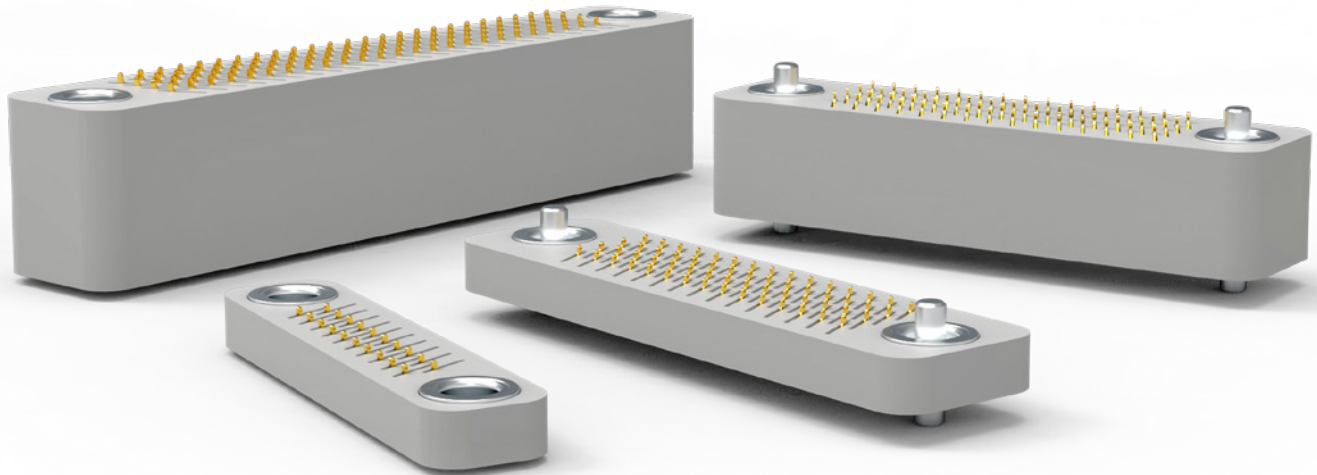


# Z Series

The Z Series family of high-density, board-to-board or flex circuit stacking applications is unique, offering users a reliable one-piece contact system. Its solder-less 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.

- 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 your specific design needs.





## Z Series

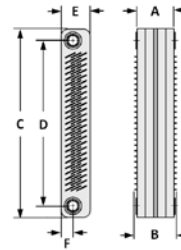
### Vertical Compression (Z-axis), Open-Pin Field

Contact spacing: 0.050" (1.27 mm)

A high-density, open-field, vertically-compressed connector utilizing a patented z-axis contact system configured for between-board (board-to-board) compression applications.

### DIMENSIONS

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



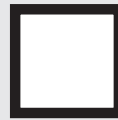
**SERIES**  
Vertical  
(Z-Axis)  
Compression  
Multi-Rows  
0.050" Spacing  
Open-Field



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



**COLUMNS**  
10 – 10 Columns  
15 – 15 Columns  
20 – 20 Columns  
25 – 25 Columns



**PLATING**  
5 – 50  $\mu$ " Au  
3 – 30  $\mu$ " Au



**CONTACT**  
11 – Double  
compression



**HARDWARE**  
10 –  $\emptyset$ .090" Thru-hole  
20 –  $\emptyset$ .050" Guide pin

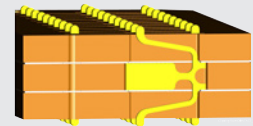


**TYPE**  
00 – No polarization



**VARIATION**  
Blank – None  
XXX – Consult  
factory

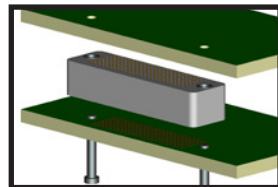
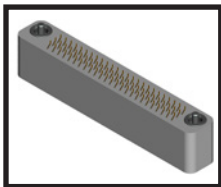
**ROWS**  
2 – 2 Rows  
3 – 3 Rows  
4 – 4 Rows  
5 – 5 Rows  
6 – 6 Rows  
7 – 7 Rows



PLEASE CONSULT THE AIRBORN 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 @ -3 dB
2	Diff. Return Loss	1.0 GHz @ -20 dB
3	NEXT	2.0 GHz @ -50 dB
4	FEXT	2.0 GHz @ -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:** AirBorn can manufacture special configurations to your exact specifications.

