

HDB³ - HSB³

High density and low mated force PCB connector



Description

Amphenol's HDB3-HSB3 series incorporates a higher density contact pattern and lower mated height than competitive connectors. HDB3-HSB3 connectors use the durable and reliable B3 brush contact in a tight 1,72mm x 1,52mm (.070" x .060") staggered grid pattern.

Benefits

- High density : 1,72mmx1,52mm (.070"x.060") staggered grid pattern
- High speed : data rates up to 6.25 Gb/s (HSB3)
- Low insertion and extraction force : 0.4N/cts
- Contact current rating 1.5 Amps
- 100 000 mating cycles
- Low cost

Features

- Brush contact technology
- 5 arrangements, from 40 to 160 contacts
- Straight and right angle PC tail, crimp contacts
- Meets and exceeds VITA 47
- Mother board to daughter board, I/O or stackable configurations

Online configurator & 3D model download

You can define references according your needs and download directly 3D models in several formats on PCB connectors product page in our website www.amphenol-socapex.com or scan QR code :



Markets



Commercial Aerospace



Military Aerospace



Electronic Systems/
C5ISR

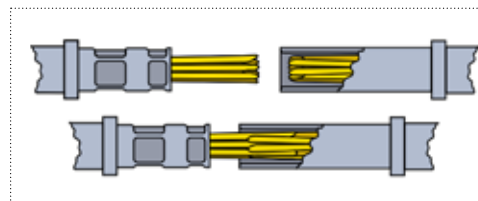


Missiles

Brush Contact Technology

The Amphenol's Brush Contact Technology has proven advantages over standard pin & socket contacts. The Bristle Brush contact is used in military avionics packages and meets the requirements of MIL-DTL-55302. It provides high density in tight spacing, low mating/unmating forces, proven durability and long contact life. Some advantages :

- Smooth and low friction interfaces, 70% to 90% reduction in mating/unmating forces from conventional pin-socket contacts
- 100 000 mating cycles.
- Multiple point of contacts : 14-70 points per mated contact, providing superior electrical capability



Technical Specifications

Mechanical characteristics	HDB ³ /HSB ³
Mating force per contact (N)	0.4
Unmating force per contact (N)	0.4
Durability cycles	100,000
Sinusoidal vibrations (10 to 2000 Hz) micro discontinuity 10ns	IAW MIL-STD-1344 method 2005, test condition V, letter H, 4 hours per axis
Shocks 6ms ½ sinus 2ns	IAW MIL-STD-1344 method 2004, test condition G
Environmental characteristics	
Thermal shocks (°C)	-65° to 125°C
Salt Spray (hours)	48
Humidity	IAW MIL-STD-1344 method 1002, type II
Temperature (°C)	-65 to 125
Electrical characteristics	
Current rating per contact (A)	2 A
Hot swap	1 _{MAX}
Insulation resistance (at 500Vdc) (GΩ)	5 _{MIN}
Contact resistance (mΩ)	20
Dielectric Withstanding Voltage (Vrms, 60Hz, AC)	
At sea level	750
70 000 feet elevation	250
Data rate HSB3 (Gbps)	Capable of 6.25



MOTHER BOARD CONNECTOR: How to order

1.	2.	3.	4.	5.	6.
Series	Number of contacts	Brush wire plating	Termination style	Tail finish	Less hardware
HDB-M4	-040	M	24	2	X

2. Number of contacts

040
060
080
120
160

5. Tail finish

2	Gold over Nickel ✓
5	Matte Tin over Nickel ✓
6	Tin-Lead over Copper

3. Brush wire plating

M	0.000050 Au Min. thick over Nickel
C	0.000020 Au Min. thick over Nickel

6. Hardware

X	Less Hardware, hardware is purchased separately
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4. Termination style

22	PCB, Straight, .016 Dia, 0.120 stickout
23	PCB, Straight, .016 Dia, 0.150 stickout
24	PCB, Straight, .016 Dia, 0.180 stickout
26	PCB, Straight, .016 Dia, 0.240 stickout
28	PCB, Straight, .016 Dia, 0.300 stickout



DAUGHTER BOARD CONNECTOR: How to order

1.	2.	3.	4.	5.	6.
Series	Number of contacts	Brush wire plating	Termination	Tail finish	Less hardware
HDB-D4	-040	M	01	2	X

