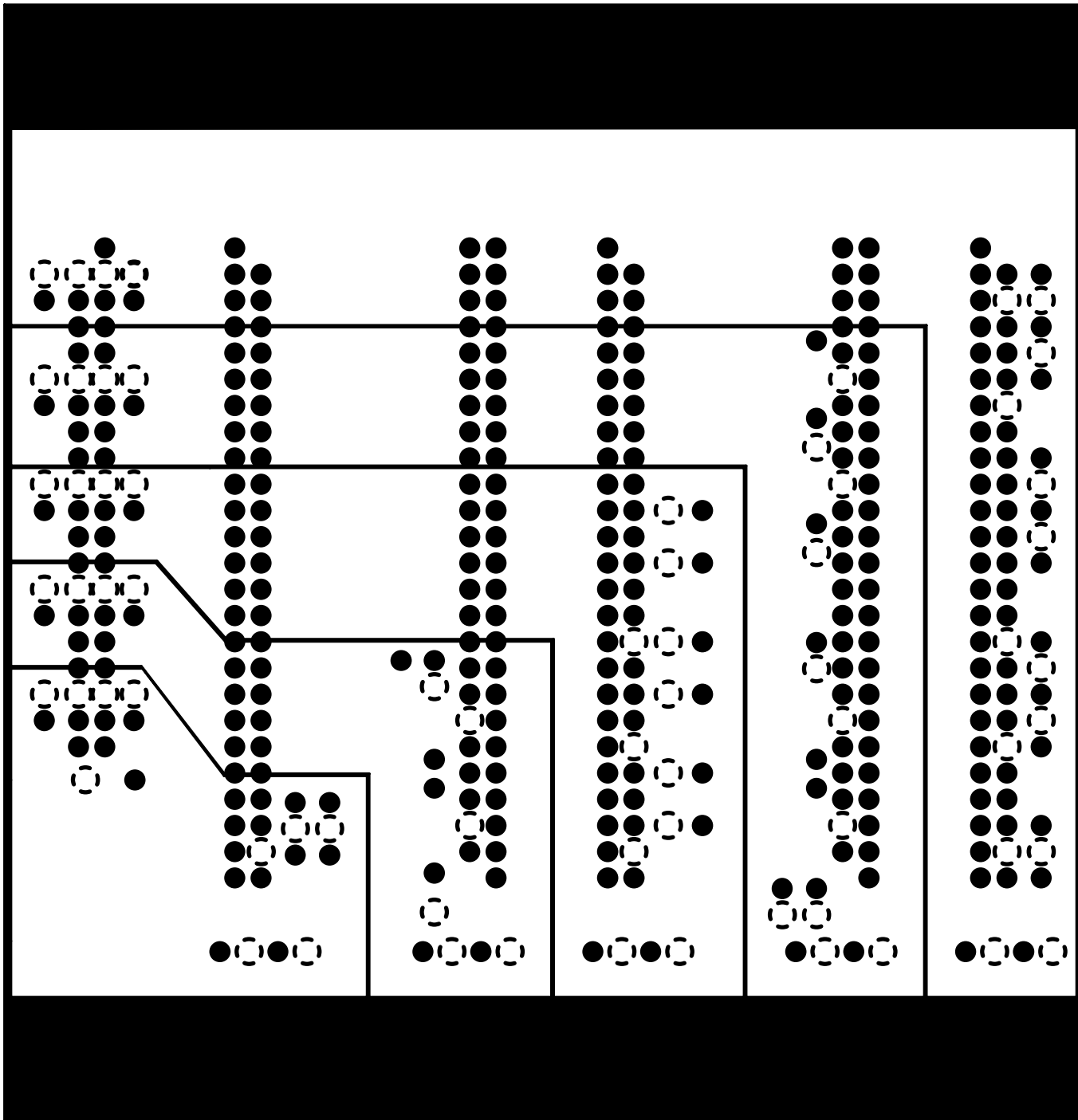


φETH  
M. Board EE  
