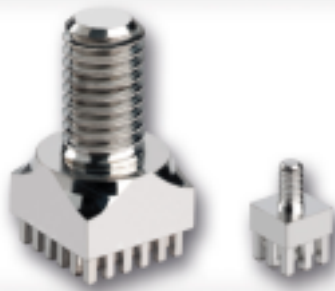
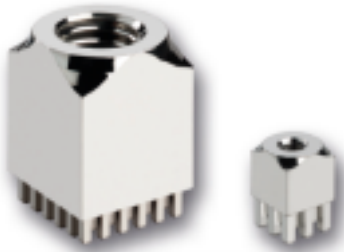
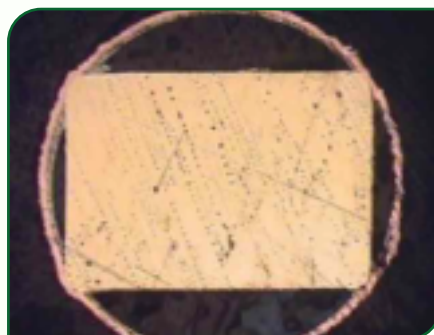
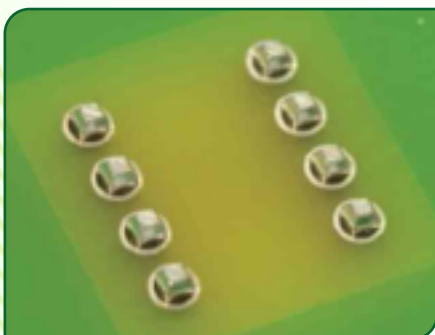


PowerElements



AS THE NAME SUGGESTS, POWER ELEMENTS CAN BE USED ANYWHERE WHERE YOU ARE DEALING WITH "POWER" SOURCING CAPABILITIES NAMELY HIGH CURRENT ON THE PCB. PRESS FIT TECHNOLOGY : OUT OF THE 2 POWER ELEMENTS THE MOST POPULAR IS THE PRESS FIT TECHNOLOGY. THE OTHER BEING SOLDER TECHNOLOGY.

- ❖ AN EFFECTIVE PRESS FIT CONNECTION IS CREATED BY PRESSING A PIN INTO PLATED THROUGH HOLE OF A CIRCUIT BOARD CREATING A GAS TIGHT ELECTRICAL CONNECTION.
- ❖ ONE DISTINCTIVE CHARACTERISTIC OF THE PRESS-FIT SYSTEM COMPARED TO THE SOLDERING SYSTEM IS THAT IT PRODUCES NOT ONLY AN ELECTRICAL CONNECTION BUT ALSO AN EXTRAORDINARILY STRONG MECHANICAL CONNECTION BETWEEN THE INSERTED COMPONENTS AND THE PCB.
- ❖ MULTIPLE POWER ELEMENTS CAN BE FITTED SIMULTANOUSLY USING THE PRESS-FIT TOOLS WHICH MAKES IT COST EFFECTIVE.
- ❖ THE CIRCUIT BOARDS , IN CONTRAST TO SOLDERING, ARE NOT LOADED THERMALLY.

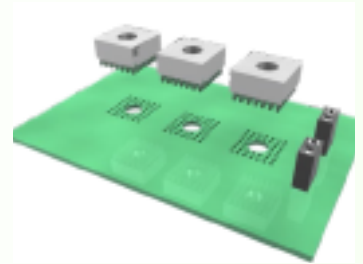


Continuous & extremely homogenous material transition between press pin & through-hole plating.

- OTHER COMPONENTS SHOULD BE SPACED AT LEAST 4 MM AWAY FROM THE PRESS-FIT HOLE.
- THE HOLE SHOULD BE AT LEAST 3 MM AWAY FROM THE EDGE.
- A SIMPLE LEVER PRESS IS USUALLY SUFFICIENT FOR PRESSING PROCESS.
- THE INSERTION FORCE PER PIN SHOULD BE AT LEAST 40 N. TYPICALLY THIS FORCE IS AROUND 150N/PIN.
- THE PRESS STROKE SHOULD BE 90° TO THE PCB. THE PINS SHOULD PROTRUDE SLIGHTLY FROM PCB AFTER THE PRESSING PROCESS.
- PRESS-FIT IS HIGHLY RELIABLE SINCE IT HAS LOWEST FIT VALUE (FAILURE IN TIME) OF THE OVERALL SYSTEM.
- A SINGLE, SOLID, PRESS FIT HAS A TYPICAL EXTRACTION FORCE OF 100 N OR APPROXIMATELY 70% OF THE INSERTION FORCE. THUS PRESS-FIT CONNECTIONS PROVIDE NOT ONLY ELECTRICAL, BUT ALSO MECHANICAL CONNECTIONS FOR ELECTRICAL COMPONENTS.



ADVANTAGES OF PRESS-FIT TECHNOLOGY



- PRESS-FIT CONNECTIONS SHOW EXTREMELY HIGH ENVIRONMENTAL STABILITY.
- VERY HIGH CURRENT CARRYING CAPACITY.
- LOW RESISTANCE CONNECTION MEANS LOW SELF HEATING.
- DOUBLE SIDED MOUNTING ON CIRCUIT BOARD IS POSSIBLE. IT ENABLES COMPACT DESIGN OF MODULES.
- NO HEAT DEVELOPMENT ON SENSITIVE COMPONENTS AND NO THERMAL STRESS ON CIRCUIT BOARD.
- SIMPLE AND QUICK PROCESSING
- HIGH PROCESS SAFETY



CHARACTERISTICS:

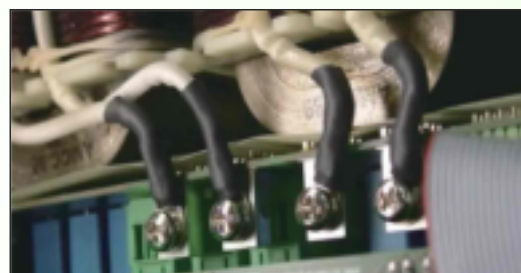
- THE PRESS FIT POWER ELEMENTS ARE REACH & RoHS COMPLIANT.
- THE CIRCUIT BOARD THICKNESS SHOULD IDEALLY BE BETWEEN 1.6 MM TO 3.2 MM.
- THE MOST PREFERRED PCB SURFACES ARE IMMERSION TIN & HAL LEAD FREE.
- IMMERSION TIN COATING PROCESS IS HIGHLY RECOMMENDED. IT ENSURES THAT THE TIN IS EVENLY DISTRIBUTED AND CHIP FORMATION CAN BE PREVENTED. DUE TO UNEVEN DISTRIBUTION OF TIN IN CASE OF HAL PROCESS, IMMERSION TIN PROCESS MOSTLY USED FOR CIRCUIT BOARD THICKNESS OF 2.4 MM AND GREATER.



Option for fitting a fuse



High current Board-to-Board connection



TECHNICAL DATA :

TECHNICAL DATA :

MATERIAL BASE BODY : CuZnPb3

SURFACE : TIN PLATED

RETENTION FORCE : ACCORDING TO IEC 352-5

PRESS FIT FORCE : Max. 250 N per pin
Max. 40 N per pin

PRESS OUT FORCE : Min. 30 N per pin

PCB THICKNESS : Min. 1.6 mm to 3.2 mm

CURRENT CARRYING CAPABILITY PER POWER ELEMENT : Approx. 10 A per pin.










