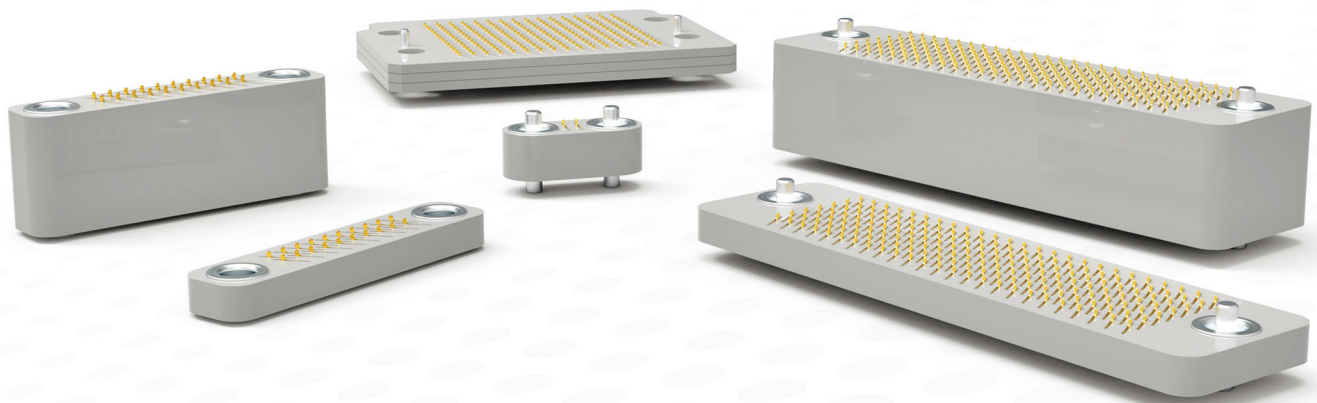
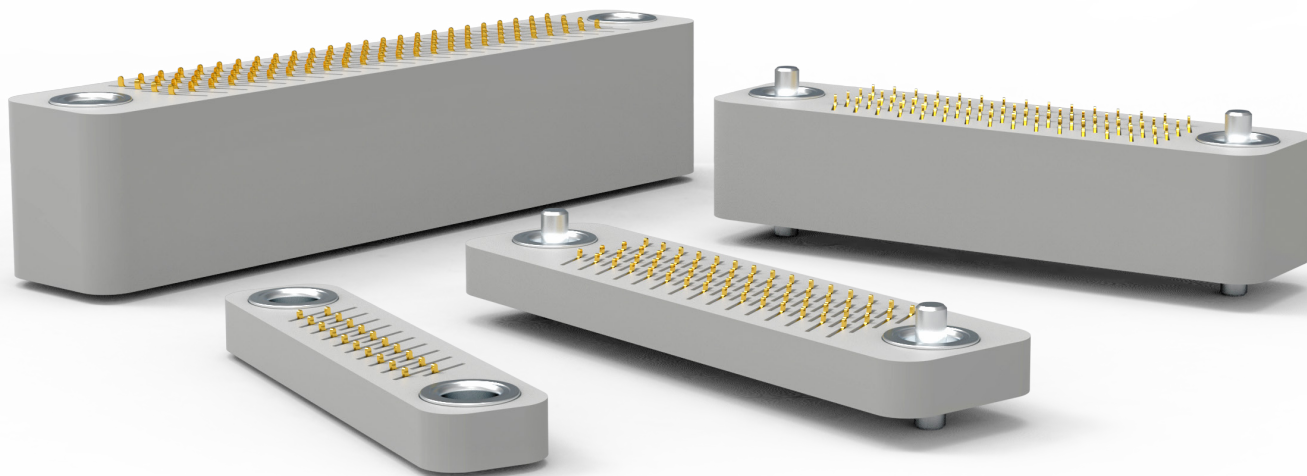


molex



AirBorn Z Series

Compression Interposer Connectors



AirBorn Z Series

Overview

Molex AirBorn Z Series Compression Interposer Connectors are high-density, board-to-board or flex-circuit-stacking connectors unique in the market, offering a reliable and patented one-piece contact system. Its solderless interconnect is compressed or “sandwiched” under pressure between parallel printed wiring boards or between a printed wiring board and other electronic components such as an IC or multichip module.

