DIL SOCKETS

GENERAL SPECIFICATIONS

The values listed below are general specs applying for Preci-Dip DIL sockets. Please see individual catalog page for additional and product specific technical data.

OPERATING TEMPERATURE RANGE	-55 ... +125 °C
CLIMATIC CATEGORY (IEC)	55/125/21
OPERATING HUMIDITY RANGE	Annual mean 75%
MAX. WORKING VOLTAGE	100 VRMS/150 VDC

Preci-Dip sockets are recognized by Underwriters Laboratories Inc. and listed under "Connectors for Use in Data, Signal, Control and Power Applications", File Nr. E174442.

MECHANICAL CHARACTERISTICS

CLIP RETENTION	Min. 40 N (no displacement under axial force applied)
CONTACT (SLEEVE / CLIP) RETENTION	Min. 3.3 N acc. to MIL-DTL-83734, pt 4.6.4.2

ELECTRICAL CHARACTERISTICS

INSULATION RESISTANCE AT 500 V AC BETWEEN ANY TWO ADJACENT CONTACTS	Min. 10'000 MΩ
CAPACITANCE BETWEEN ANY TWO ADJACENT CONTACTS	Max. 1 pF
AIR AND CREEPAGE DISTANCES BETWEEN ANY TWO ADJACENT CONTACTS (Min. 0.2 mm FOR SHRINK-DIP SOCKETS)	Min. 0.6 mm

ENVIRONMENTAL CHARACTERISTICS

The sockets withstand the following environmental tests without mechanical and electrical defects:

- Dry heat steady state IEC 60512-11-9.11i / 60068-2-2.Bb: 125 °C, 16 h
- Damp heat cyclic IEC 60512-11-12.11m / 60068-2-30.Db: 25/55 °C, 90 – 100 %rH, 1 cycle of 24 h
- Cold steady state IEC 60512-11-10.11j / 60068-2-1.A: -55 °C, 2 h
- Thermal shock IEC 60512-11-4.11d / 60068-2-14.Na: -55/125 °C, 5 cycles 30 min.
- Sinusoidal vibrations IEC 60512-6-4.6d / 60068-2-6.Fc: 10 to 500 Hz, 10 g, 1 octave/min, 10 cycles for each axis
- Shock IEC 60512-6-3.6c / 60068-2-27.Ea: 50 g, 11 ms, 3 shocks in three axis

During the above two tests, no contact interruption >50 ns does appear.

- Solderability J-STD-002A, Test A, 245 °C, 5 s, solder alloy SnAg3.8Cu0.7
- Resistance to soldering heat J-STD-020C, 260 °C, 20 s
- Moisture sensitivity J-STD-020C level 1
- Resistance to corrosion:
  1) Salt spray test IEC 60068-2-11.Ka: 48 h
  2) Sulfur dioxide (SO_2) test IEC 60068-2-42 Kc: 96 h at 25 ppm SO_2, 25 °C, 75 %rH
  3) Hydrogen sulfide (H_2S) test IEC 60068-2-43 Kd: 96 h at 12 ppm H_2S, 25 °C, 75 %rH

SOLDERLESS COMPLIANT PRESS-FIT CHARACTERISTICS

PRESS-FIT CHARACTERISTICS MEASURED ACC. TO IEC 60352-5

• Press-in force:	90 N max. (at min. hole dia.) / 65 N typ.
• Push-out force:	30 N min. (at max. hole dia.) / 50 N typ.
• Push-out 3rd cycle:	20 N min. (at max. hole dia.)

PCB HOLE DIMENSIONS

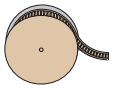
• 2.54 mm grid	Finished hole Ø: 1 + 0.09/-0.06 mm Drilled hole Ø: 1.15 ± 0.025 mm

PCB HOLE PLATING

PCB surface finish	Hole plating
• Tin	5-15 µm tin over min. 25 µm copper
• Copper	min. 25 µm copper
• Gold over nickel	0.05-0.2 µm gold over 2.5-5 µm nickel over min. 25 µm copper

PACKAGING

- Standard packaging for DIL sockets is tube packaging.
- SMD mount sockets available on request with Tape & Reel packaging acc. to EIA Standard 481. These products are marked with the symbol:



T & R Packaging

Please consult **www.precidip.com** for availability, size of tape, size of reel, number of components per reel and packing units.

