

Embedded Bud Connector



Overview

Utilizing the efficient high-current design of the PowerBud® contact technology, the EBC (Embedded Bud Connector) carries high power in a small package and is specifically designed for a press-fit connection on bus bars, printed circuit boards, and FusionLug terminations. The PowerBud® patented contact technology features highly redundant points of contact, which efficiently conducts a much higher current with low resistance and lower insertion force than similar-sized contacts. The cycle life has been proven in excess of 10,000 cycles.

Key Specifications

- High current capacity - up to 400A
- Low insertion force
- Low voltage drop
- Low contact resistance
- Low contact wear
- High cycle life
- Available in 5 sizes - 2.4mm, 3.6mm, 5.7mm, 9.1mm, and 12.7mm
- Multiple points of contact - low loss
- RoHS compliant

Embedded Bud Connector

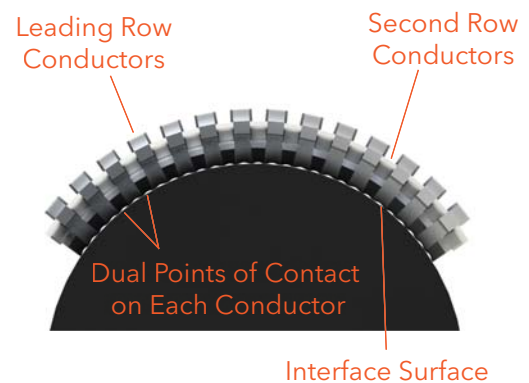
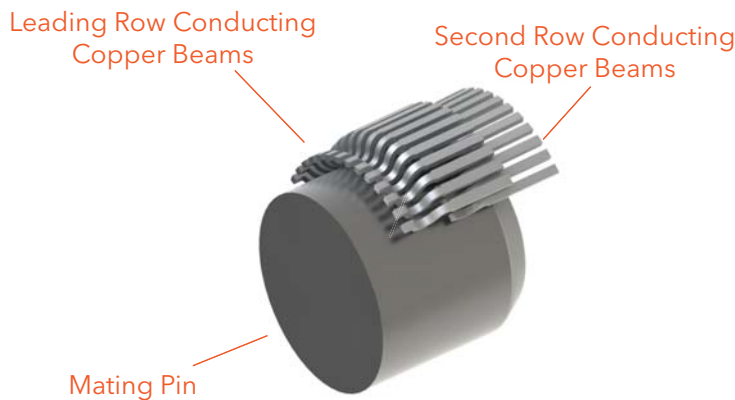
The PowerBud® Contact System

Methode's PowerBud® power contacts use an innovative, multiple contact point design that creates lower insertion force, lower temperature rise, lower power loss and higher cycle life than conventional power connectors. This unique design uses two rows of performance-engineered copper-alloy conductors arranged one over the other, which creates highly redundant contact points. This feature lowers both contact resistance and normal contact force. The PowerBud's insertion force is three to five times lower than equivalently rated electrical connectors. Less metal-on-metal wear during mating and unmating translates to a typical 10,000 cycle life. Additionally, PowerBud's power connector contact resistance is two to three times lower than equivalently-rated power connectors.



How Does It Work?

The PowerBud uses two rows of conductors arranged one over the other. The material of the beams is a proprietary performance-engineered copper alloy which is substantially better than the more commonly used beryllium copper alloy.



Each copper alloy beam includes a slight indentation in the finger tip to create dual contact points, adding to the massively parallel contact points.

Bus Bar-To-Bus Bar Specifications

Materials & Finish

DESCRIPTION	MATERIAL	FINISH
Connector Shroud	Copper Alloy	100 Microinch Min. Silver Over Nickel
Socket Contacts	Copper Alloy	50 Microinch Min. Silver Over Nickel
Swage Ferrule	Brass (Stainless Steel for Size 12.7 mm)	Nickel Plate (N/A for size 12.7 mm)
Pin Contacts	Copper Alloy	100 Microinch Min. Silver Over Nickel

Mechanical

SOCKET PART NUMBER	MATING PIN DIAMETER	MATING PIN PART NUMBER	INSERTION FORCE	EXTRACTION FORCE
1101-07083-01104	12.7 mm	9104-07086-02104	8.5 N (1.9 lbf)	4.9 N (1.1 lbf)
1101-06582-01104	9.1 mm	9104-06641-02104	7.6 N (1.7 lbf)	4.9 N (1.1 lbf)
1101-06630-01104	5.7 mm	9104-06642-02104	4.9 N (1.1 lbf)	2.7 N (0.6 lbf)
1101-06634-01104	3.6 mm	9104-06643-02104	3.6 N (0.8 lbf)	2.2 N (0.5 lbf)
1101-06638-01104	2.4 mm	9104-06644-02104	5.8 N (1.3 lbf)	1.3 N (0.3 lbf)