Proven to withstand extreme vibration, thermal cycling and high-shock environments, AirBorn Z Series connectors optimize board space, reduce costs and minimize failure points—delivering lasting performance in mission-critical systems.

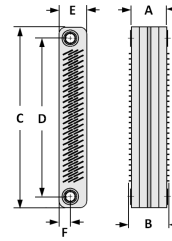
- 0.050" staggered grid array
- Up to 400 contacts per square inch
- BeCu contacts for reliable mating
- Standard heights from 0.100" to 0.350"
- Custom configurations available to meet specific design needs

DIMENSIONS

Vertical Compression (Z-axis), Open-Pin Field

A high-density, open-field, vertically-compressed connector utilizing a patented z-axis contact system configured for between-board (board-to-board) compression applications.
Contact spacing: 0.050" (1.27 mm)

COLUMNS	C	D
10	0.952	0.742
15	1.202	0.992
20	1.452	1.242
25	1.702	1.492
ROWS	E	F
2	0.210	0.105
3	0.260	0.105
4	0.310	0.155
5	0.360	0.155
6	0.410	0.205
7	0.460	0.205



HARDWARE HEIGHT (A)	CONTACT HEIGHT (B)
0.100	0.120
0.150	0.170
0.200	0.230
0.250	0.280
0.300	0.330
0.350	0.380

Sample Part Number Format: RZ250-320-115-1000



SERIES
AirBorn Z
Vertical (Z-Axis)
Compression
Multi-Rows
0.050" Spacing
Open-Field



HEIGHT
100 - 0.100"
150 - 0.150"
200 - 0.200"
250 - 0.250"
300 - 0.300"
350 - 0.350"



3-DIGIT DESIGNATOR (TOOLED)
210 - 2 rows x 10 columns, 20 contacts
215 - 2 rows x 15 columns, 30 contacts
220 - 2 rows x 20 columns, 40 contacts
225 - 2 rows x 25 columns, 50 contacts
310 - 3 rows x 10 columns, 30 contacts
315 - 3 rows x 15 columns, 45 contacts
325 - 3 rows x 25 columns, 75 contacts
415 - 4 rows x 15 columns, 60 contacts
420 - 4 rows x 20 columns, 80 contacts
425 - 4 rows x 25 columns, 100 contacts
520 - 5 rows x 20 columns, 100 contacts
525 - 5 rows x 25 columns, 125 contacts
620 - 6 rows x 20 columns, 120 contacts
725 - 7 rows x 25 columns, 175 contacts

3-DIGIT DESIGNATOR (NOT TOOLED)*
320 - 3 rows x 20 columns, 60 contacts
610 - 6 rows x 10 columns, 60 contacts
615 - 6 rows x 15 columns, 80 contacts
620 - 6 rows x 20 columns, 120 contacts
710 - 7 rows x 10 columns, 70 contacts
715 - 7 rows x 15 columns, 105 contacts
720 - 7 rows x 20 columns, 140 contacts



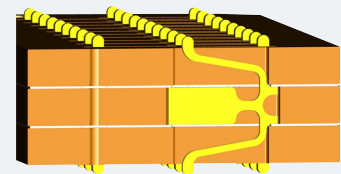
PLATING
5 - 50 µ" Au
CONTACT
11 - Double compression



TYPE
00 - No polarization
HARDWARE
10 - Ø.090" Thru-hole
20 - Ø.050" Guide pin



VARIATION
Blank - None
XXX - Consult factory



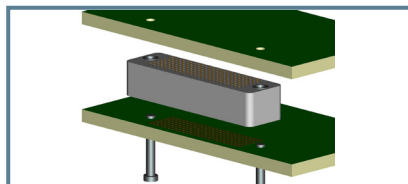
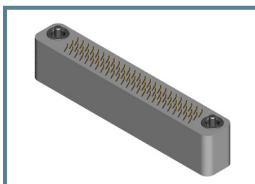
NOTES

* Designed but not tooled at this time.
Please contact the factory for availability.