DUAL-IN-LINE PIN HEADERS

OPEN FRAME / SOLDER TAIL

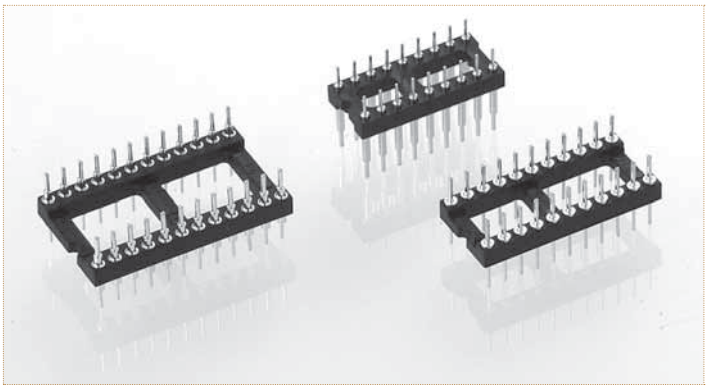
DIL pin headers with male contacts pluggable into standard female socket contacts.

TECHNICAL SPECIFICATIONS (FOR GENERAL SPECS, SEE PAGE 127)

INSULATOR	Black glass filled polyester PCT-GF30-FR
FLAMMABILITY	UL 94V-0
CONTACT	Brass CuZn36Pb3 (C36000)
CONNECTING PIN Ø	0.47 mm
MECHANICAL LIFE	Min. 100 cycles
RATED CURRENT	1 A
DIELECTRIC STRENGTH	Min. 1'000 VRMS

ORDERING INFORMATION ROHS COMPLIANT PARTS

PP PLATING CODE	TERMINATION	CONNECTING PIN
10	0.25 µm gold	0.25 µm gold
80	Tin	Tin



Other plating on request (see page 178 for plating specs).
For complete part number replace **X**-...-**XXX** with the code given below left.

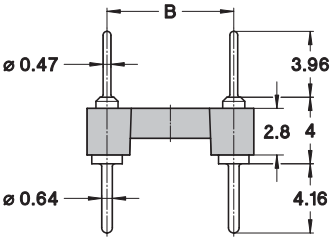


Fig. 1

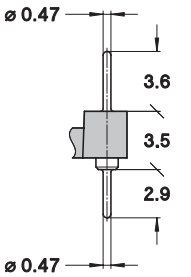


Fig. 2

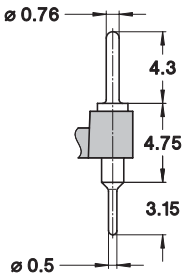


Fig. 3

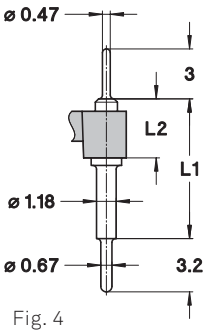


Fig. 4

AVAILABLE VERSIONS

STANDARD HEADER

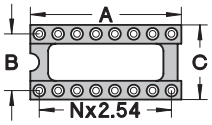
150-...-001101	See Fig. 1
150-...-006101	See Fig. 2
150-...-018101	See Fig. 3

INTERCONNECT HEADER

151-...-XXX101	See Fig. 4

CONTACT LENGTH L1 (mm)	CONTACT LENGTH L2 (mm)	XXX CODE
6.2	4.7	003
8.4	3.55	004
15.3	3.55	005
21.2	3.55	016
27.4	3.55	017