2. Number of contacts

040
060
080
120
160

5. Tail finish

2	Gold over Nickel ✓
5	Matte Tin over Nickel ✓
6	Tin-Lead over Copper

3. Brush wire plating

M	0.000050 Au Min. thick over Nickel
C	0.000020 Au Min. thick over Nickel

6. Hardware

X	Less Hardware, hardware is purchased separately*
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4. Termination style

01	PCB, Straight, .016 Dia, 0.090 stickout
02	PCB, Straight, .016 Dia, 0.120 stickout
03	PCB, Straight, .016 Dia, 0.150 stickout
04	PCB, Straight, .016 Dia, 0.180 stickout
06	PCB, Straight, .016 Dia, 0.300 stickout

✓ : RoHS compliant

* Contact us for available hardware

HDB³-HSB³

I/O CONNECTOR: How to order



1.	2.	3.	4.
Series	Number of contacts	Brush wire plating	Tail finish
HDB-D4C	-120	C	2

2. Number of contacts

040
060
080
120
160

4. Tail finish

2	Gold over Nickel ✓
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3. Brush wire plating

M	0.000050 Au Min. thick over Nickel
C	0.000020 Au Min. thick over Nickel

STACKER CONNECTOR: How to order



1.	2.	3.	4.	5.	6.
Series	Number of contacts	Brush wire plating	Termination style	Tail finish	Less hardware
HDB-D4S	120	C	22	2	X

2. Number of contacts

040
060
080
120
160

4. Termination style

22	PCB, Straight, .016 Dia, 0.100 stickout
23	PCB, Straight, .016 Dia, 0.130 stickout
24	PCB, Straight, .016 Dia, 0.160 stickout
28	PCB, Straight, .016 Dia, 0.280 stickout

3. Brush wire plating

M	0.000050 Au Min. thick over Nickel
C	0.000020 Au Min. thick over Nickel

5. Tail finish

2	Gold over Nickel ✓
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6. Hardware

X	Less Hardware, hardware is purchased separately*
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HSB³ HIGH SPEED - MOTHER BOARD: How to order

1.	2.	3.	4.	5.	6.	7.
Series	Number of differential pairs	Differential signal	Brush wire plating	Termination style	Tail finish	Less hardware
HSB-M4	-03	D	M	24	2	X

2. Number of differential pairs

Number Diff Pairs	No. Low Speed Signals
03	20
05	30
07	40
10	60
13	80

3. Differential signal

D Standard

4. Brush wire plating

M 0.000050 Au Min. thick over Nickel
C 0.000020 Au Min. thick over Nickel

5. Termination style

22 PCB, Straight, .016 Dia, 0.120 stickout
23 PCB, Straight, .016 Dia, 0.150 stickout
24 PCB, Straight, .016 Dia, 0.180 stickout
26 PCB, Straight, .016 Dia, 0.240 stickout
28 PCB, Straight, .016 Dia, 0.300 stickout

6. Tail finish

2 Gold over Nickel ✓
5 Matte Tin over Nickel ✓
6 Tin-Lead over Copper

7. Hardware

X Less Hardware, hardware is purchased separately*



HSB³ HIGH SPEED - DAUGHTER BOARD: How to order

1.	2.	3.	4.	5.	6.	7.
Series	Number of differential pairs	Differential signal	Brush wire plating	Termination style	Tail finish	Less hardware
HSB-D4	-03	D	M	02	2	X

2. Number of differential pairs

Number Diff Pairs	No. Low Speed Signals
03	20
05	30
07	40
10	60
13	80

3. Differential signal

D Standard

4. Brush wire plating

M 0.000050 Au Min. thick over Nickel
C 0.000020 Au Min. thick over Nickel

5. Termination style

01 PCB, Straight, .016 Dia, 0.090 stickout
02 PCB, Straight, .016 Dia, 0.120 stickout
03 PCB, Straight, .016 Dia, 0.150 stickout
04 PCB, Straight, .016 Dia, 0.180 stickout
06 PCB, Straight, .016 Dia, 0.300 stickout

6. Tail finish

2 Gold over Nickel ✓
5 Matte Tin over Nickel ✓
6 Tin-Lead over Copper

7. Hardware

X Less Hardware, hardware is purchased separately*

✓ : RoHS compliant

* Contact us for available hardware