PLEASE CONSULT THE MOLEX WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

MATED HEIGHT

Mated height is defined as the space between the hardware clamping surfaces (top hardware surface to bottom hardware surface.) See Table 1.



SI DATA - Differential 100 Ohm

1	Diff. Insertion Loss	3.0 GHz at -3 dB
2	Diff. Return Loss	1.0 GHz at -20 dB
3	NEXT	2.0 GHz at -50 dB
4	FEXT	2.0 GHz at -48 dB

MATERIALS and FINISHES

Contact:BeCu C17200 per ASTM B194 (brush alloy 190)
Contact Finish: Gold per ASTM B488 over nickel per SAE AMS-QQ-N-290
Molded Insulator: Glass-filled polyphenylene sulfide (PPS) per MIL-M-24519
Hardware: Stainless steel per ASTM A582/582M, passivated per SAE AMS-2700

NOTE: Molex can manufacture special configurations to your exact specifications.

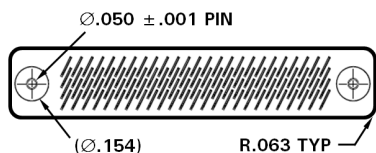
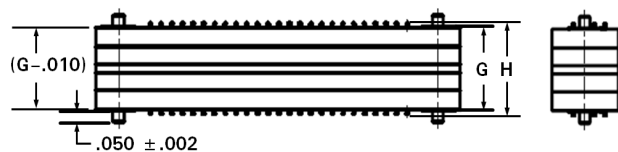
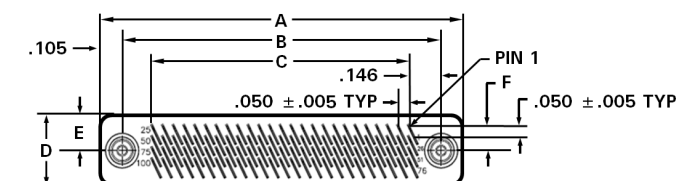
PERFORMANCE

Contact Compression: 0.010 inches per side (nominal) for 0.100" and 0.150" connector heights; 0.015" per side (nominal) for 0.200", 0.250", 0.300" and 0.350" connector heights
Compression Force: 25-40 grams per contact having a 0.010" deflection
35-50 grams per contact having a 0.015" deflection
Contact Wipe: ≈0.007" for 0.100" and 0.150" connector heights
≈0.014" for 0.200", 0.250", 0.300" and 0.350" connector heights
Current Rating: 0.5 amperes
Contact Resistance: 0.025 ohms typical (contact height-dependent)
Operating Temperature: -65° C to +125° C
Insulation Resistance: 5,000 megaohms minimum at 100 VDC
Durability: 50 connector mating cycles
Dielectric Withstanding: 250 VDC at sea level, 100 VDC at altitude

NOTE: Performance values are estimates at this time. Actual values will be determined when final product testing is complete.

