arrays and PCBs without the need to de-solder.
- ❖ SMT clips and bars ordered separately.



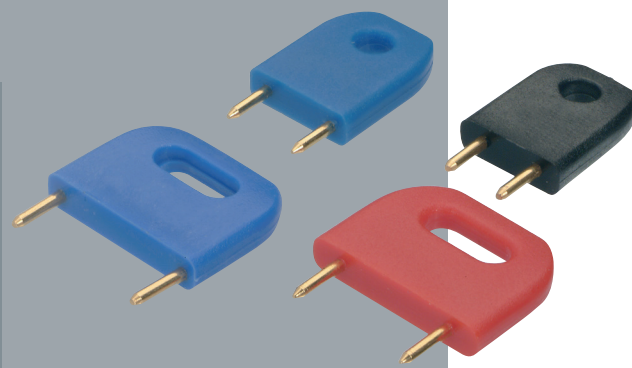
VERTICAL CLIP	HORIZONTAL CLIP
❖ Specification Material: Stainless Steel Finish: Tin Packaging format: Tape & Reel (10,000 on a Ø330mm reel) Recommended PC Board Pattern ORDER CODE S8071-46R	❖ Specification Material: Stainless Steel Finish: Tin Packaging format: Tape & Reel (10,000 on a Ø330mm reel) Recommended PC Board Pattern ORDER CODE S8081-46R
23mm LONG REMOVABLE BAR	15mm LONG REMOVABLE BAR
❖ Specification Material: Phosphor Bronze Finish: Tin Packaging format: Loose ORDER CODE S07-46	❖ Specification Material: Phosphor Bronze Finish: Tin Packaging format: Loose ORDER CODE S08-46

All dimensions in mm.

PCB Hardware

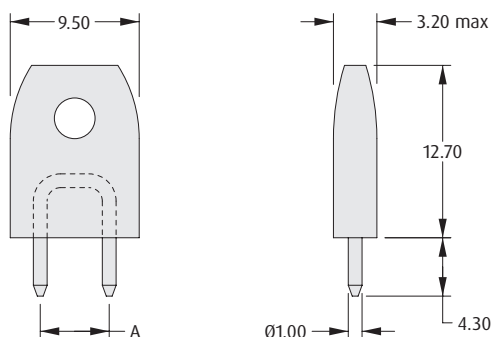
Ø1mm Shorting Link Plugs

- Choice of insulated or un-insulated links.
- Insulated links supplied in a variety of colours, with a high-performance gold finish.
- Un-insulated links can be soldered directly into the PCB for permanent linking.
- Can be used with individual PCB sockets for hardware programming applications.

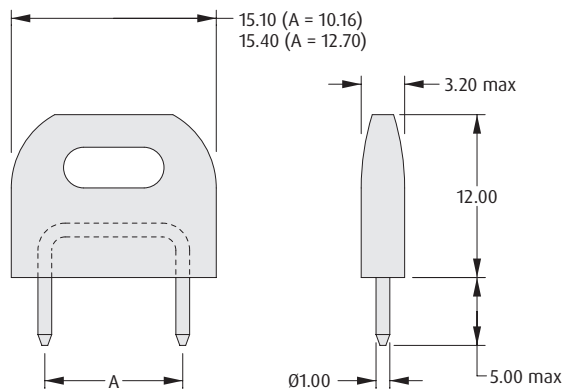


INSULATED

Style 1



Style 2



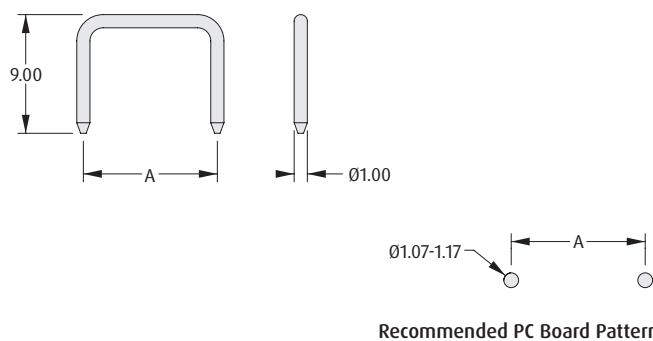
Materials

Moulding: PBT UL94V-0
Contact: Brass
Finish
Insulated: Gold
Un-insulated: See order code