Other lengths on request



NO. OF POLES	A	B	C	SEE PAGE 128	ORDER CODES
10	12.6	5.08	7.6	Fig. 1	15**X**-**PP**-210-00-**XXX**101
4	5.0	7.62	10.1	Fig. 2	15**X**-**PP**-304-00-**XXX**101
6	7.6	7.62	10.1	Fig. 3	15**X**-**PP**-306-00-**XXX**101
8	10.1	7.62	10.1	Fig. 4	15**X**-**PP**-308-00-**XXX**101
10	12.6	7.62	10.1	Fig. 5	15**X**-**PP**-310-00-**XXX**101
12	15.2	7.62	10.1	Fig. 6	15**X**-**PP**-312-00-**XXX**101
14	17.7	7.62	10.1	Fig. 7	15**X**-**PP**-314-00-**XXX**101
16	20.3	7.62	10.1	Fig. 8	15**X**-**PP**-316-00-**XXX**101
18	22.8	7.62	10.1	Fig. 9	15**X**-**PP**-318-00-**XXX**101
20	25.3	7.62	10.1	Fig. 10	15**X**-**PP**-320-00-**XXX**101
22	27.8	7.62	10.1	Fig. 11	15**X**-**PP**-322-00-**XXX**101
24	30.4	7.62	10.1	Fig. 12	15**X**-**PP**-324-00-**XXX**101
28	35.5	7.62	10.1	Fig. 13	15**X**-**PP**-328-00-**XXX**101
20	25.4	10.16	12.6	Fig. 14	15**X**-**PP**-420-00-**XXX**101
22	27.8	10.16	12.6	Fig. 15	15**X**-**PP**-422-00-**XXX**101
24	30.4	10.16	12.6	Fig. 16	15**X**-**PP**-424-00-**XXX**101
28	35.5	10.16	12.6	Fig. 17	15**X**-**PP**-428-00-**XXX**101
32	40.6	10.16	12.6	Fig. 18	15**X**-**PP**-432-00-**XXX**101
10	12.7	15.24	17.7	Fig. 19	15**X**-**PP**-610-00-**XXX**101
24	30.5	15.24	17.7	Fig. 20	15**X**-**PP**-624-00-**XXX**101
28	35.5	15.24	17.7	Fig. 21	15**X**-**PP**-628-00-**XXX**101
32	40.6	15.24	17.7	Fig. 22	15**X**-**PP**-632-00-**XXX**101
36	45.7	15.24	17.7	Fig. 23	15**X**-**PP**-636-00-**XXX**101
40	50.8	15.24	17.7	Fig. 24	15**X**-**PP**-640-00-**XXX**101
42	53.3	15.24	17.7	Fig. 25	15**X**-**PP**-642-00-**XXX**101
48	60.9	15.24	17.7	Fig. 26	15**X**-**PP**-648-00-**XXX**101
50	63.5	15.24	17.7	Fig. 27	15**X**-**PP**-650-00-**XXX**101
52	66.0	15.24	17.7	Fig. 28	15**X**-**PP**-652-00-**XXX**101
50	63.5	22.86	25.3	Fig. 29	15**X**-**PP**-950-00-**XXX**101
52	66.0	22.86	25.3	Fig. 30	15**X**-**PP**-952-00-**XXX**101
64	81.2	22.86	25.3	Fig. 31	15**X**-**PP**-964-00-**XXX**101

PCB CONNECTORS

GENERAL SPECIFICATIONS

The values listed below are general specs applying for Preci-Dip socket and pin connectors. Please see individual catalog page for additional and product specific technical data.

OPERATING TEMPERATURE RANGE	-55 ... +125 °C
CLIMATIC CATEGORY (IEC)	55/125/21
OPERATING HUMIDITY RANGE	Annual mean 75%
MAX. WORKING VOLTAGE	100 VRMS/150 VDC (2.54 mm grid)

Preci-Dip products are recognized by Underwriters Laboratories Inc. and listed under "Connectors for Use in Data, Signal, Control and Power Applications", File Nr. E174442.