Electrical

SOCKET PART NUMBER	MATING PIN DIAMETER	CURRENT AT 30° T-RISE	VOLTAGE DROP AT LISTED CURRENT	BULK RESISTANCE AT LISTED CURRENT
1101-07083-01104	12.7 mm	400 A	11.4 mV	29 $\mu\Omega$
1101-06582-01104	9.1 mm	300 A	12.5 mV	45 $\mu\Omega$
1101-06630-01104	5.7 mm	240 A	11.1 mV	50 $\mu\Omega$
1101-06634-01104	3.6 mm	160 A (est)	14.5 mV (est)	90 $\mu\Omega$
1101-06638-01104	2.4 mm	120 A	14.7 mV	125 $\mu\Omega$

PowerBud® Vs. Competitor Mating / Unmating Force, 9.1 mm pin

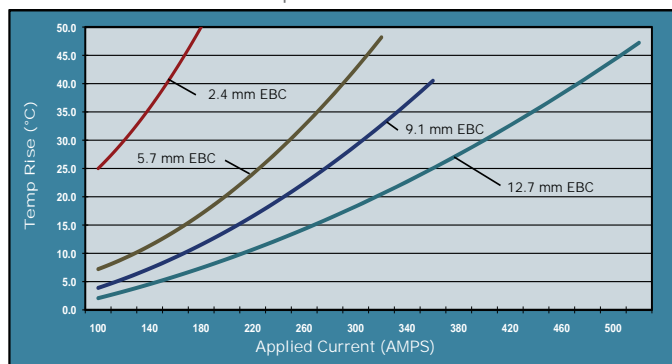
	MATE	UNMATE
PowerBud®	7.6 N (1.7 lbf)	4.9 N (1.1 lbf)
Competition	21 N (4.7 lbf)	13 N (2.9 lbf)

PowerBud® Vs. Competition Cycle Life

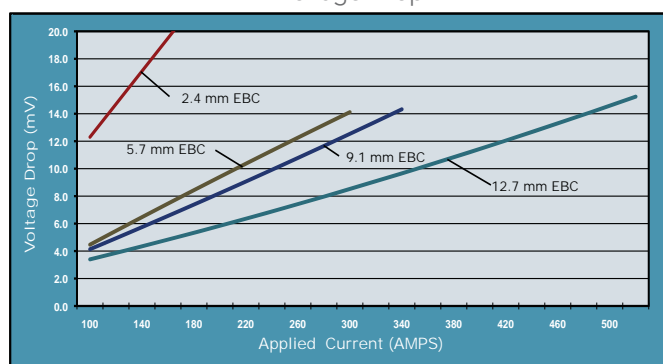
PowerBud®	10,000 Cycles
Competition	1,000 Cycles

Electrical Performance

Temperature Rise



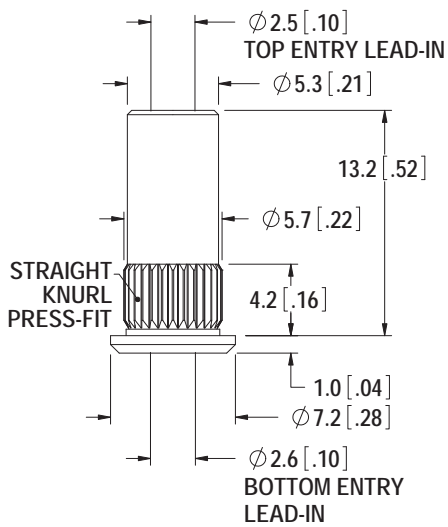
Voltage Drop



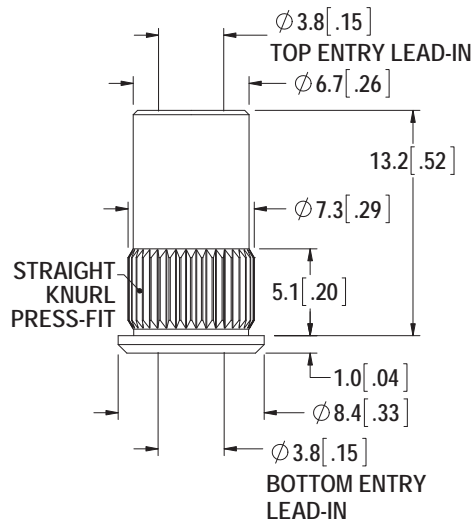
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EBC SOCKETS