Electrical

Current rating: 10A at 20°C

UN-INSULATED



HOW TO ORDER

D308 X - XX

SERIES CODE

PITCH (A)	STYLE
6	5.08mm
7	6.35mm
8	10.16mm
9	12.70mm

COLOUR

97	Blue
98	Black
99	Red

HOW TO ORDER

D308 X - XX

SERIES CODE

PITCH (A)	
0	5.08mm
1	6.35mm
2	10.16mm

FINISH

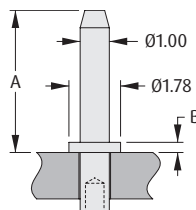
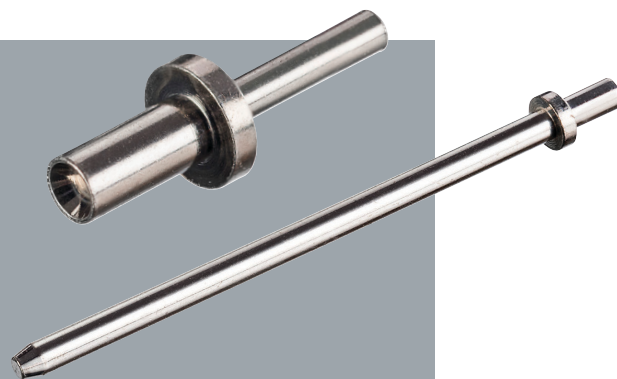
05	Gold
46	Tin

All dimensions in mm.

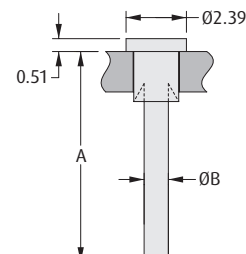
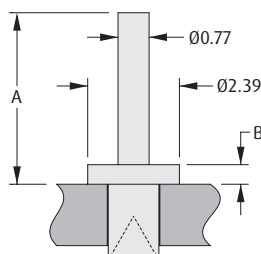
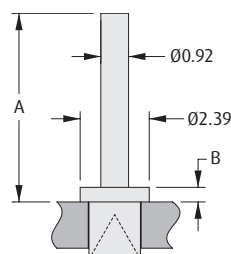
PCB Hardware

Turned Terminals

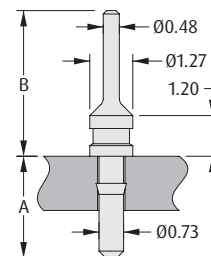
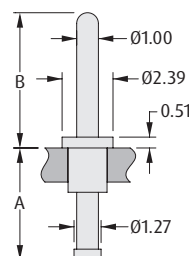
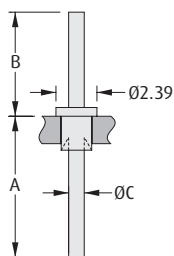
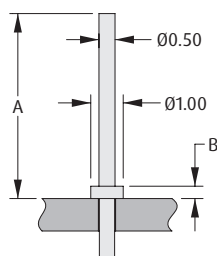
- Material: Brass with tin plating - also available in gold plating for the 1mm chamfered terminal pins (H217x series).
- Retention by swaging feature available.
- For swaging tool, change order code prefix to Z, and suffix to 00 (example Z2174-00).
- Suitable for a variety of PCB thicknesses from 1mm to 3.2mm.



ORDER CODE (TIN)	H2174-01	H2175-01	H2173-01	H2176-01	H2170-01	H2171-01
ORDER CODE (GOLD)	H2174-05	H2175-05	H2173-05	H2176-05	H2170-05	H2171-05
A	4.32mm	4.90mm	8.13mm	9.53mm	13.21mm	19.56mm
B	0.51mm	0.35mm	0.51mm	0.51mm	0.51mm	0.51mm
PANEL THICKNESS	1.60mm	1.60mm	1.60mm	1.60mm	1.60mm	1.60mm
MOUNTING HOLE	Ø1.04 - 1.14mm	Ø1.04 - 1.14mm	Ø1.04 - 1.14mm	Ø1.04 - 1.14mm	Ø1.04 - 1.14mm	Ø1.04 - 1.14mm