MECHANICAL CHARACTERISTICS

CLIP RETENTION	Min. 40 N (no displacement under axial force applied)
CONTACT (SLEEVE / CLIP) RETENTION	Min. 3.3 N acc. to MIL-DTL-83734, pt 4.6.4.2

ELECTRICAL CHARACTERISTICS

INSULATION RESISTANCE BETWEEN ANY TWO ADJACENT CONTACTS	Min. 10'000 MΩ at 500 VAC
CAPACITANCE BETWEEN ANY TWO ADJACENT CONTACTS	Max. 1 pF

AIR AND CREEPAGE DISTANCES BETWEEN ANY TWO ADJACENT CONTACTS

SERIE	3xx/4xx/7xx	80x	83x	85x	86x
mm	0.7	0.85 / 0.7	0.5	0.4 / 0.5	0.5

ENVIRONMENTAL CHARACTERISTICS

The sockets withstand the following environmental tests without mechanical and electrical defects:

- Dry heat steady state IEC 60512-11-9.11i / 60068-2-2.Bb: 125 °C, 16 h
- Damp heat cyclic IEC 60512-11-12.11m / 60068-2-30.Db: 25/55 °C, 90 – 100 %rH, 1 cycle of 24 h
- Cold steady state IEC 60512-11-10.11j / 60068-2-1.A: -55 °C, 2 h
- Thermal shock IEC 60512-11-4.11d / 60068-2-14.Na: -55/125 °C, 5 cycles 30 min.
- Sinusoidal vibrations IEC 60512-6-4.6d / 60068-2-6.Fc: 10 to 500 Hz, 10 g, 1 octave/min., 10 cycles for each axis
- Shock IEC 60512-6-3.6c / 60068-2-27.Ea: 50 g, 11 ms, 3 shocks in three axis

During the above two tests, no contact interruption >50 ns does appear.

- Solderability J-STD-002A, Test A, 245 °C, 5 s, solder alloy SnAg3.8Cu0.7
- Resistance to soldering heat J-STD-020C, 260 °C, 20 s
- Moisture sensitivity J-STD-020C level 1
- Resistance to corrosion:
  1) Salt spray test IEC 60068-2-11.Ka: 48 h
  2) Sulfur dioxide (SO_2) test IEC 60068-2-42 Kc: 96 h at 25 ppm SO_2, 25 °C, 75 %rH
  3) Hydrogen sulfide (H_2S) test IEC 60068-2-43 Kd: 96 h at 12 ppm H_2S, 25 °C, 75 %rH

SOLDERLESS COMPLIANT PRESS-FIT CHARACTERISTICS

PRESS-FIT CHARACTERISTICS MEASURED ACC. TO IEC 60352-5

• Press-in force:	90 N max. (at min. hole dia.) / 65 N typ.
• Push-out force:	30 N min. (at max. hole dia.) / 50 N typ.
• Push-out 3rd cycle:	20 N min. (at max. hole dia.)

PCB HOLE DIMENSIONS

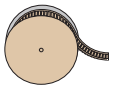
• 2 mm grid	Finished hole Ø: 0.7 + 0.09/-0.06 mm Drilled hole Ø: 0.8 ± 0.02 mm
• 2.54 mm grid	Finished hole Ø: 1 + 0.09/-0.06 mm Drilled hole Ø: 1.15 ± 0.02 mm

PCB HOLE PLATING

PCB surface finish	Hole plating
• Tin	5-15 µm tin over min. 25 µm copper
• Copper	min. 25 µm copper
• Gold over nickel	0.05-0.2 µm gold over 2.5-5 µm nickel over min. 25 µm copper

PACKAGING

- Standard connector packaging is card box.
- SMD mount connectors available on request with Tape & Reel packaging acc. to EIA Standard 481. These products are marked with the symbol:



T & R Packaging

Please consult **www.precidip.com** for availability size of tape, size of reel, number of components per reel and packing units.

PCB HEADER STRIPS 2.54 mm

SINGLE ROW / DOUBLE ROW / SOLDER TAIL

PCB header strips for wiring application with solder tail / connecting pin.