TIGHTENING TORQUE : TORQUES INDICATED IN BELOW TABLE ARE BASED ON DIN 267 PART 25 FOR BRASS



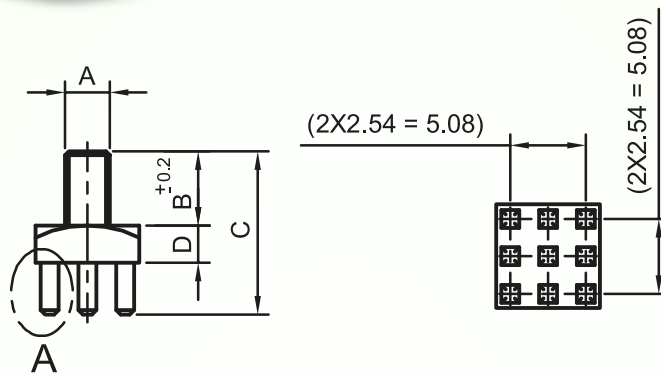
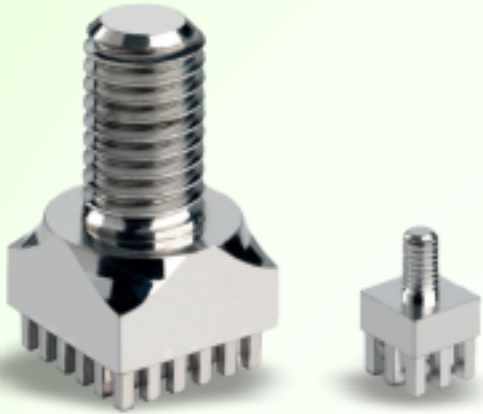
THREAD	M 2.5	M 3	M 4	M 5	M 6	M 8	M 10	M 12
(Nm)	0.3	0.5	1.2	2.2	3.9	9.0	17.0	35.0

OPERATING TEMPERATURE : -40 °C to +155 °C

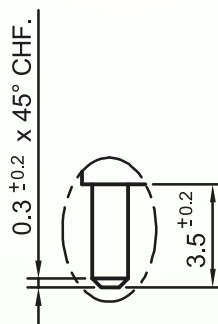
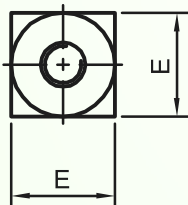
PRODUCT MATRIX PRESSFIT TECHNOLOGY

Number of pins		6	8	9	10	12	16	20	25	36	49
	Male thread, full pin population			M3 M4 M5			M4 M5		M6 M8	M10	
	Female thread, full pin population			M3			M4 M5 M6		M8	M10	
	Female thread, two rows pin population	M3	M4 M5 M6		M8	M10					
	Female thread, circular pin population		M2,5			M4 M5	M6 M8	M10			
	Angled, full pin population			M3 ø3.2			M4, M5 ø4.2 ø5.2		M6, M8 ø6.2 ø8.2	M10 ø10.2	
	Angled, two rows pin population	M3 ø3.2	M4, M5 ø4.2 ø5.2		M6, M8 ø6.2 ø8.2	M10 ø10.2					
	Angled, U-profile, full pin population								ø5.2	ø8.2 ø10.2	
Number of pins		8	10	12	16	20					
	Two-part, base-part, two row pin population	M3, M4 ø3.2, ø4.2	M4, M5, M6 ø4.2, ø5.2, ø6.2	M8 ø8.2							
	Two-part, base-part, circular pin population				M3, M4, M5 ø4.2, ø5.2	M4, M5, M6 ø4.2, ø5.2, ø6.2	M8, M10 ø6.2, ø8.2				

9 PINS MALE THREAD & FULL PIN POPULATION



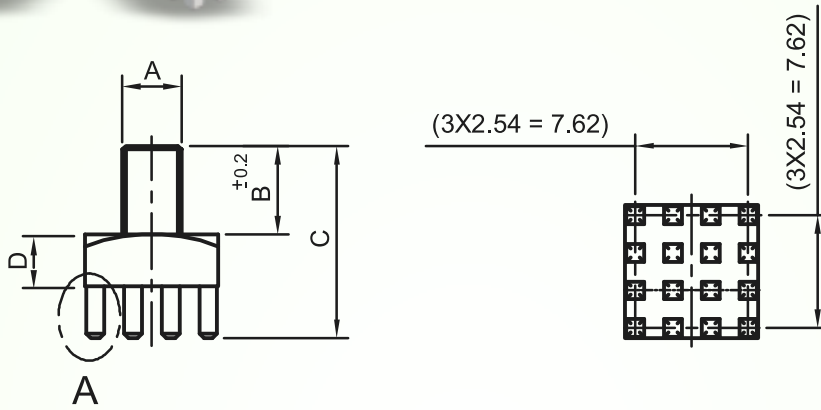
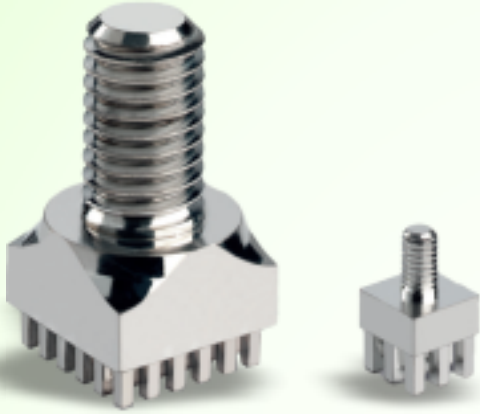
A	B	C	D	E	Weight
M3	5	11	2.5	7	2.1g.
M4	6	12.5	3	7	3.6g.
M5	8	15.5	4	7	4.3g.



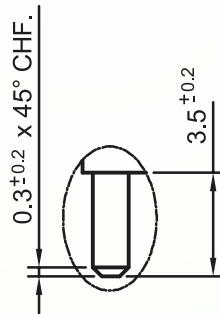
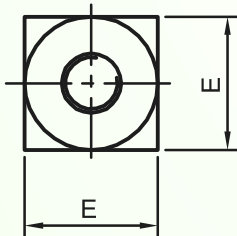
SCALE : 2:1

DETAIL 'A'
SCALE = 4:1

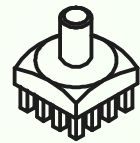
16 PINS MALE THREAD & FULL PIN POPULATION



A	B	C	D	E	Weight
M4	6	13	3.5	9	3.6g.
M5	8	16	4.5	9	4.9g.