ORDER CODE	H2101A01	H2103A01	H2105A01	H2106A01	H2101B01	H2105B01
A	6.53mm	6.53mm	4.47mm	4.47mm	8.39mm	6.37mm
B	0.51mm	0.51mm	0.51mm	0.51mm	Ø0.93mm	Ø0.77mm
PANEL THICKNESS	1.60mm	3.20mm	1.60mm	2.40mm	1.60mm	1.60mm
MOUNTING HOLE	Ø1.79 - 1.87mm	Ø1.79 - 1.87mm	Ø1.33 - 1.41mm	Ø1.33 - 1.41mm	Ø1.79 - 1.87mm	Ø1.33 - 1.41mm



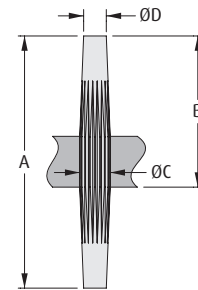
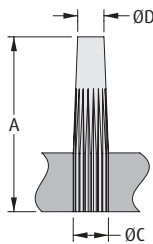
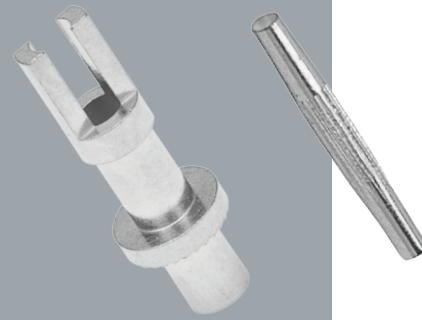
ORDER CODE	H3108-01	H2101-01	H2105-01	H9051-01	H2475-01
A	5.70mm	8.23mm	5.05mm	5.26mm	3.00mm
B	0.38mm	6.07mm	4.48mm	6.35mm	4.30mm
C	-	Ø0.87mm	Ø0.77mm	-	-
PANEL THICKNESS	1.00mm	1.60mm	1.60mm	1.60mm	1.60mm
MOUNTING HOLE	Ø0.50 - 0.55mm	Ø1.79 - 1.87mm	Ø1.33 - 1.41mm	Ø1.83 - 1.88mm	Ø0.77 - 0.85mm

All dimensions in mm.

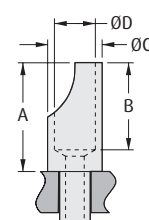
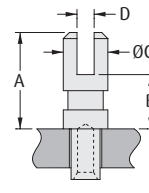
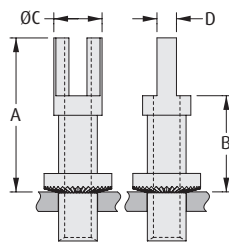
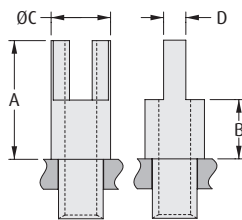
PCB Hardware

Turned Terminals

- ❖ Material: Brass with tin plating.
- ❖ Retention by swaging feature available.
- ❖ For swaging tool, change order code prefix to Z, and suffix to 00 (example Z2051-00).
- ❖ Suitable for a variety of PCB thicknesses from 1.6mm to 3.2mm.



ORDER CODE	H2088-01	H2085-01	H2081-01	H2089-01	H2087-01	H2083-01
A	7.14mm	7.14mm	9.53mm	11.91mm	11.91mm	15.88mm
B	-	-	-	7.14mm	7.14mm	9.52mm
C	Ø1.13mm	Ø1.43mm	Ø1.68mm	Ø1.13mm	Ø1.43mm	Ø1.68mm
D	Ø0.76mm	Ø1.12mm	Ø1.22mm	Ø0.76mm	Ø1.12mm	Ø1.22mm
PANEL THICKNESS	2.40mm	2.40mm	2.40mm	2.40mm	2.40mm	2.40mm
MOUNTING HOLE	Ø1.00 - 1.05mm	Ø1.30 - 1.35mm	Ø1.55 - 1.60mm	Ø1.00 - 1.05mm	Ø1.30 - 1.35mm	Ø1.55 - 1.60mm