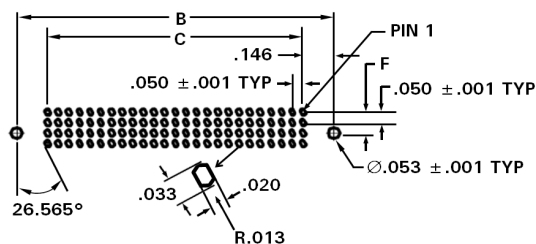
AIRBORN Z SERIES - DIMENSIONS

Guide Pin Hardware Option



DIMENSIONS								
SIZE	ROWS	COLS	A	B	C	D	E	F
20	2	10	0.952	0.742	0.450	0.210	0.105	0.050
30	2	15	1.202	0.992	0.700	0.210	0.105	0.050
40	2	20	1.452	1.242	0.950	0.210	0.105	0.050
50	2	25	1.702	1.492	1.200	0.210	0.105	0.050
30	3	10	0.952	0.742	0.450	0.260	0.105	0.050
45	3	15	1.202	0.992	0.700	0.260	0.105	0.050
60	3	20	1.452	1.242	0.950	0.260	0.105	0.050
75	3	25	1.702	1.492	1.200	0.260	0.105	0.050
40	4	10	0.952	0.742	0.450	0.310	0.155	0.100
60	4	15	1.202	0.992	0.700	0.310	0.155	0.100
80	4	20	1.452	1.242	0.950	0.310	0.155	0.100
100	4	25	1.702	1.492	1.200	0.310	0.155	0.100
50	5	10	0.952	0.742	0.450	0.360	0.155	0.100
75	5	15	1.202	0.992	0.700	0.360	0.155	0.100
100	5	20	1.452	1.242	0.950	0.360	0.155	0.100
125	5	25	1.702	1.492	1.200	0.360	0.155	0.100
60	6	10	0.952	0.742	0.450	0.410	0.205	0.150
90	6	15	1.202	0.992	0.700	0.410	0.205	0.150
120	6	20	1.452	1.242	0.950	0.410	0.205	0.150
150	6	25	1.702	1.492	1.200	0.410	0.205	0.150
70	7	10	0.952	0.742	0.450	0.460	0.205	0.150
105	7	15	1.202	0.992	0.700	0.460	0.205	0.150
140	7	20	1.452	1.242	0.950	0.460	0.205	0.150
175	7	25	1.702	1.492	1.200	0.460	0.205	0.150

PWB Layout (Recommended)



DIMENSIONS	
HARDWARE "G"	CONTACT "H"
0.100+/-0.002	0.120+/-0.006
0.150+/-0.002	0.170+/-0.010
0.200+/-0.002	0.230+/-0.010
0.250+/-0.002	0.280+/-0.010
0.300+/-0.002	0.330+/-0.010
0.350+/-0.002	0.380+/-0.010

Note: All dimensions are in inches.

PWB-PLATED PAD RECOMMENDATIONS:

Board to be made in accordance with ANSI/EIA-616

Laminate material per MIL-P-13949, Type GF

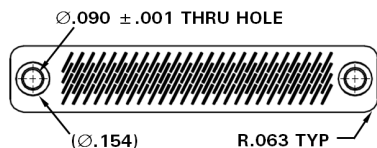
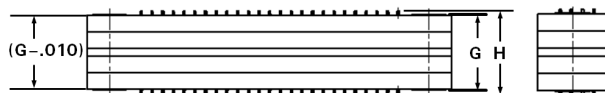
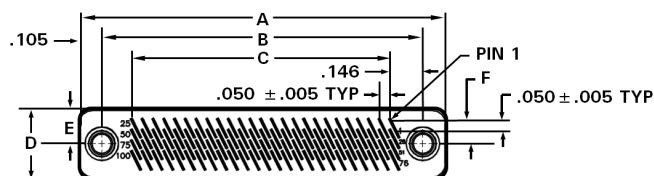
Copper foil thickness: 1 oz per square foot

Plate all surface features with 50 μ inches (μ in), minimum, electrolytic hard gold over 50-150 μ in nickel.

(Optionally, plate all surface features with 50 μ in, minimum, electrolytic hard gold over 5-10 μ in of electrolytic soft gold over 100 μ in minimum, nickel.)