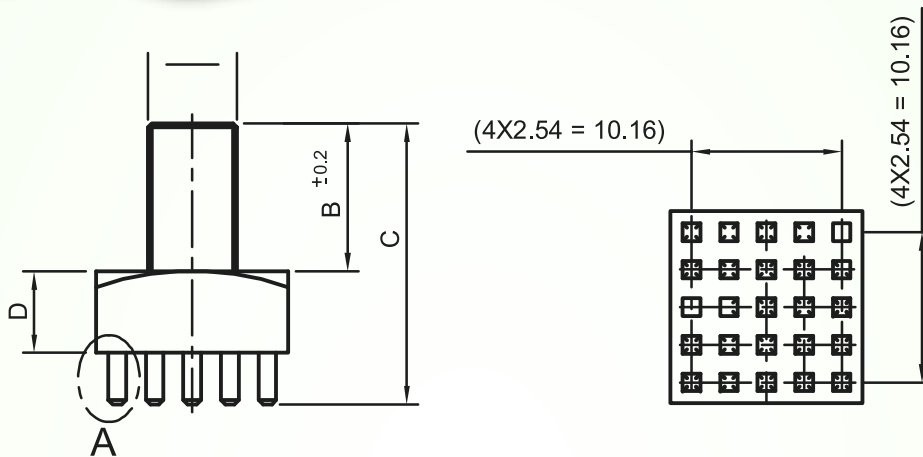
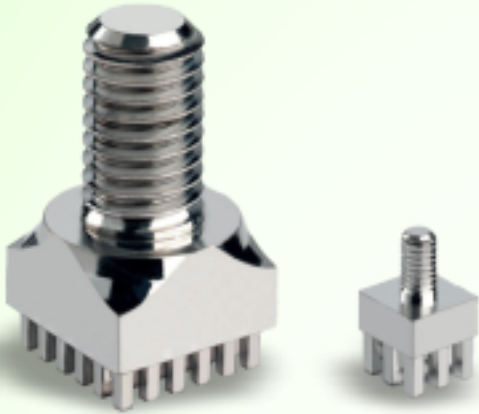


DETAIL 'A'
SCALE = 4:1

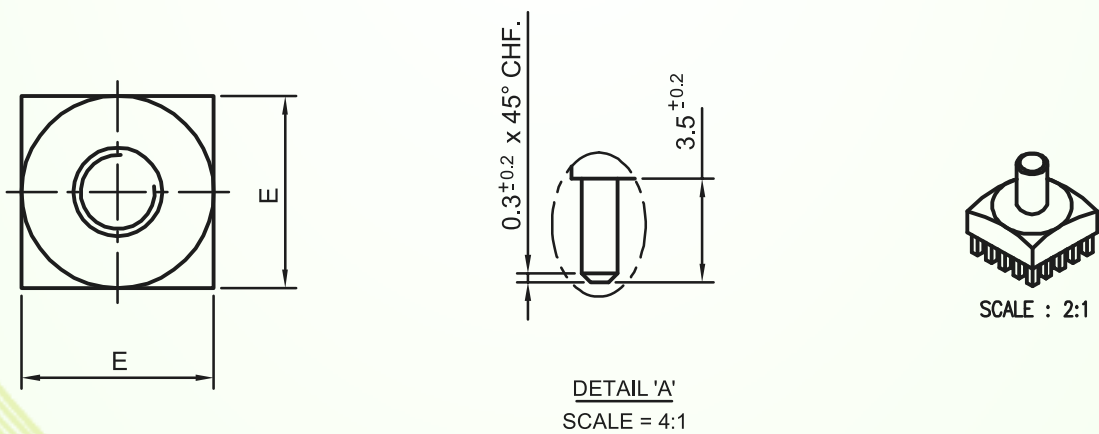


SCALE : 2:1

25 PINS MALE THREAD & FULL PIN POPULATION

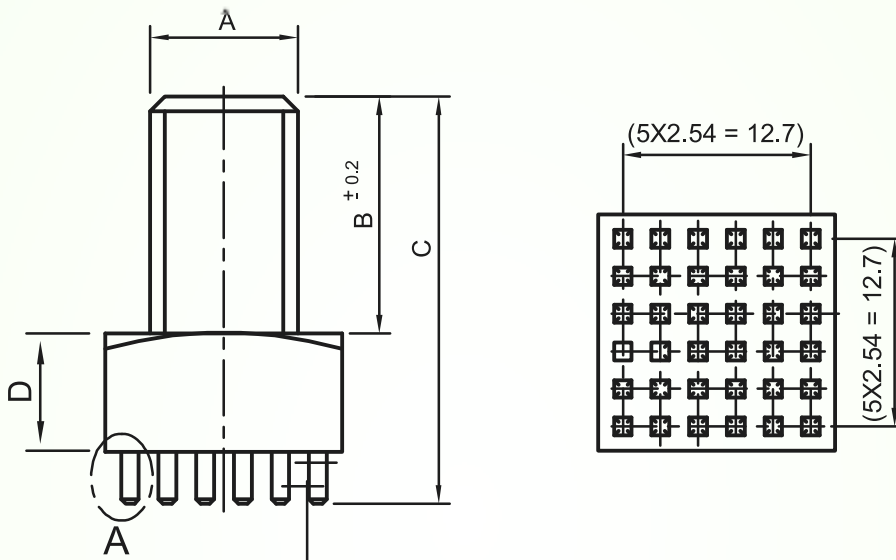
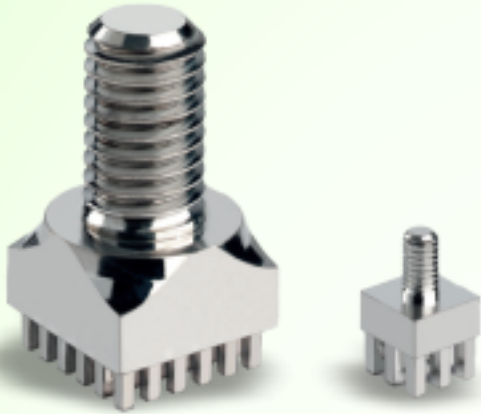


A	B	C	D	E	Weight
M6	10	19	5.5	13	10.5g.
M8	13	24	7.5	13	15.9g.

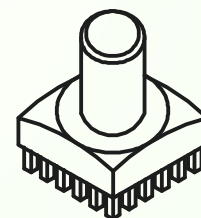
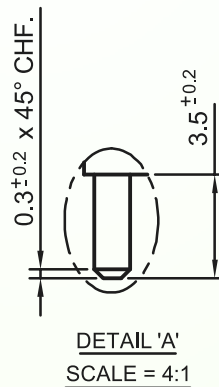
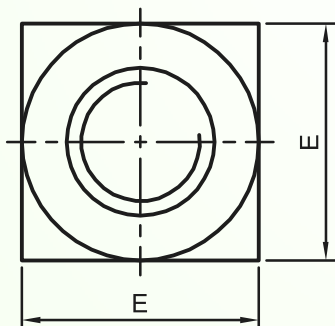


Execution : Press-Fit
Surface coating : 5-10µm Sn on 2-4µmCu
Material : CuZn39Pb3