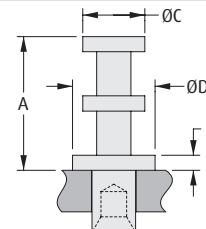
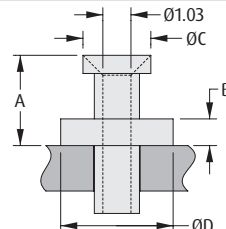
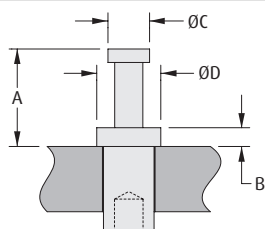
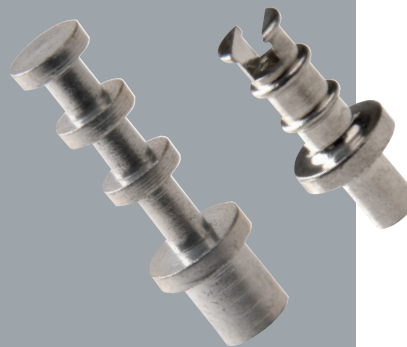
ORDER CODE	H2051-01	H2055-01	H2039-01	H9023-01	H9026-01
A	4.78mm	6.35mm	12.65mm	3.96mm	6.35mm
B	2.39mm	3.17mm	7.90mm	2.23mm	5.08mm
C	Ø3.18mm	Ø3.18mm	Ø3.90mm	Ø1.83mm	Ø3.18mm
D	0.73mm	1.13mm	1.54mm	0.71mm	Ø2.39mm
THROUGH HOLE	Ø1.06mm	Ø1.74mm	Ø2.22mm	-	Ø1.13mm
PANEL THICKNESS	1.60mm	2.40mm	3.20mm	1.60mm	2.40mm
MOUNTING HOLE	Ø1.60 - 1.68mm	Ø2.40 - 2.48mm	Ø3.19 - 3.27mm	Ø1.28 - 1.38mm	Ø1.84 - 1.92mm

All dimensions in mm.

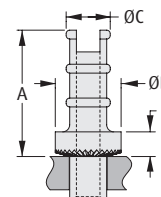
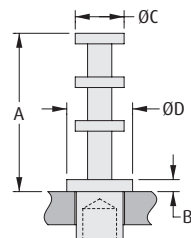
PCB Hardware

Turned Terminals

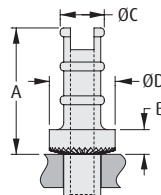
- ❖ Material: Brass with tin plating.
- ❖ Retention by swaging feature available.
- ❖ For swaging tool, change order code prefix to Z, and suffix to 00 (example Z9001-00).
- ❖ Suitable for a variety of PCB thicknesses from 1.6mm to 3.2mm.



ORDER CODE	H9001-01	H9004-01	H2061-01	H2121-01
A	2.39mm	4.74mm	3.18mm	5.15mm
B	0.46mm	1.19mm	0.94mm	0.58mm
C	Ø1.02mm	Ø1.91mm	Ø2.33mm	Ø2.39mm
D	Ø1.57mm	Ø3.18mm	Ø4.03mm	Ø3.18mm
PANEL THICKNESS	1.60mm	1.60mm	1.60mm	1.60mm
MOUNTING HOLE	Ø1.25 - 1.33mm	Ø2.01 - 2.09mm	Ø1.60 - 1.68mm	Ø1.69 - 1.74mm



ORDER CODE	H9020-01	H9021-01	H2072-01	H2072Z01	H2072ZL1
A	7.65mm	7.65mm	6.29mm	6.52mm	6.52mm
B	0.58mm	0.58mm	1.01mm	1.24mm	1.24mm
C	Ø2.36mm	Ø2.36mm	Ø3.25mm	Ø2.54mm	Ø2.54mm
D	Ø3.18mm	Ø3.18mm	Ø3.96mm	Ø3.96mm	Ø3.96mm
PANEL THICKNESS	1.60mm	2.40mm	1.60mm	1.60mm	2.40mm
MOUNTING HOLE	Ø2.35 - 2.45mm	Ø2.35 - 2.45mm	Ø2.17 - 2.27mm	Ø2.01 - 2.11mm	Ø2.01 - 2.11mm



ORDER CODE	H2074Z01	H2071ZS1	H2071Z01	H2073Z01
A	8.74mm	9.12mm	9.12mm	9.12mm
B	1.60mm	1.78mm	1.78mm	1.78mm
C	Ø4.57mm	Ø3.18mm	Ø3.18mm	Ø3.18mm
D	Ø6.35mm	Ø4.75mm	Ø4.75mm	Ø4.75mm
PANEL THICKNESS	3.20mm	1.60mm	2.40mm	3.20mm
MOUNTING HOLE	Ø3.93 - 4.03mm	Ø2.68 - 2.78mm	Ø2.68 - 2.78mm	Ø2.68 - 2.78mm

All dimensions in mm.