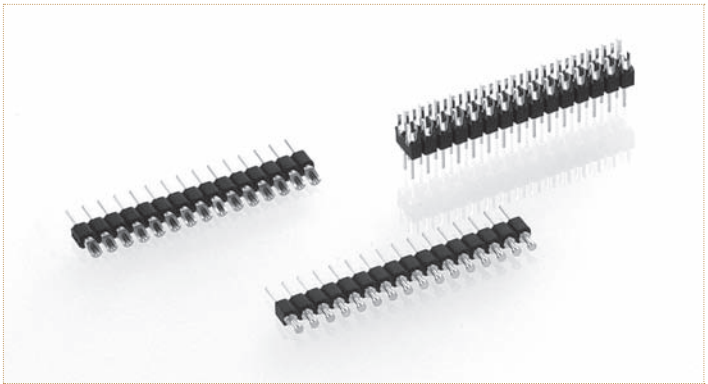
TECHNICAL SPECIFICATIONS (FOR GENERAL SPECS, SEE PAGE 43)

INSULATOR	Black glass filled polyester PCT-GF30-FR
FLAMMABILITY	UL 94V-0
CONTACT	Brass CuZn36Pb3 (C36000)
CONNECTING PIN Ø	0.5 mm
MECHANICAL LIFE	Min. 100 cycles
RATED CURRENT	3 A
CONTACT RESISTANCE	Max. 10 mΩ
DIELECTRIC STRENGTH	Min. 1'000 VRMS

For corresponding socket connectors, see pages 69-84.

ORDERING INFORMATION ROHS COMPLIANT PARTS

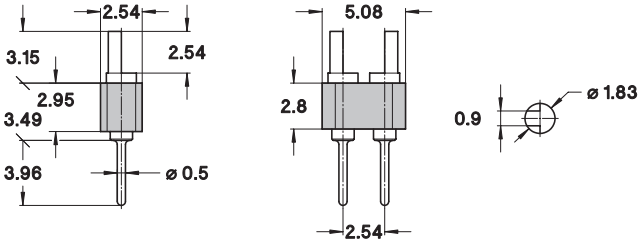
PP PLATING CODE	TERMINATION	CONNECTING PIN
10	0.25 µm gold	0.25 µm gold
80	Tin	Tin



Other plating on request (see page 178 for plating specs).
NN number of poles. Replace **NN** with the requested number of poles, e.g. 460-10-2**NN**-00-001101 for a double row version with 16 pins becomes 460-10-2**16**-00-001101.

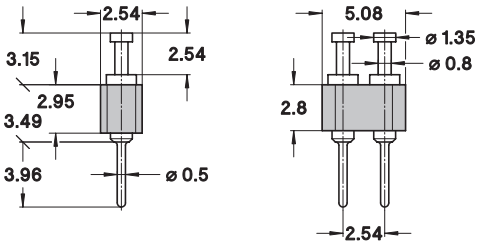
360-**PP**-1**NN**-00-001101
Slotted head strip with solder tail / connecting pin, single row
AVAILABILITY FROM 2 to 64 contacts (standard number of contacts: 64)

460-**PP**-2**NN**-00-001101
Slotted head strip with solder tail / connecting pin, double row
AVAILABILITY FROM 4 to 72 contacts (standard number of contacts: 72)



370-**PP**-1**NN**-00-001101
Turret head strip with solder tail / connecting pin, single row
AVAILABILITY FROM 2 to 64 contacts (standard number of contacts: 64)

470-**PP**-2**NN**-00-001101
Turret head strip with solder tail / connecting pin, double row
AVAILABILITY FROM 4 to 72 contacts (standard number of contacts: 72)



380-**PP**-1**NN**-00-001101
Solder cup strip with solder tail / connecting pin, single row
AVAILABILITY FROM 2 to 64 contacts (standard number of contacts: 64)

480-**PP**-2**NN**-00-001101
Solder cup strip with solder tail / connecting pin, double row
AVAILABILITY FROM 4 to 72 contacts (standard number of contacts: 72)