MIL-C-39029 QUALIFIED CONTACTS

For harsh environments, using patented reversed clip technology

New design for MIL-AERO and heavy duty industrial applications
Superior performance at low cost
MIL-C-39029 CONTACTS

TECHNICAL SPECIFICATIONS

Operating temperature range
-65 to +200°C

Materials
Pin contact
- Machined brass C34500
- Gold plated acc. to ASTM B488, Type II C, min 1.27 μm over 2.5 μm Ni

Socket contact body
- Machined brass C34500
- Gold plated acc. to ASTM B488, Type II C, over 2.5 μm Ni

Reversed clip
- BeCu C17200
- Gold plated acc. to ASTM B488, Type II C, min 1.27 μm over 2.5 μm Ni

Hood
- Corrosion-resistant steel

Mechanical Characteristics
Contact engagement force
Max. acc. to MIL-C-39029 Average measured
Size 12 = 30 oz (8.4 N) 13.5 oz (3.8 N)
Size 16 = 30 oz (8.4 N) 8.5 oz (2.4 N)
Size 20 = 18 oz (5 N) 5.8 oz (1.6 N)
Size 22 = 12 oz (3.3 N) 3.6 oz (1 N)

Contact separation force
Min. acc. to MIL-C-39029 Average measured
Size 12 = 3 oz (0.85 N) 7.6 oz (2.1 N)
Size 16 = 2 oz (0.56 N) 3.6 oz (1 N)
Size 20 = 0.7 oz (0.2 N) 2.6 oz (0.7 N)
Size 22 = 0.7 oz (0.2 N) 1.4 oz (0.4 N)

Mechanical life (all size)
5000 cycles

Electrical Characteristics
Contact resistance
Low signal level
Size 12 = NA
Size 16 = max. 5 mΩ
Size 20 = max. 9 mΩ
Size 22 = max. 15 mΩ

Contact resistance
Test current Max. voltage drop
Size 12 = 23A 42 mV
Size 16 = 13A 49 mV
Size 20 = 7.5A 55 mV
Size 22 = 5A 73 mV

SOCKET CONTACT FOR CONNECTOR TYPES :
- MIL-C-38999 SERIES I, III, IV

MILITARY P/N : M39029/56-348
PRECI-DIP P/N : 83011-1P4-7010-B1
Mating end size : 22
Wire barrel size : 22D
Colour bands :

MILITARY P/N : M39029/56-351
PRECI-DIP P/N : 83021-1P4-7110-B1
Mating end size : 20
Wire barrel size : 20
Colour bands :

MILITARY P/N : M39029/56-352
PRECI-DIP P/N : 83031-1P4-7210-B1
Mating end size : 16
Wire barrel size : 16
Colour bands :

MILITARY P/N : M39029/56-353
PRECI-DIP P/N : 83041-1P4-7310-B1
Mating end size : 12
Wire barrel size : 12
Colour bands :

PIN CONTACT FOR CONNECTOR TYPES :
- MIL-C-24308 MIL-C-55302 / 69
- MIL-C-38999 SERIES I, II, III, IV MIL-C-83733

MILITARY P/N : M39029/58-360
PRECI-DIP P/N : 82011-40-01
Mating end size : 22
Wire barrel size : 22D
Colour bands :

MILITARY P/N : M39029/58-363
PRECI-DIP P/N : 82021-40-01
Mating end size : 20
Wire barrel size : 20
Colour bands :

MILITARY P/N : M39029/58-364
PRECI-DIP P/N : 82031-40-01
Mating end size : 16
Wire barrel size : 16
Colour bands :

MILITARY P/N : M39029/58-365
PRECI-DIP P/N : 82041-40-01
Mating end size : 12
Wire barrel size : 12
Colour bands :
Design of the contact

The contact consists of three parts, separately manufactured and made of different base materials. This design allows to optimise the performance and to select the most appropriate production process individually:

- Contact body made of machined brass.
- Reversed clip made of stamped and formed beryllium-copper.
- Protection hood made of deep-drawn stainless steel.

Separate electroplating processes of body and clip allow for best cost-performance ratio. The assembly of the three parts is then carried out on dedicated, fully automatic assembly lines.

Reversed-clip contacts are presently available in size 12, 16, 20 and 22. This proprietary technology, entirely developed by PRECI-DIP, is protected by international patents.

Advantages and characteristics

The precision-machined brass body has an excellent cost-performance ratio and is perfectly suitable for wire crimping in all high reliability applications.

The reversed position of the CuBe clip permits to move the contact point very close to the entry. Also, this clip has superior mechanical characteristics, as well as an excellent surface condition in the contact zone.

The role of the hood is not only to secure the clip positioned in the contact body – it also efficiently prevents probe damage as well as forcing by contact pins which are too large in diameter.

In comparison with the traditional slotted/clinched contact body, the reversed-clip design has several advantages:

- Smaller difference between insertion and extraction force.
- Reduced dispersion of the force values.
- Better redundancy at the level of the contact point, thanks to 6 or 8 contact fingers.

We are also producing the corresponding precision-machined male contacts.

These contacts have successfully passed all the qualification tests according to MIL-C-39029 and are QPL listed.
Many years of experience
PRECI-DIP DURTAL SA, established 1976 in Delémont, capital of the Swiss Jura, has long experience in manufacturing screw-machined high precision contacts.

Today, we are one of the world leaders in manufacturing contacts and connectors. We offer a broad line of reliable, high-quality standard, spring-loaded, MIL, or customised contacts, available in loose condition or assembled with insulator bodies.

Take advantage of our experience in studying and quoting solutions according to your specific requirements. You will be pleasantly surprised by the rapidity of our response.

Customer safety
We fully guarantee the reliability and the irreproachable performance of our products. To this end, we have chosen a challenging, but efficient way: under the surveillance of a vigilant quality assurance department (ISO 9001: 2000), we handle in our own manufacturing plant:

- The screw-machining of all parts including possible secondary operations;
- The stamping and forming of the clips;
- All the electroplating processes and surface treatments;
- The production of our range of MIL contacts, including colour code marking, in our own production unit, also certified to MIL-STD 790;
- The injection of the insulator bodies in materials adapted to their application;
- All the assembling operations, executed on automatic equipment of our own design.

Fully integrated production...
Flexibility, rapidity, know-how
Mastering the entire product by an integrated production tool is one of the best trump cards one can have.

Most of our special machinery is designed by our own engineering department. We are therefore totally independent from any sub-contractors. Consequently, we will be able to respond to all your enquiries with economically priced solutions, equally for small or high volume batches.