Metric Spacers

Clearance Spacers

- Standard lengths available from 3 to 30mm.
- Brass spacers: base material is free-machining brass, with nickel plating.
- Aluminium spacers: supplied with a clear passivation finish to prevent oxidation.
- Plastic material: Nylon 66 UL94V-2.



CLEARANCE FOR M3 THREAD

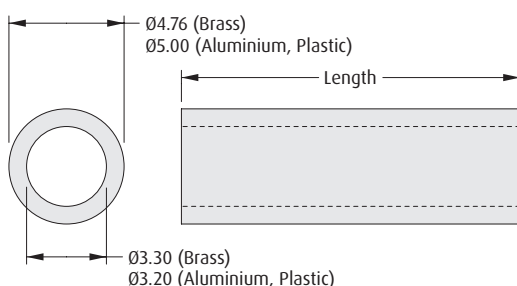
Materials

Base material: Brass, Aluminium or Plastic

Finish

Brass: Nickel

Aluminium: Clear Passivate



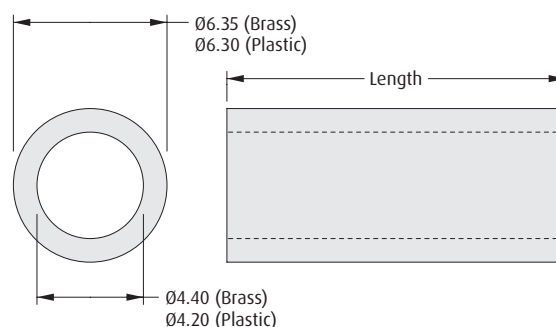
CLEARANCE FOR M4 THREAD

Materials

Base material: Brass or Plastic

Finish

Brass: Nickel



HOW TO ORDER

R30 - 6 XX XX XX

SERIES CODE

MATERIAL

01	Brass
20	Aluminium
70	Plastic

LENGTH (mm)

03 to 16, 18, 20, 25, 30	Brass, Aluminium
03 to 16, 18, 20, 25	Plastic

FINISH

02	Nickel (Brass only)
14	Passivation (Aluminium only)
94	White (Plastic only)

HOW TO ORDER

R40 - 6 XX XX XX

SERIES CODE

MATERIAL

00	Brass
71	Plastic

LENGTH (mm)

03 to 16, 18, 20, 25, 30	Brass
03, 05 to 08, 10 to 12, 15, 18	Plastic

FINISH

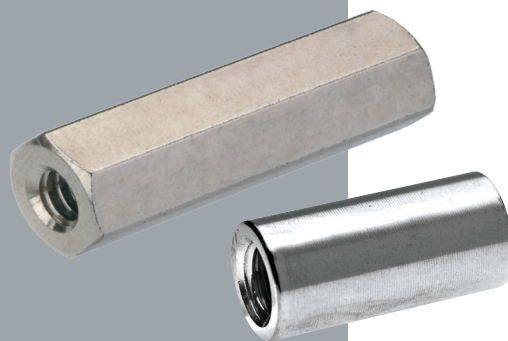
02	Nickel (Brass only)
94	White (Plastic only)

All dimensions in mm.

Metric Spacers

Threaded Female Spacers

- ❖ Available in a variety of standard body lengths.
- ❖ Brass spacers: base material is free-machining brass, with nickel plating.
- ❖ Plastic material: Nylon 66 UL94V-2.
- ❖ Longer thread lengths may not be threaded through the complete length, but have female threads at both ends.