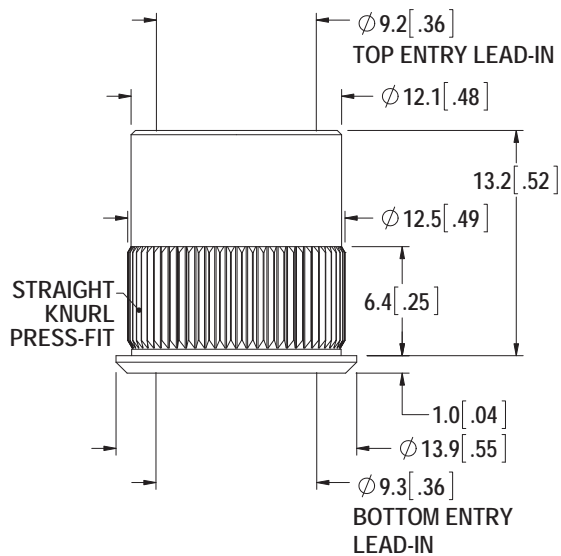
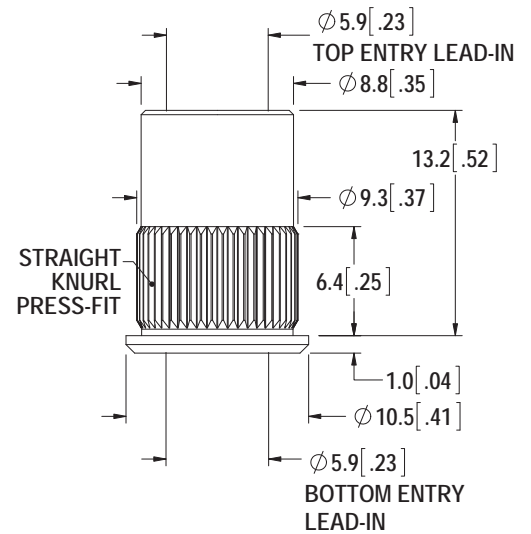
2.4 mm Socket
P/N: 1101-06638-01104



