

SPACECRAFT COMPONENTS CORP.

Your Connector Consultant Since 1962

QPL LISTED CONTACTS

Per AS39029

For Harsh Environments with
Patented Reverse Clip
Technology



SPACECRAFT
COMPONENTS CORP.

in
collaboration
with



preci-dip

REVOLUTIONARY CONTACT TECHNOLOGY

HOODED CONTACTS USING THE REVERSE CLIP PATENTED TECHNOLOGY

CONTACT DESIGN

The contact consists of three parts, manufactured separately from different base materials. This design optimises the performance and selects the most appropriate individual production process:

- Contact body: machined brass.
- Reverse clip: stamped and formed beryllium-copper.
- Hood: deep-drawn stainless steel.

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

ADVANTAGES AND CHARACTERISTICS

- Smaller difference between insertion and extraction forces.
- Reduced dispersion of the force values.
- By using a 6 or 8 contact finger, a superior electrical contact is made at the point of engagement.

TECHNICAL SPECIFICATIONS

Operating temperature range from -65 to +200°C

Contact Body

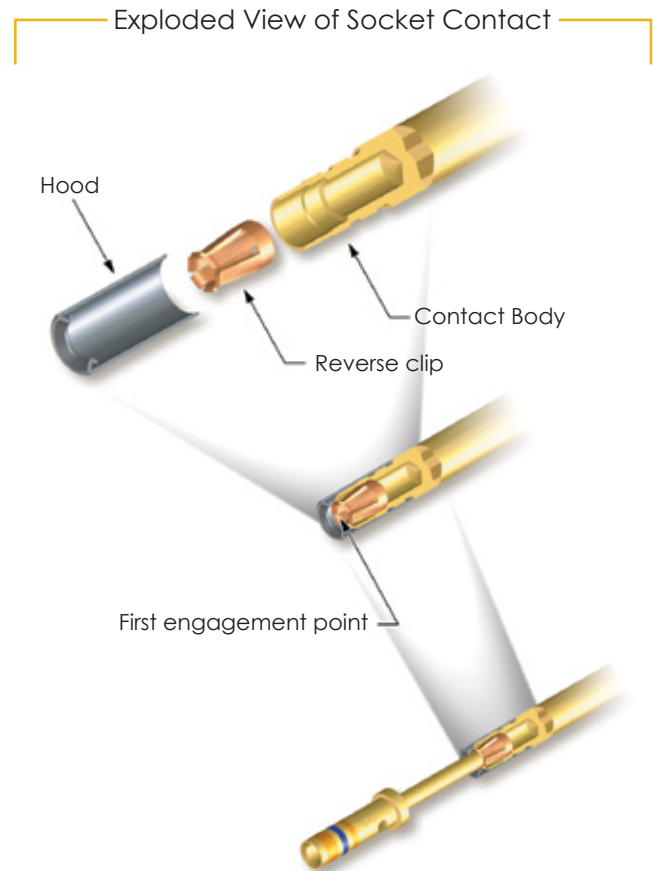
Material:	Machined brass C34500
Overall finish:	Gold plated acc. to ASTM B488, Type II, C, over 2.5 µm Ni

Reverse Clip

Material:	BeCu C17200
Overall finish:	Gold plated acc. to ASTM B488, Type II, C, min. 1.27 µm over 2.5 µm Ni

Hood

Material:	Corrosion-resistant steel
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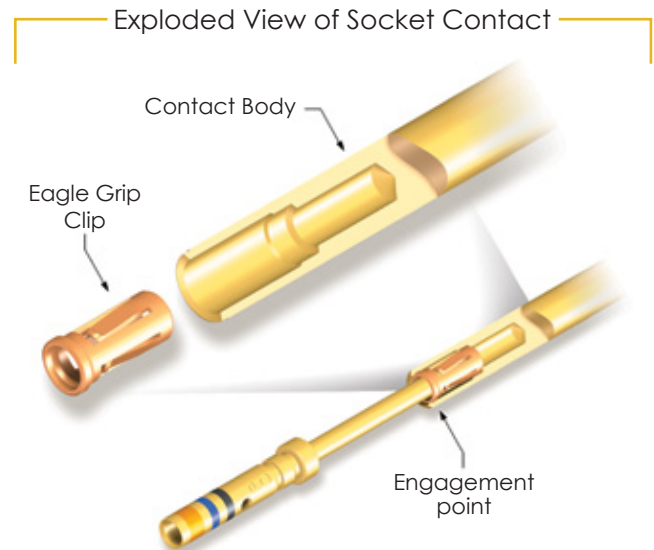
HOODLESS CONTACTS USING THE EAGLE GRIP CLIP PATENTED TECHNOLOGY

CONTACT DESIGN

- The hoodless contact consists of two parts: the contact body and the clip (separate pressure member) are made from different base materials.
- The high-speed screw machined contact body is made of brass.
- The use of quality crimping brass renders the annealing operation unnecessary.
- The precision stamped and formed Eagle Grip clip is made of beryllium-copper.
- Separate electroplating processes of the body and clip offer the best cost-performance ratio.
- Automatic assembly lines are designed by our engineers to conduct the body and clip assembly.
- The clip is precisely positioned in the outer shell and firmly held in place between a shoulder and the crimp lip.
- Eagle Grip clip hoodless contacts are presently available in sizes 16, 20 and 22.
- This PRECI-DIP proprietary technology is protected by international patents.