HEXAGONAL

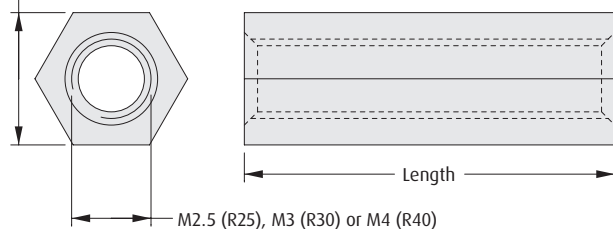
❖ Materials

Base material: Brass or Plastic

Finish

Brass: Nickel

5.00 A/F (R25-100, R30-100)
5.50 A/F (R30-101, R30-161)
7.00 A/F (R40-100)



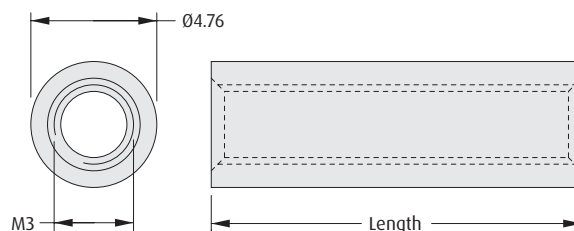
CIRCULAR

❖ Materials

Base material: Brass

Finish

Brass: Nickel



HOW TO ORDER

RXX - XXX XX XX

SERIES CODE

R25-100	Hexagonal, Brass, M2.5 Thread
R30-100	Hexagonal, Brass, M3 Thread
R30-101	Hexagonal, Brass, M3 Thread
R30-161	Hexagonal, Plastic, M3 Thread
R30-500	Circular, Brass, M3 Thread
R40-100	Hexagonal, Brass, M4 Thread

FINISH

00	White (Plastic only)
02	Nickel (Brass only)

LENGTH (mm)

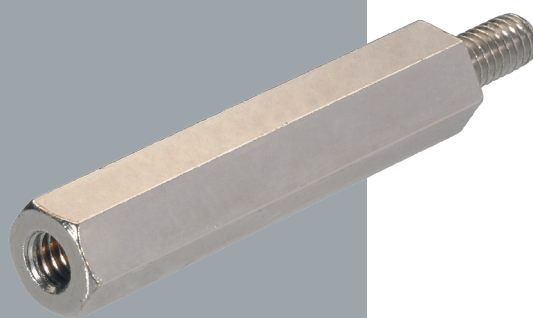
06 to 16, 18, 20, 25	R30-161, R40-100
04 to 16, 18, 20, 25	Other

All dimensions in mm.

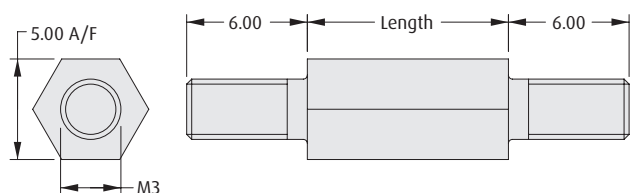
Metric Spacers

Threaded Male Pillars

- Available in a choice of thread sizes, with a variety of standard body lengths.
- Base material is free-machining Brass, with nickel plating.



MALE/MALE



HOW TO ORDER

R30 - 400 XX 02

SERIES CODE

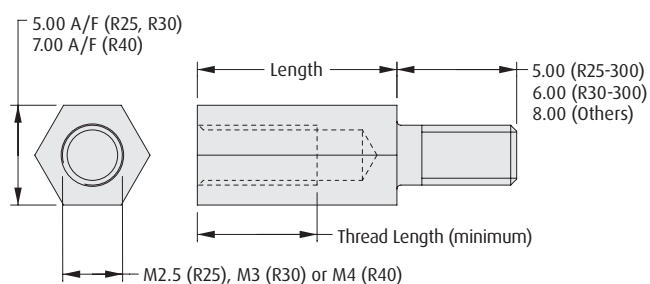
LENGTH (mm)

04 to 16, 18, 20, 25, 30, 35, 40

FINISH

02 Nickel

MALE/FEMALE



- Thread sizes are the same both ends for all standard spacers.

HOW TO ORDER

RXX - 30X XX 02

SERIES CODE

R25-300 M2.5 Thread

R30-300 M3 Thread, 6mm Stud

R30-301 M3 Thread, 8mm Stud

R40-300 M4 Thread

FINISH

02 Nickel

LENGTH (mm)

	03	04	05	06	07	08	09	10	11	12	13	14	15	16	18	20	25	30	35	40	
THREAD LENGTH	1.9	2.5	2.5	3.5	4.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	6.0	6.0	R25-300
	X	2.0	2.5	3.0	4.5	5.5	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	R30-300
	X	2.5	3.0	4.0	5.0	5.0	5.0	5.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	R30-301
	X	X	X	2.5	3.5	4.5	5.5	6.5	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	X	R40-300

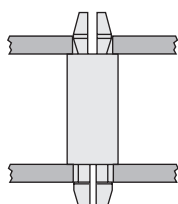
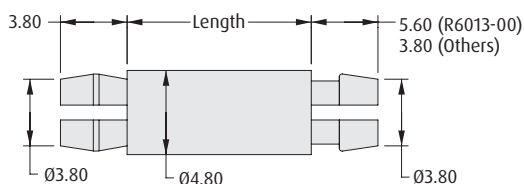
All dimensions in mm.