36 PINS MALE THREAD & FULL PIN POPULATION



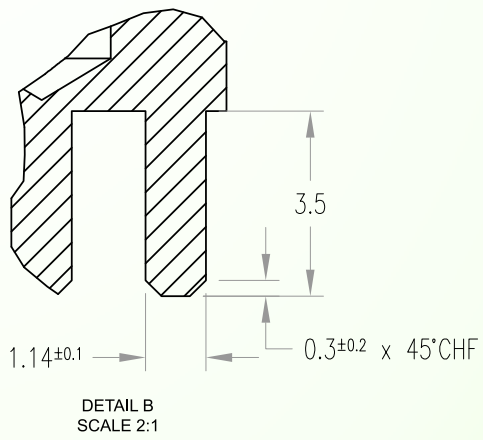
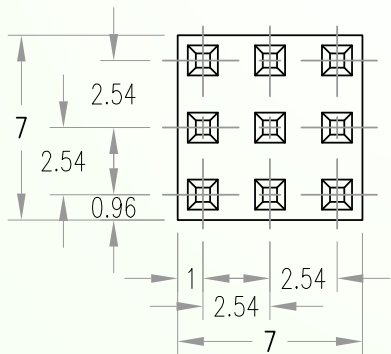
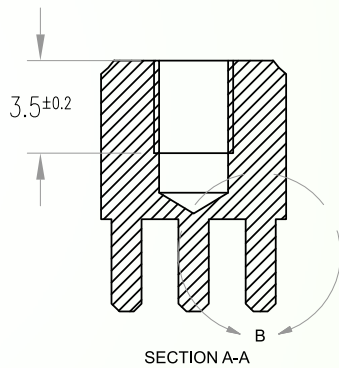
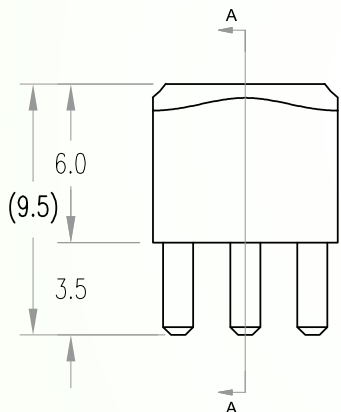
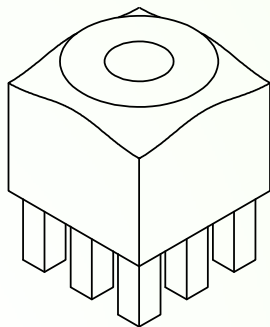
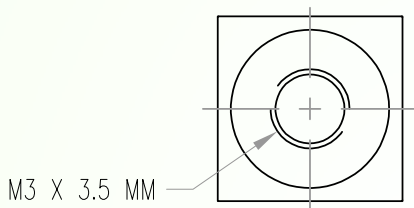
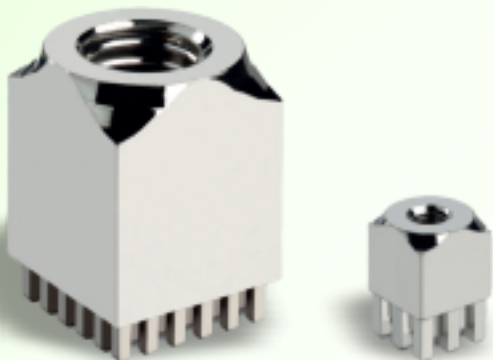
A	B	C	D	E	Weight
M10	16	27.5	8	16	27.2g.
M12	30	41.5	8	18	46.6g.



SCALE : 2:1

Execution : Press-Fit
Surface coating : 5-10µm Sn on 2-4µmCu
Material : CuZn39Pb3

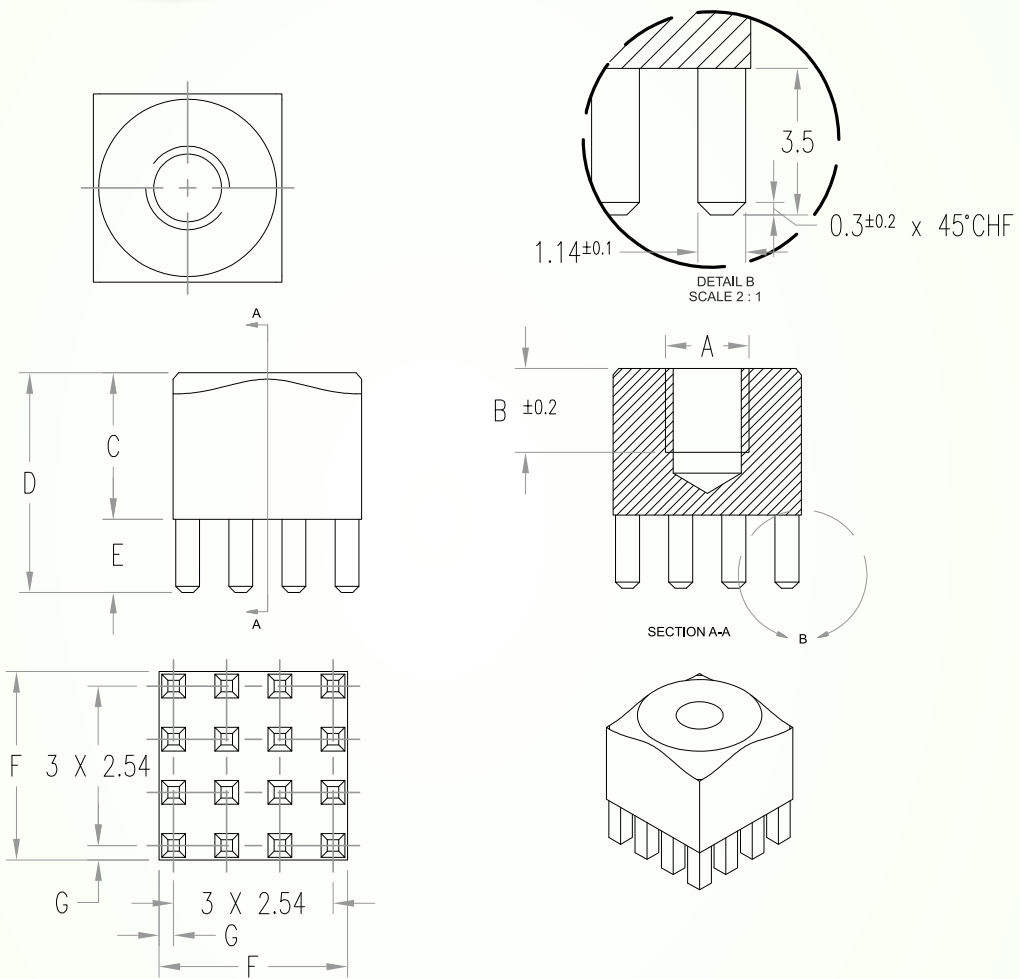
9 PINS FEMALE THREAD & FULL PIN POPULATION



Execution : Press-Fit
Surface coating : 5-10µm Sn on 2-4µmCu
Material : CuZn39Pb3



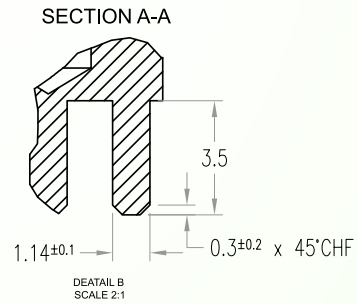
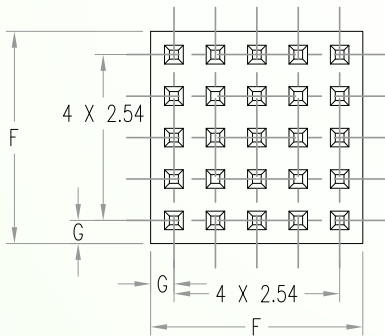
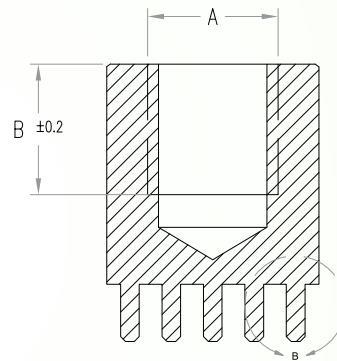
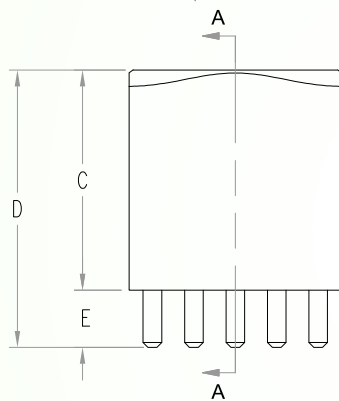
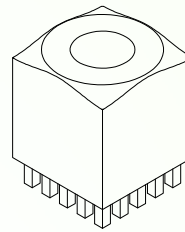
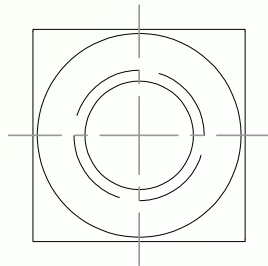
16 PIN FEMALE THREAD & FULL PIN POPULATION



A	B	C	D	E	F	G	Weight
M4	4	7	10.5	3.5	9	0.69	4.6g.
M5	4	7	10.5	3.5	9	0.69	4.4g.
M6	6.5	10.5	14	3.5	10	1.19	7g.

