



preci-dip

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# CONTACT TECHNOLOGY

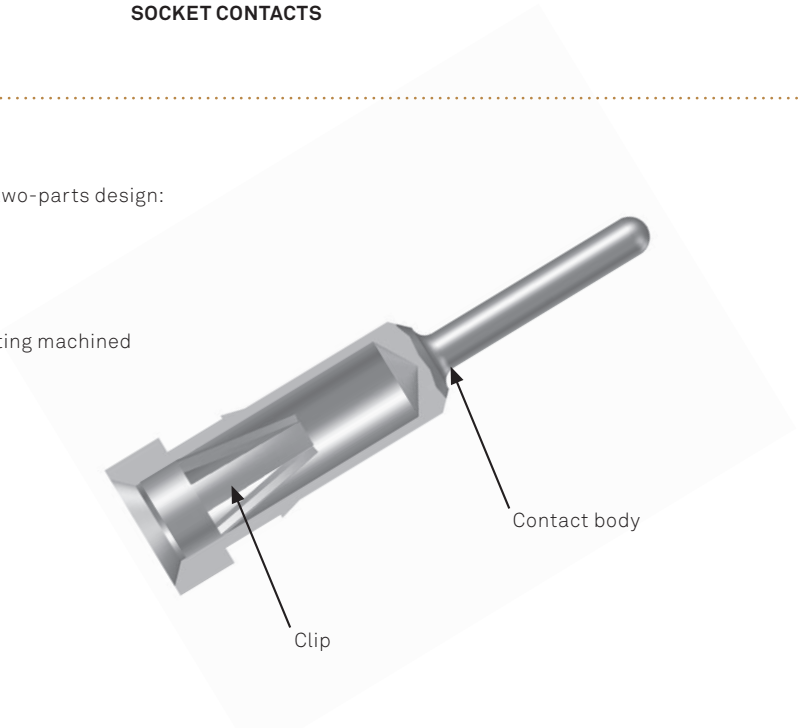
## SOCKET CONTACTS

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The Preci-Dip technology for socket contacts is based on a two-parts design:

- Contact body
- Multi-finger contact spring called clip

These socket contacts with clip are compatible with all existing machined and stamped mating pin contacts of same size



### CONTACT BODIES AND CLIPS ARE MANUFACTURED AND PLATED SEPARATELY

The contact bodies are manufactured by high speed turning process with additional secondary machining operation if required.

The clip are stamped and formed from sheet material. Depending on size and characteristics, the clips are designed with 3 to 8 contact finger. The choice of heat treated beryllium copper alloy gives the best possible combination of mechanical and electrical properties for use in electrical contacts. More than 40 clips are pre-tooled, covering a mating pin diameter range from 0.25 to 2.5 mm. They can accept square or rectangular pin.

The clip is assembled into the contact body by press-fit on automatic equipment including on-line inspections.

### MAIN ADVANTAGES OF THE TECHNOLOGY

- The combination of existing standard clip with specific contact body gives a flexibility unknown with traditional contact design
- Production of machined specific contact bodies is cost effective starting at medium sized quantities
- Preci-Dip automatic high speed contact assembly lines are optimized for large production runs but also for smaller series

### MECHANICAL CHARACTERISTICS

- Insertion characteristics  
Insertion and withdrawal force for standard clips are displayed on the corresponding data sheets. The values are measured with polished steel gauges with spherical tip and are typical average measurements. These data are for general information and selection of best suited clip for a given application.
- Compliancy  
Each clip is able to accept a broad range of mating pins. This ability is called «compliancy». The compliancy factor  $\Delta$  specifies the resulting operating range after insertion of the largest permissible mating pin.
- Clip retention  
This is the force needed to pull-out the press-fitted clip from its contact body. Clip retention is greater than 40 N.
- Mechanical life  
The mechanical life expectancy is dependent on the surface smoothness and diameter of the mating pin and on the plating. For some applications, more than 1000 mating cycles are possible.

### ELECTRICAL CHARACTERISTICS

- Current rating  
The given currents are for one mated combination of socket and pin contact, in free air and for 10°C temperature rise.



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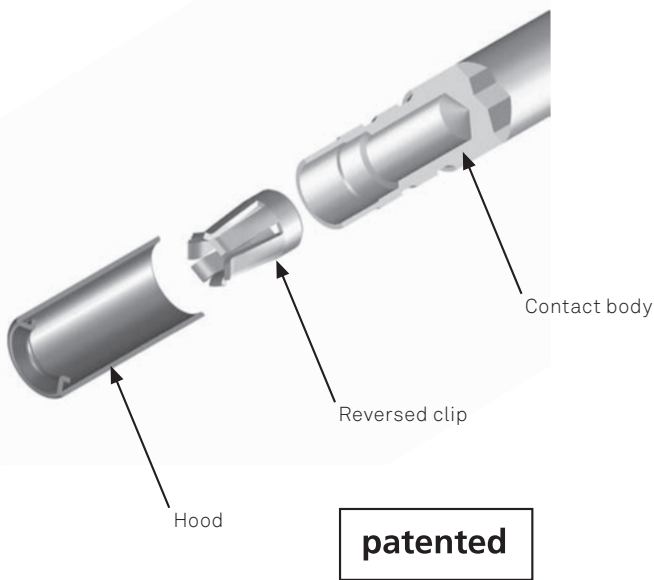
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### CONTACTS WITH REVERSED CLIP

The clip technology for socket contacts was improved with the introduction of a new, patented, reversed clip. This was designed to overcome some limitations of the basic clip, especially to place the first contact point closer to the front end of the contact. The geometry of the contact fingers shows a very smooth contact area allowing high cycles count.



The technical characteristics of reversed clip contacts match with the highest requirements of military aerospace standard AS39029 (former MIL-C-39029).

This standard is the reference for many connectors dedicated for other fields of applications like aircrafts, railway and heavy duty industries.

Furthermore, the three-part design of these contacts allows localized finish for best cost-performance ratio.

### MIL QUALIFIED CONTACTS

Crimp contacts, pin and socket, size 22, 20, 16 and 12, have passed successfully all qualification tests according to AS39029 and are QPL listed for applications in connectors MIL-DTL-38999 Series I, III and IV.

The test results have shown results that are much superior to specs requirements.

These removable crimp contacts must be supplied with color coding for single contact identification. Preci-Dip has completed its manufacturing capacities with marking equipments for color code.



TYPE OF CONTACT	SIZE	MIL PART NUMBER	PRECI-DIP PART NUMBER
Socket	22	AS/M39029/56-348	83011-1P4-7010-B1
	20	AS/M39029/56-351	83021-1P4-7110-B1
	16	AS/M39029/56-352	83031-1P4-7210-B1
	12	AS/M39029/56-353	83041-1P4-7310-B1
Pin	22	AS/M39027/58-360	82011-40-01
	20	AS/M39027/58-363	82021-40-01
	16	AS/M39027/58-364	82031-40-01
	12	AS/M39027/58-365	82041-40-01

CONTACTS