Locking Spacers

❖ For further product information, please consult the applicable Technical Drawing online.

LOW PROFILE SELF-LOCK SPACERS

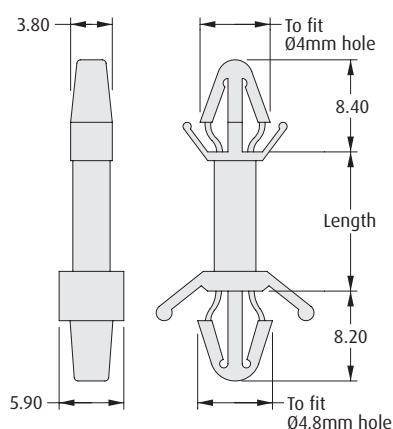
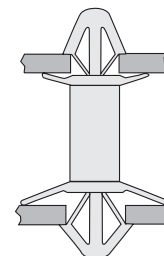
- ❖ Material: Nylon 6/6 UL94V-2.
- ❖ Spacer design uses minimum board area.
- ❖ Recommended PC board thickness 1.60mm.
- ❖ Recommended hole size Ø4.00mm.



ORDER CODE	LENGTH
R6003-00	3.2
R6006-00	6.3
R6008-00	8.0
R6009-00	9.5
R6010-00	10.5
R6013-00	12.7

RIGID SELF-LOCK SPACERS

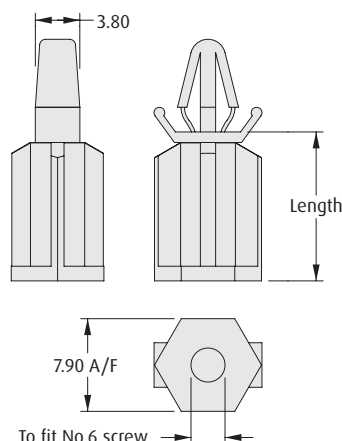
- ❖ Material: Nylon 6/6 UL94V-2.
- ❖ Spacers have wide ribs with locking fingers to provide a secure, rigid fit with extra stability.
- ❖ Recommended PC board thickness 1.60mm.



ORDER CODE	LENGTH
R6405-00	4.8
R6406-00	6.4
R6410-00	9.6
R6413-00	12.7
R6416-00	15.9
R6419-00	19.1
R6422-00	22.2
R6425-00	25.4
R6428-00	28.5
R6435-00	35.0

SCREW FIXING SELF-LOCK SPACERS

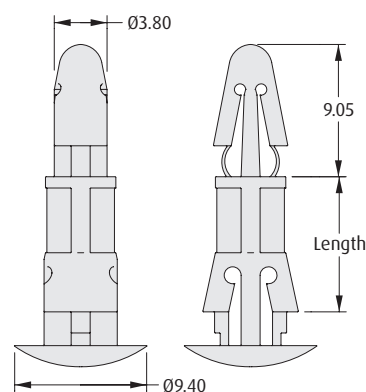
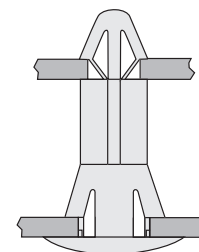
- ❖ Material: Nylon 6/6 UL94V-2.
- ❖ Fit spacer to underside of upper board, then attach lower board to bottom of spacer with No. 6 (1/8") screw.
- ❖ Recommended hole sizes: Ø4.00mm (upper board), Ø3.60mm (lower board).
- ❖ Recommended PC board thickness 2.00mm (upper board).



ORDER CODE	LENGTH
R6505-00	4.9
R6510-00	9.6
R6513-00	12.7
R6519-00	19.1
R6528-00	28.5
R6535-00	35.0

REVERSE LOCK SPACERS

- ❖ Material: Nylon 6/6 UL94V-2.
- ❖ Fit spacers from underside of board.
- ❖ Recommended PC board thickness 0.50 - 1.80mm.
- ❖ Recommended hole sizes: Ø4.00mm (upper board), Ø5.50mm (lower board).



ORDER CODE	LENGTH
R6706-00	6.1
R6708-00	8.0
R6710-00	9.8
R6712-00	12.0
R6714-00	14.0
R6718-00	18.0

All dimensions in mm.

Notes