Execution : Press-Fit
Surface coating : 5-10µm Sn on 2-4µmCu
Material : CuZn39Pb3

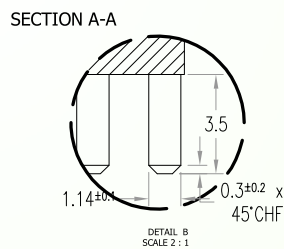
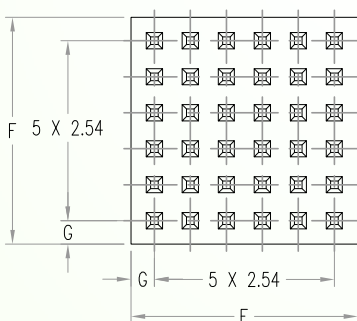
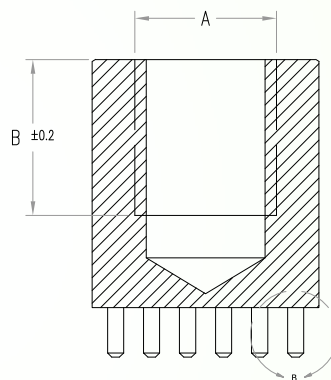
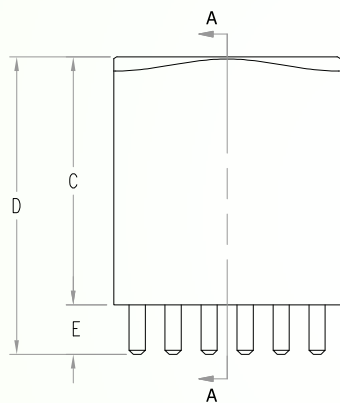
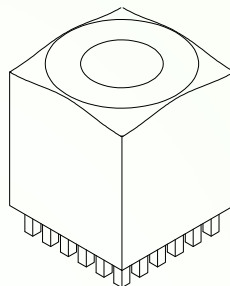
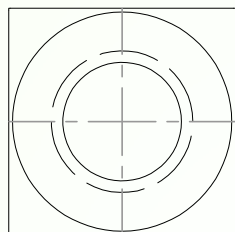
25 PINS FEMALE THREAD & FULL PIN POPULATION



A	B	C	D	E	F	G	Weight
M8	8	13.5	17	3.5	13	1.42	14.2g.

Execution : Press-Fit
Surface coating : 5-10µm Sn on 2-4µmCu
Material : CuZn39Pb3

36 PIN FEMALE THREAD & FULL PIN POPULATION



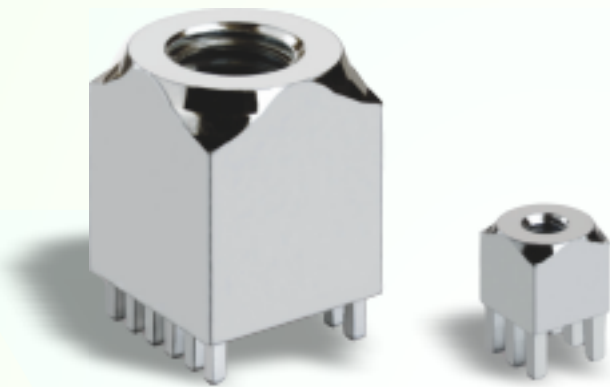
A	B	C	D	E	F	G	Weight
M10	11	17.5	21	3.5	16	1.65	26.2g.

Execution : Press-Fit
Surface coating : 5-10µm Sn on 2-4µmCu
Material : CuZn39Pb3

FEMALE THREAD AND TWO ROWS PIN POPULATION



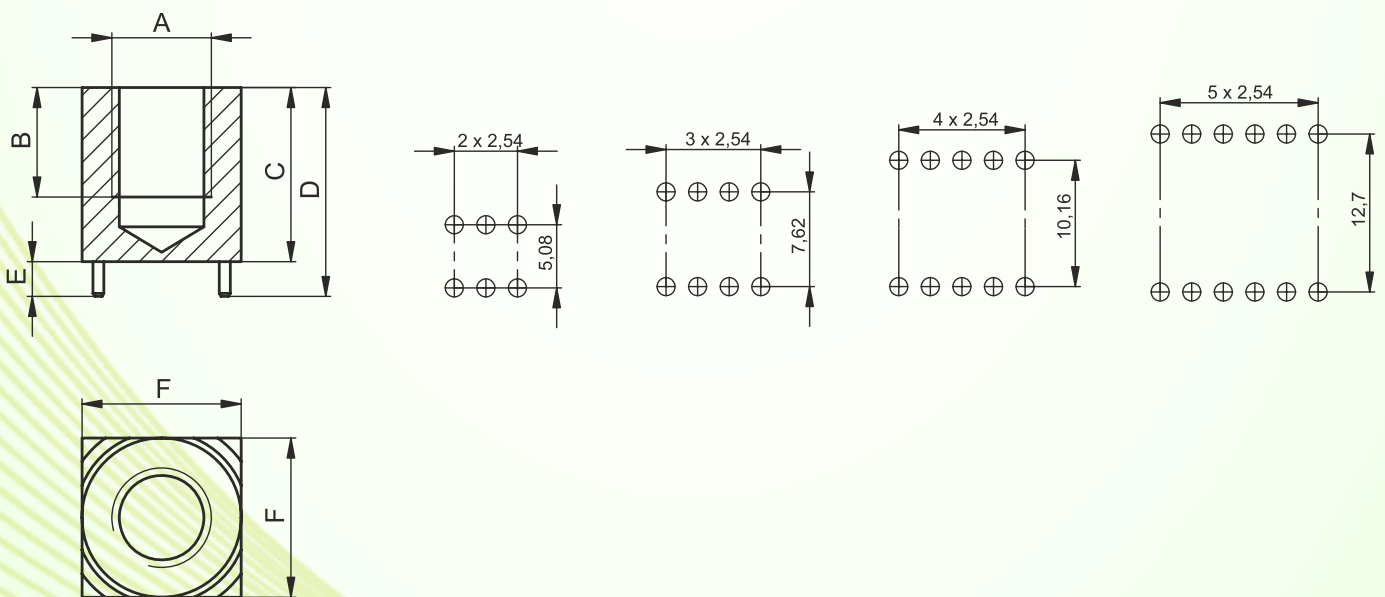
PRODUCT SPECIFICATION



- PCB connection for fixing cable lugs
- Available with continuous thread
- Fixing midi or mega fuses on the PCB
- When smaller pressfit forces are required
- When the layout does not permit full pin population
- UNC thread or customer specific modifications on demand