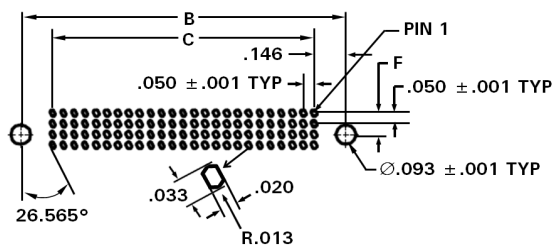
AIRBORN Z SERIES - DIMENSIONS

Through-Hole Hardware Option



DIMENSIONS								
SIZE	ROWS	COLS	A	B	C	D	E	F
20	2	10	0.952	0.742	0.450	0.210	0.105	0.050
30	2	15	1.202	0.992	0.700	0.210	0.105	0.050
40	2	20	1.452	1.242	0.950	0.210	0.105	0.050
50	2	25	1.702	1.492	1.200	0.210	0.105	0.050
30	3	10	0.952	0.742	0.450	0.260	0.105	0.050
45	3	15	1.202	0.992	0.700	0.260	0.105	0.050
60	3	20	1.452	1.242	0.950	0.260	0.105	0.050
75	3	25	1.702	1.492	1.200	0.260	0.105	0.050
40	4	10	0.952	0.742	0.450	0.310	0.155	0.100
60	4	15	1.202	0.992	0.700	0.310	0.155	0.100
80	4	20	1.452	1.242	0.950	0.310	0.155	0.100
100	4	25	1.702	1.492	1.200	0.310	0.155	0.100
50	5	10	0.952	0.742	0.450	0.360	0.155	0.100
75	5	15	1.202	0.992	0.700	0.360	0.155	0.100
100	5	20	1.452	1.242	0.950	0.360	0.155	0.100
125	5	25	1.702	1.492	1.200	0.360	0.155	0.100
60	6	10	0.952	0.742	0.450	0.410	0.205	0.150
90	6	15	1.202	0.992	0.700	0.410	0.205	0.150
120	6	20	1.452	1.242	0.950	0.410	0.205	0.150
150	6	25	1.702	1.492	1.200	0.410	0.205	0.150
70	7	10	0.952	0.742	0.450	0.460	0.205	0.150
105	7	15	1.202	0.992	0.700	0.460	0.205	0.150
140	7	20	1.452	1.242	0.950	0.460	0.205	0.150
175	7	25	1.702	1.492	1.200	0.460	0.205	0.150

PWB Layout (Recommended)



DIMENSIONS	
HARDWARE "G"	CONTACT "H"
0.100+/-0.002	0.120+/-0.006
0.150+/-0.002	0.170+/-0.010
0.200+/-0.002	0.230+/-0.010
0.250+/-0.002	0.280+/-0.010
0.300+/-0.002	0.330+/-0.010
0.350+/-0.002	0.380+/-0.010

Note: All dimensions are in inches.

PWB-PLATED PAD RECOMMENDATIONS:

Board to be made in accordance with ANSI/EIA-616

Laminate material per MIL-P-13949, Type GF

Copper foil thickness: 1oz per square foot

Plate all surface features with 50 µin minimum, electrolytic hard gold over 50-150 µin nickel.

(Optionally, plate all surface features with 50 µin, minimum, electrolytic hard gold over 5-10 µin of electrolytic soft gold over 100 µin minimum, nickel.)

AIRBORN Z SERIES - DRAWINGS

Board Footprint

ROWS	CONTACT ID			
	COLUMNS			
	10	15	20	25
2				
3				
4				
5				
6				
7				

PWB-PLATED PAD RECOMMENDATIONS:

Board to be made in accordance with ANSI/EIA-616

Laminate material per MIL-P-13949, Type GF

Copper foil thickness: 1oz per square foot

Plate all surface features with 50 µin minimum, electrolytic hard gold over 50-150 µin nickel.

(Optionally, plate all surface features with 50 µin, minimum, electrolytic hard gold over 5-10 µin of electrolytic soft gold over 100 µin minimum, nickel.)



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