ADVANTAGES AND CHARACTERISTICS

- 2-piece contact without hood.
- Fully automatic assembly process with in-line mechanical check.
- Localized finish: body and clip are plated separately.
- High surface quality with a stamped and formed clip.
- Precision rolling surface finish in the contact area.
- Better contact redundancy thanks to 3 or 4 contact fingers.
- Limited difference between insertion and extraction mating forces.
- Narrow range of the force values.
- Swiss precision technology.



Contact Body

Material:	Machined brass C34500
Overall finish:	Gold plated acc. to ASTM B488, Type II, C, over 2.5 µm Ni

Clip

Material:	BeCu C17200
Overall finish:	Gold plated acc. to ASTM B488, Type II, C, min. 1.27 µm Au over 2.5 µm Ni



SPRING-LOADED CONTACT TECHNOLOGY

DESCRIPTION AND TECHNICAL SPECIFICATIONS

FUNCTIONAL PRINCIPLE

PRECIP-DIP spring-loaded contacts consist of a contact body or barrel, a piston and an helical compression spring. Electrical contact is established by the pressure against a fixed, flat area called the pad connector.

AN EVOLVING LINE

The electrical multipoint connection between the mobile piston and the clip guarantees low, stable electrical resistance values without micro-discontinuities, even when the piston is moving or in case of vibrations, thus assuring maximum reliability.

CHARACTERISTICS

	Standard Contacts		Improved-Design Contacts		High Reliability Contacts	
	Hollow Piston Design	Slant Piston Design	Polygonal Piston Design	Clip Coaxial Design	Clip In-Line Design	
Environmental Operating temp, range	- 55°C to + 85°C (music wire) / + 125°C (stainless steel)					
Materials (RoHS-Compliant)	Piston Barrel Spring Clip	Gold plated machined brass Gold plated machined brass Gold plated music wire / Stainless steel		Gold plated BeCu C17200		
Mechanical						
Min. diameter	1.1 mm		1.5 mm	1.8 mm		0.8 mm
Min. initial height	2.5 mm		5 mm	4.5 mm		9 mm
Travel / height ratio	Max. 0.3		Max. 0.2	Max. 0.2		Max. 0.15
Max. travel (stroke)	2 mm		2 mm			1.5 mm
Min. initial spring force	0.2 N		0.2 N			0.2 N
Mechanical life*	100,000 cycles		50,000 cycles			40,000 cycles
Electrical						
Contact resistance**	Max. 15 mΩ		Max. 10 mΩ			Max. 20 mΩ
Max. operating current***	1A cont. / 2A peak		3.5A cont. / 7A peak			2A cont. / 4A peak

* Tested at nominal stroke with perpendicular pad connector area

** Static measurement in halfway position of piston travel

*** Above max. current values are for single contacts in free air and for 10°C temperature rise.

Values are indicative and may be affected by contact force, static or dynamic applications, shocks or vibrations

M39029 CONTACTS IN INVENTORY

Part Number	Desc.	Size	Wire Range	Connector Specifications
M39029/4-110	Pin	20	20-24	MIL-DTL-26482 Series 2, AS 81703 Series 3
M39029/4-111	Pin	16	16-20	
M39029/4-113	Pin	12	12-14	
M39029/5-115	Socket	20	20-24	
M39029/5-116	Socket	16	16-20	
M39029/5-118	Socket	12	12-14	
M39029/31-229	Pin	16	16-20	MIL-DTL-26482 Series 1, MIL-DTL-26500
M39029/31-240	Pin	20	20-24	MIL-DTL-26482 Series 1
M39029/32-248	Socket	16	16-20	MIL-DTL-26482 Series 1, MIL-DTL-26500
M39029/32-259	Socket	20	20-24	MIL-DTL-26482 Series 1, MIL-DTL-26500

Part Number	Desc.	Size	Wire Range	Connector Specifications
M39029/56-348	Socket	22D	22-28	MIL-DTL-24308, MIL-DTL-38999 Series I, III & IV
M39029/56-351	Socket	20	20-24	
M39029/56-352	Socket	16	16-20	
M39029/56-353	Socket	12	12-14	
M39029/57-354	Socket	22D	22-28	MIL-DTL-24308, MIL-DTL-38999 Series II, MIL-DTL-55302/71/72/75, MIL-DTL-83733
M39029/58-360	Pin	22D	22-28	MIL-DTL-24308, MIL-DTL-38999 Series I, II, III, IV, MIL-DTL-55302/69, MIL-DTL-83733
M39029/58-363	Pin	20	20-24	
M39029/58-364	Pin	16	16-20	
M39029/58-365	Pin	12	12-14	

CUSTOM DESIGN CONTACTS

Developing custom solutions from customer concept to actual product is our specialty!

Our group of engineers are experts in providing solutions from a cost-effectiveness

and efficiency standpoint. Experienced with countless standard products and more than 20,000 references underlie the incessant development of exceptional quality products.



Contact Spacecraft to manage your custom designs!



SPACECRAFT COMPONENTS CORP.

Your Connector Consultant Since 1962



SCP 5015 STYLE CONNECTORS (CATALOG 102)



SCPT 26482 STYLE SC1 38999 SERIES I SC2 38999 SERIES II SC39 38999 SERIES III (CATALOG 202)



SCPB SERIES (CATALOG 302)



CONNECTOR ACCESSORIES (CATALOG 401)



CONNECTORS WITH INTEGRATED BACKSHELLS (CATALOG 601)

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