DIMENSIONAL DRAWINGS



FEMALE THREAD AND TWO ROWS PIN POPULATION



ORDERING INFORMATION

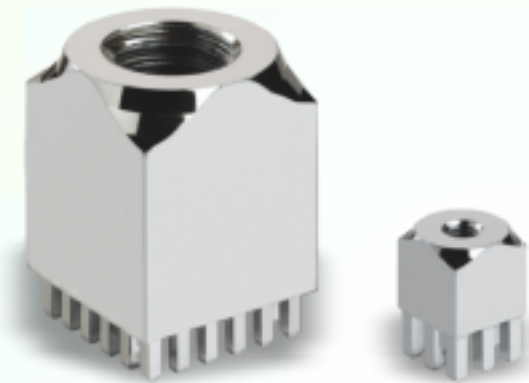
A	B	C	D	E	F	No. of Pins	Weight
M3	5	6	9.5	3.5	7	6	2.3
M4	6	7	10.5	3.5	9	8	4.2
M5	6	7	10.5	3.5	9	8	3.8
M6	9	13.5	17	3.5	10	8	8.2
M8	10	13.5	17	3.5	13	10	12.2
M10	11	17.5	21	3.5	16	12	25.3

Dimension B - F in mm, Weight in g

FEMALE THREAD AND CIRCULAR PIN POPULATION



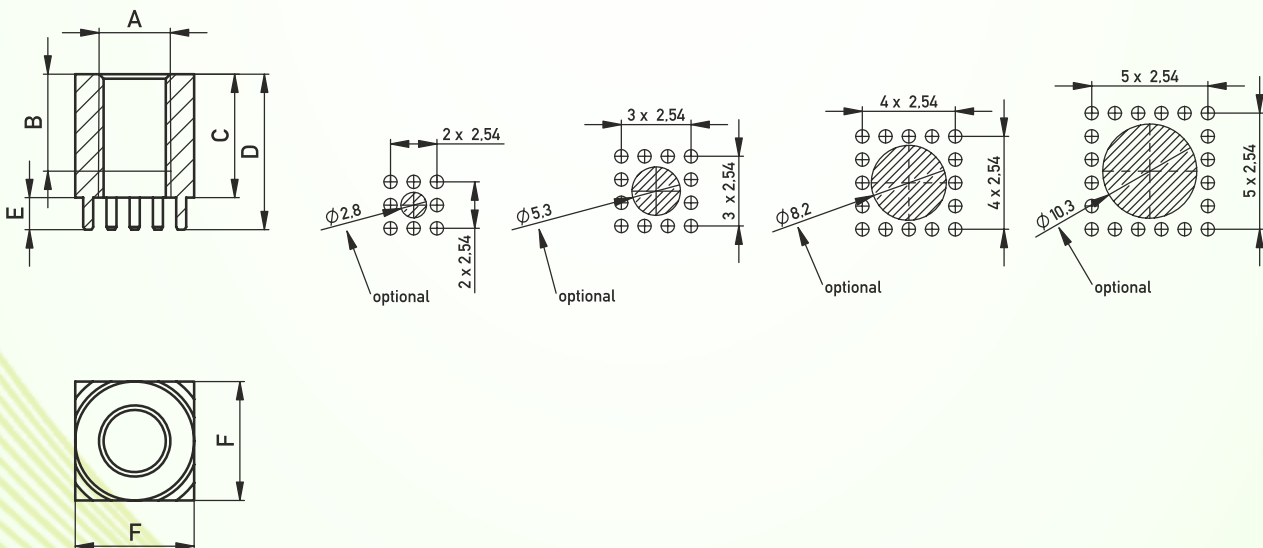
PRODUCT SPECIFICATION



- PCB connection for fixing cable lugs
- Available with continuous thread
- Fixing midi or mega fuses on the PCB
- When smaller pressfit forces are required
- When the layout does not permit full pin population
- UNC thread or customer specific modifications on demand



DIMENSIONAL DRAWINGS



FEMALE THREAD AND CIRCULAR PIN POPULATION



ORDERING INFORMATION

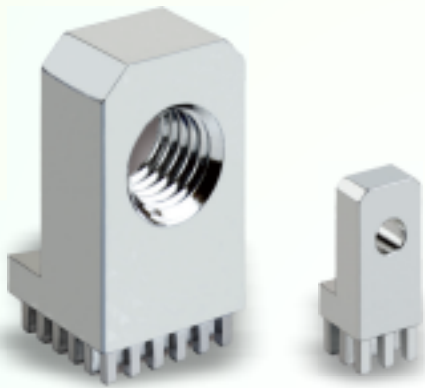
A	B	C	D	E	F	No. of Pins	Weight
M2.5	5	6	9.5	3.5	7	8	2.5
M4	5.2	6	9.5	3.5	9	12	3.8
M5	–	6	9.5	3.5	9	12	3.6
M6	–	13.5	17	3.5	13	16	14.6
M8	–	13.5	17	3.5	13	16	12.4
M10	–	17.5	21	3.5	16	20	22.6

Dimension B - F in mm, Weight in g

ANGLED, FULL PIN POPULATION



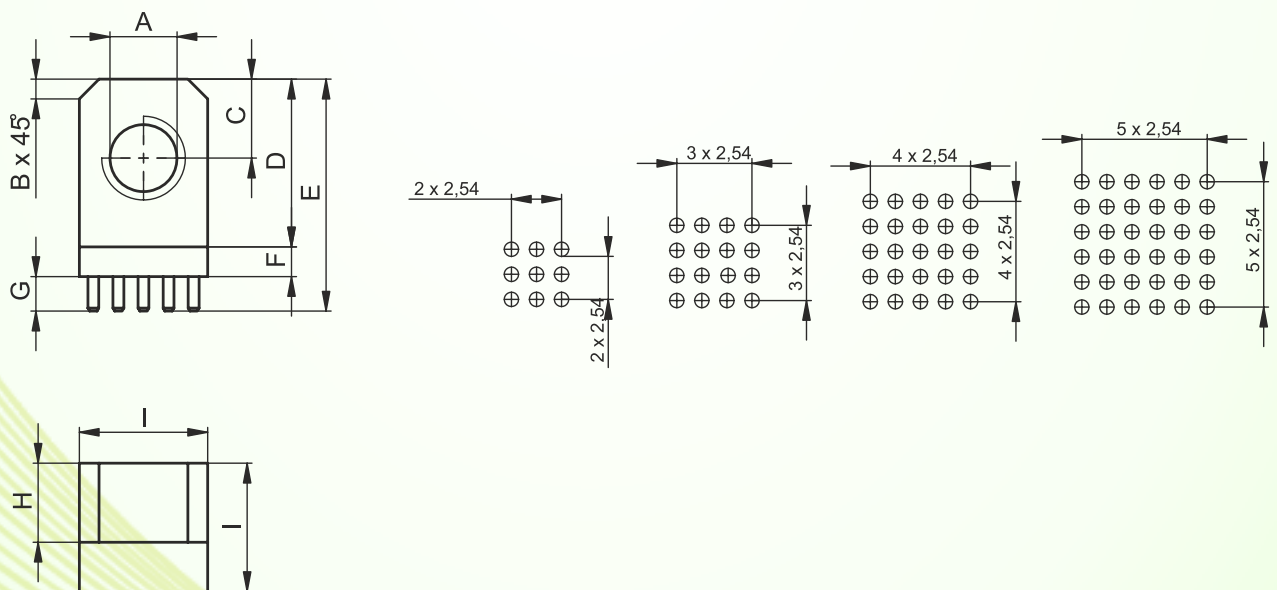
PRODUCT SPECIFICATION



- PCB connection for fixing cable lugs
- Connection 90°
- Available with thread or through hole
- UNC thread or customer specific modifications on demand
- As a fixing element for assembly onto housing etc.
- E.g. for the connection of high current relays