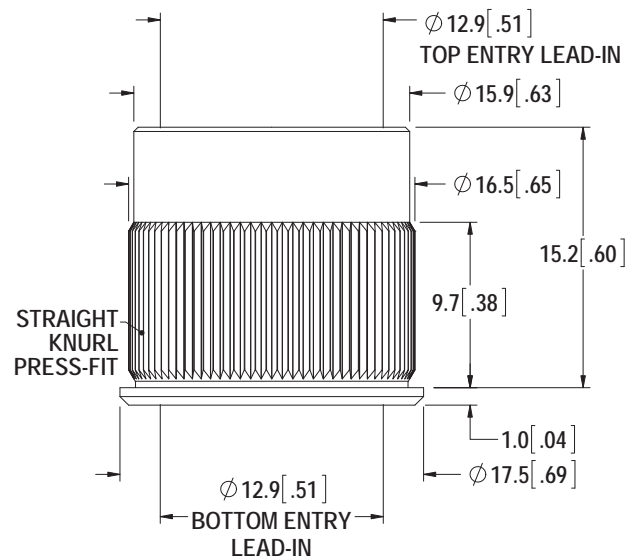
3.6 mm Socket
P/N: 1101-06634-01104



5.7 mm Socket
P/N: 1101-06630-01104



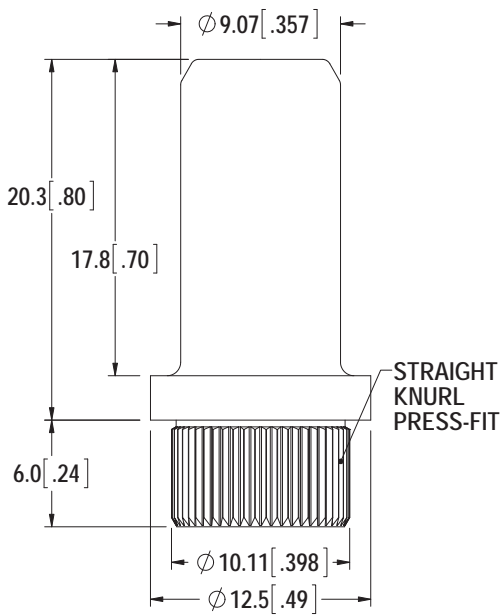
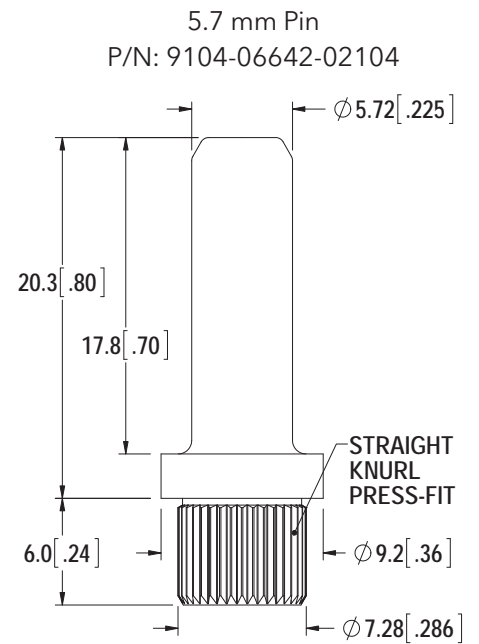
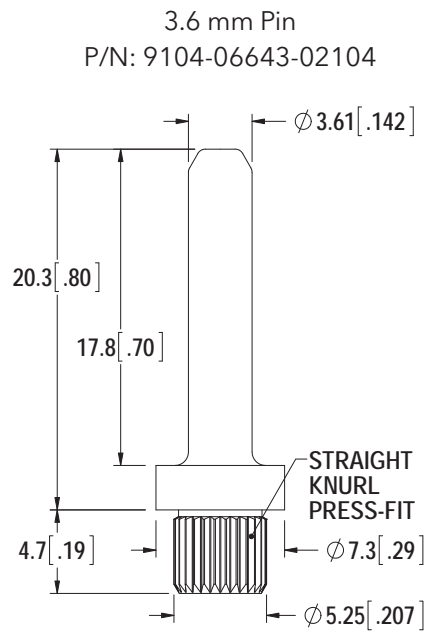
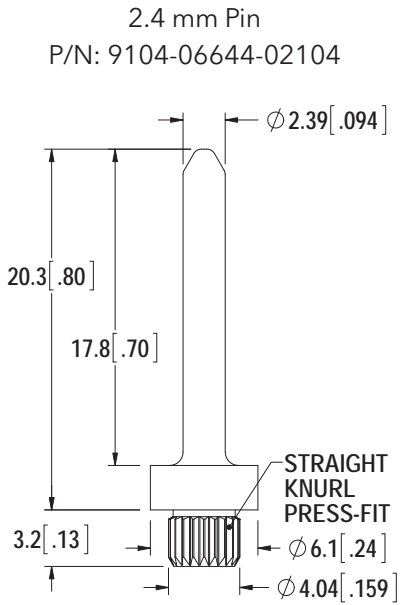
9.1 mm Socket,
P/N: 1101-06582-01104



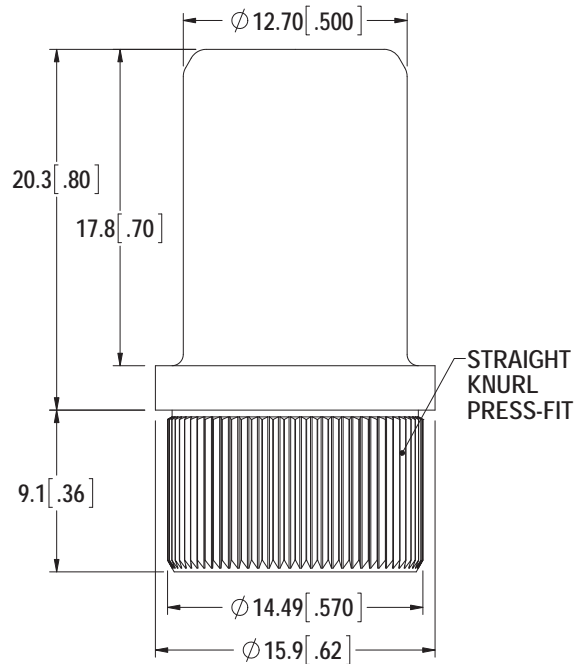
12.7 mm Socket
P/N: 1101-07083-01104

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EBC STANDARD PINS*



9.1 mm Pin
P/N: 9104-06641-02104



12.7 mm Pin
P/N: 9104-07086-02104

*CUSTOM PIN LENGTHS ARE ALSO AVAILABLE



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