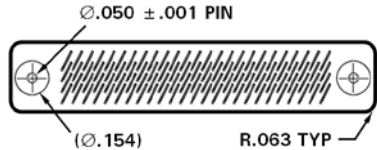
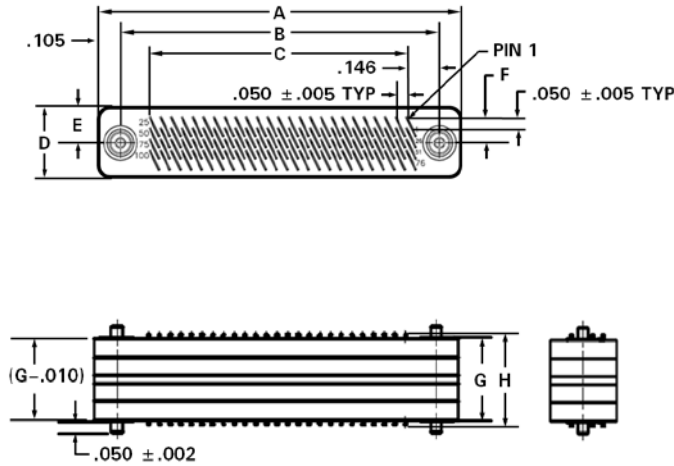
### PERFORMANCE

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: .....  $\approx$ 0.007" for 0.100" and 0.150" connector heights  
 $\approx$ 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 @ 100 VDC  
Durability: ..... 50 connector mating cycles  
Dielectric Withstanding: ..... 250 VDC @ sea level, 100 VDC @ altitude

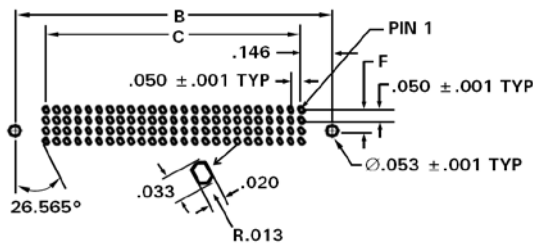
**NOTE:** Performance values are estimates at this time. Actual values will be determined when final product testing is complete.

## Z SERIES DIMENSIONS

### Guide Pin Hardware Option



### PWB Layout (Recommended)



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

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

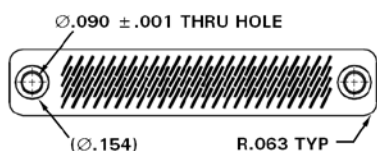
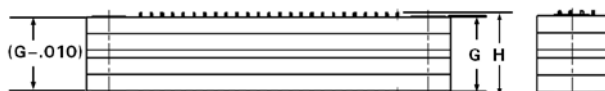
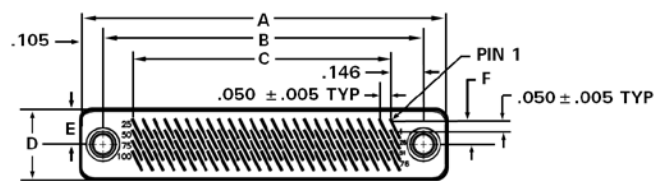
Copper foil thickness: 1 oz per square foot

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

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

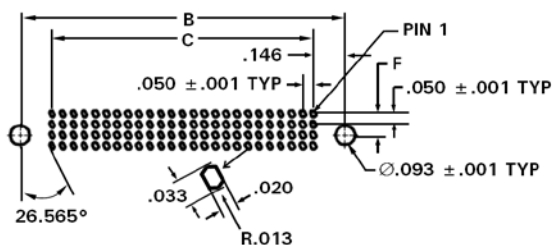
## Z SERIES DIMENSIONS

### Thru-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: 1 oz per square foot

Plate all surface features with 50  $\mu$ ", minimum, electrolytic hard gold over 50-150  $\mu$ " nickel.


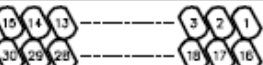

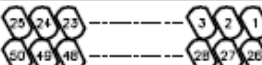

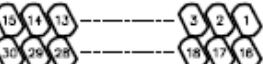
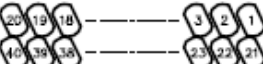
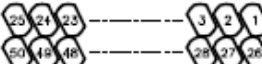

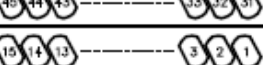
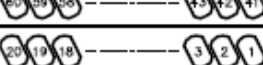
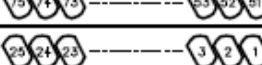

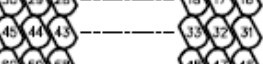

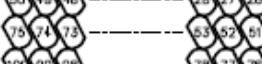

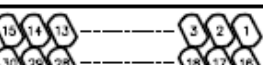
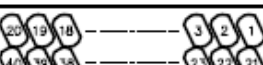
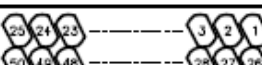

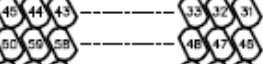
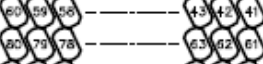
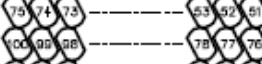
(Optionally, plate all surface features with 50  $\mu$ ", minimum, electrolytic hard gold over 5-10  $\mu$ " of electrolytic soft gold over 100  $\mu$ ", minimum, nickel.)





## 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: 1 oz per square foot

Plate all surface features with 50  $\mu$ ", minimum, electrolytic hard gold over 50-150  $\mu$ " nickel.

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