DIMENSIONAL DRAWINGS



ANGLED, FULL PIN POPULATION



ORDERING INFORMATION

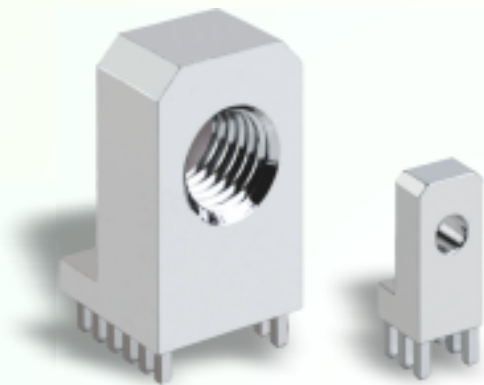
A	B	C	D	E	F	G	H	I	No. of Pins	Weight
M3	1	5	11	17.5	3	3.5	4	7	9	4.2
M4	1.5	5	11	17.5	3	3.5	5	9	16	6.6
M5	1.5	5	11	17.5	3	3.5	5	9	16	6.4
M6	2	8	17	23.5	3	3.5	8	13	25	19
M8	2	8	17	23.5	3	3.5	8	13	25	17.7
M10	2.5	10	22	28.5	3	3.5	10	16	36	22.6
ø 3.2	1	5	11	17.5	3	3.5	4	7	9	4
ø 4.2	1.5	5	11	17.5	3	3.5	5	9	16	6.3
ø 5.2	1.5	5	11	17.5	3	3.5	5	9	16	6
ø 6.2	2	8	17	23.5	3	3.5	8	13	25	18.3
ø 8.2	2	8	17	23.5	3	3.5	8	13	25	16.7
ø 10.2	2.5	10	22	28.5	3	3.5	10	16	36	30.9
ø 10.2	2.5	10	22	28.5	3	3.5	5	16	36	30.9

Dimension B - I in mm, Weight in g

ANGLED, TWO ROW PIN POPULATION



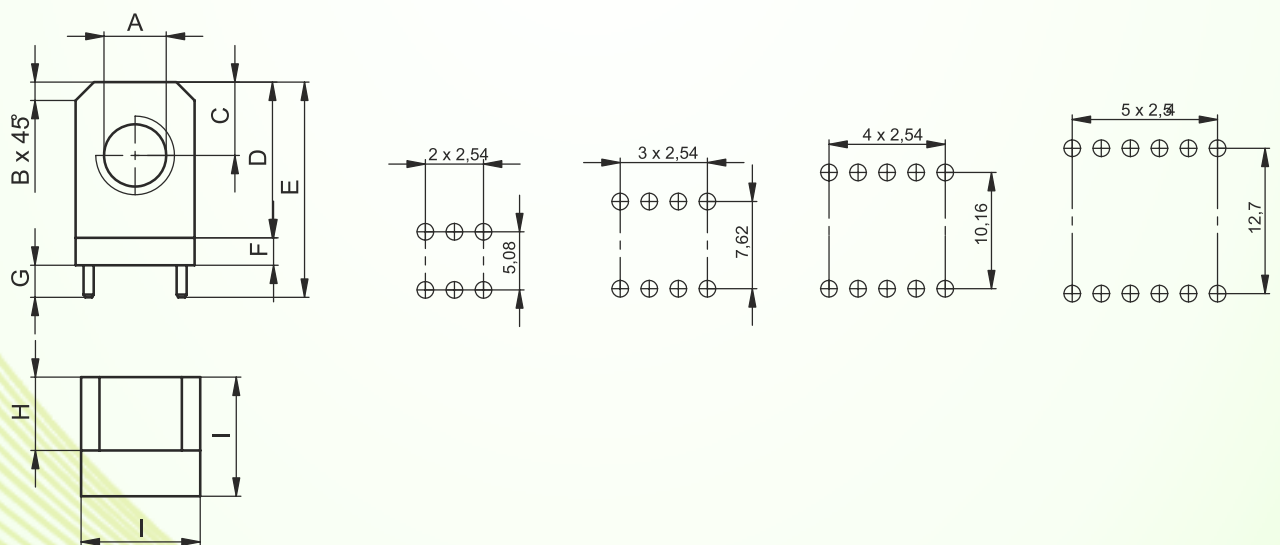
PRODUCT SPECIFICATION



- PCB connection for fixing cable lugs
- Connection 90°
- Available with thread or through hole
- UNC thread or customer specific modifications on demand
- When smaller pressfit forces are required
- When the layout does not permit full pin population
- E.g. for the connection of high current relays



DIMENSIONAL DRAWINGS



ANGLED, TWO ROW PIN POPULATION



ORDERING INFORMATION

A	B	C	D	E	F	G	H	I	No. of Pins	Weight
M3	1	5	11	17.5	3	3.5	4	7	6	4
M4	1.5	5	11	17.5	3	3.5	5	9	8	6.3
M5	1.5	5	11	17.5	3	3.5	5	9	8	6.1
M6	2	8	17	23.5	3	3.5	8	13	10	18.4
M8	2	8	17	23.5	3	3.5	8	13	10	17.2
M10	2.5	10	22	28.5	3	3.5	10	16	12	31.5
ø 3.2	1	5	11	17.5	3	3.5	4	7	6	3.9
ø 4.2	1.5	5	11	17.5	3	3.5	5	9	8	6
ø 5.2	1.5	5	11	17.5	3	3.5	5	9	8	5.7
ø 6.2	2	8	17	23.5	3	3.5	8	13	10	17.7
ø 8.2	2	8	17	23.5	3	3.5	8	13	10	16.2
ø 10.2	2.5	10	22	28.5	3	3.5	10	16	12	30

Dimension B - I in mm, Weight in g

ANGLED, U-PROFILE, FULL PIN POPULATION



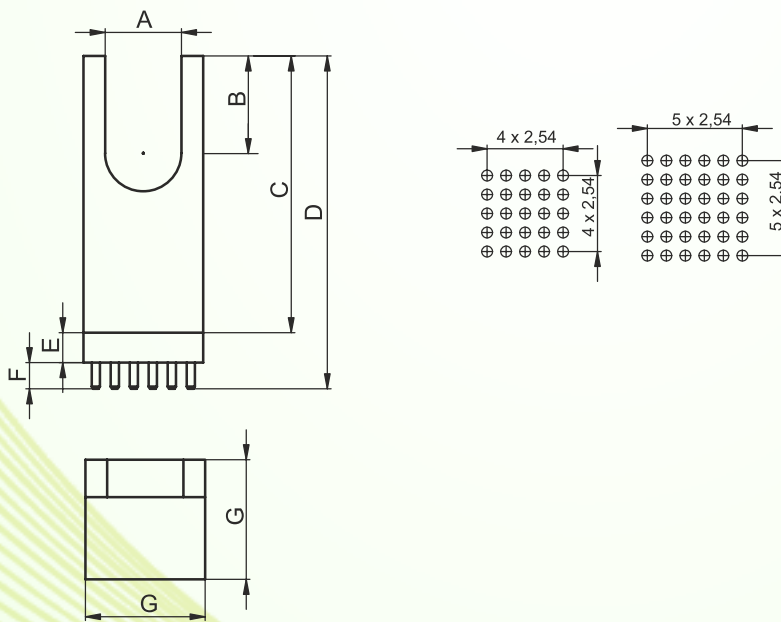
PRODUCT SPECIFICATION



- PCB connection for fixing cable lugs
- Connection 90°
- Due to the u-profile ensures a simple processing of the mounting bolt
- Compensation of greater height tolerances possible
- As a fixing element for assembly onto housing etc.
- E.g. for the connection of high current relays



DIMENSIONAL DRAWINGS



ANGLED, U-PROFILE, FULL PIN POPULATION



ORDERING INFORMATION

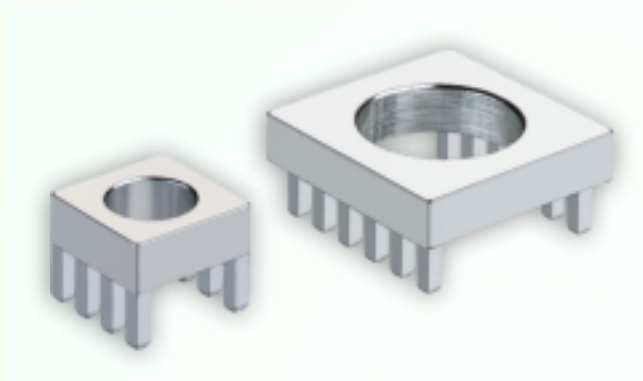
A	B	C	D	E	F	G	H	No. of Pins	Weight
∅ 5.2	10	32	39.5	4	3.5	5	13	25	21.4
∅ 8.2	10	35	42.5	4	3.5	5	16	36	28.94
∅ 10.2	13	37	44.5	4	3.5	5	16	36	28.9

Dimension B - H in mm, Weight in g

TWO-PART, BASE-PART, TWO ROW PIN POPULATION



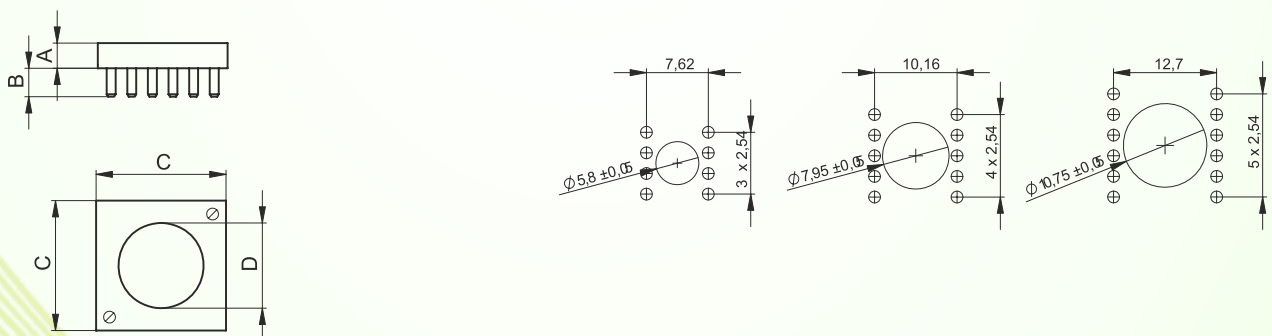
PRODUCT SPECIFICATION



- PCB connection for fixing cable lugs
- Fixing of large heavy components (e.g. battery disconnection switch)
- Protecting PCB from mechanical stress
- Pitch 2.54 mm



DIMENSIONAL DRAWINGS



TWO-PART, BASE-PART, TWO ROW PIN POPULATION



ORDERING INFORMATION

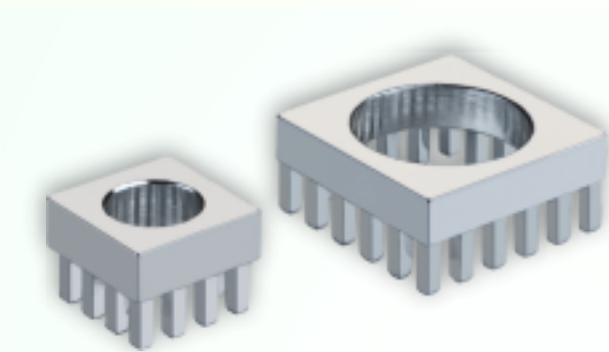
A	B	C	D	No. of Pins	Weight
3.1	3.5	9	5.5	8	1.8
3.1	3.5	13	7.3	10	3.7
3.1	3.5	16	10.5	12	4.89
3.1	3.5	16	9.8	12	5.18

Dimension A - D in mm, Weight in g

TWO-PART, BASE-PART, CIRCULAR PIN POPULATION



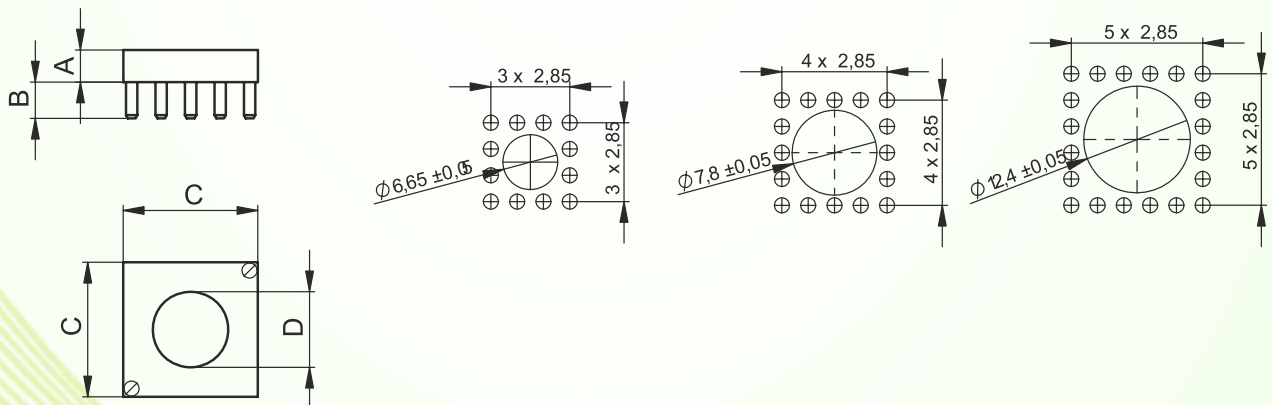
PRODUCT SPECIFICATION



- PCB connection for fixing cable lugs
- Fixing of large heavy components (e.g. battery disconnection switch)
- Protecting PCB from mechanical stress
- Pitch 2,85 mm



DIMENSIONAL DRAWINGS



TWO-PART, BASE-PART, CIRCULAR PIN POPULATION



ORDERING INFORMATION

A	B	C	D	No. of Pins	Weight
3.1	3.5	10	6.2	12	2.27
3.1	3.5	13	7.3	16	3.93
3.1	3.5	16	12	20	4.49

Dimension A - D in mm, Weight in g

Standard Spring & Metal Pressing Works

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