Aug. 2005

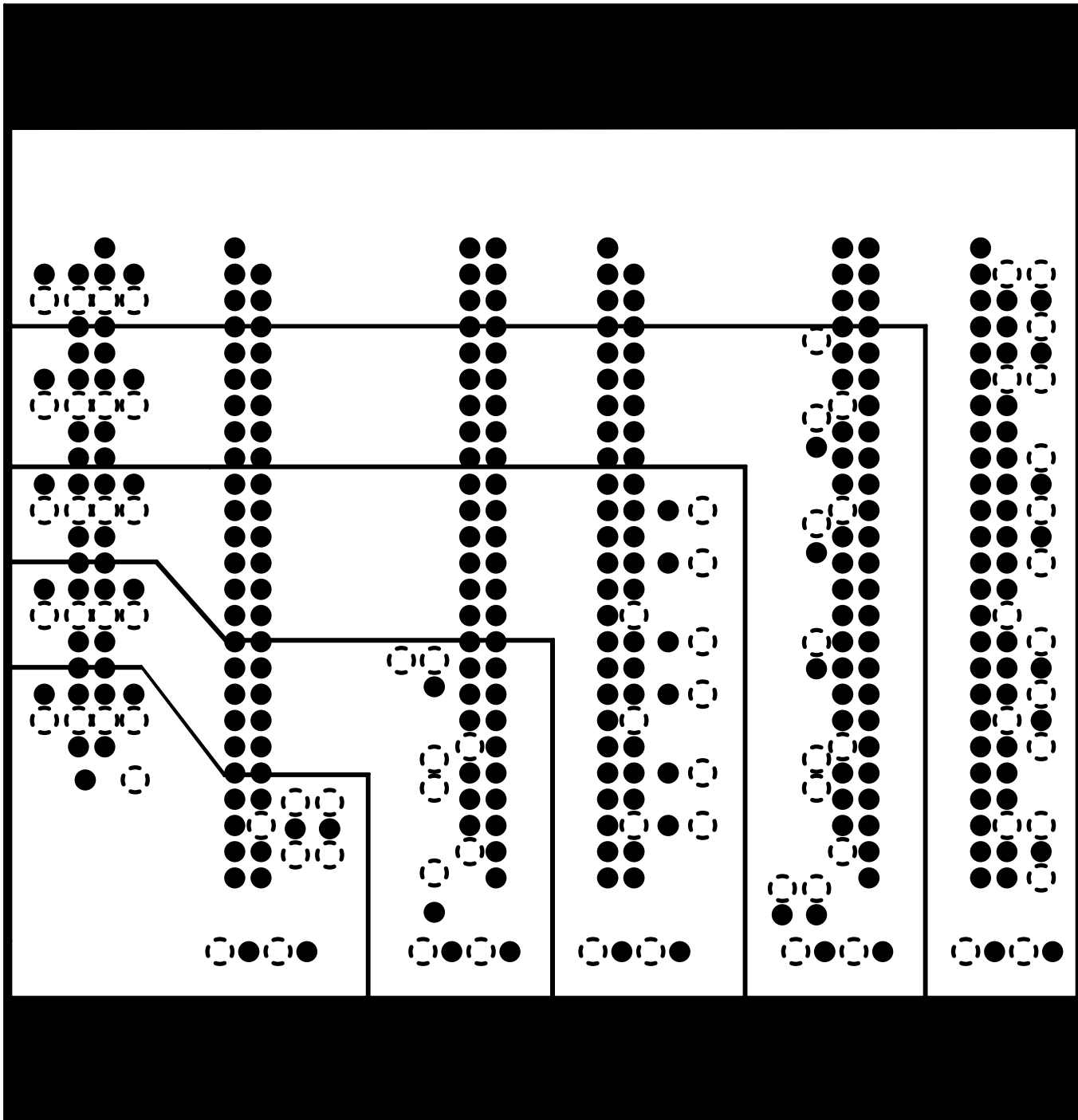
104 (mm)

108 (mm)



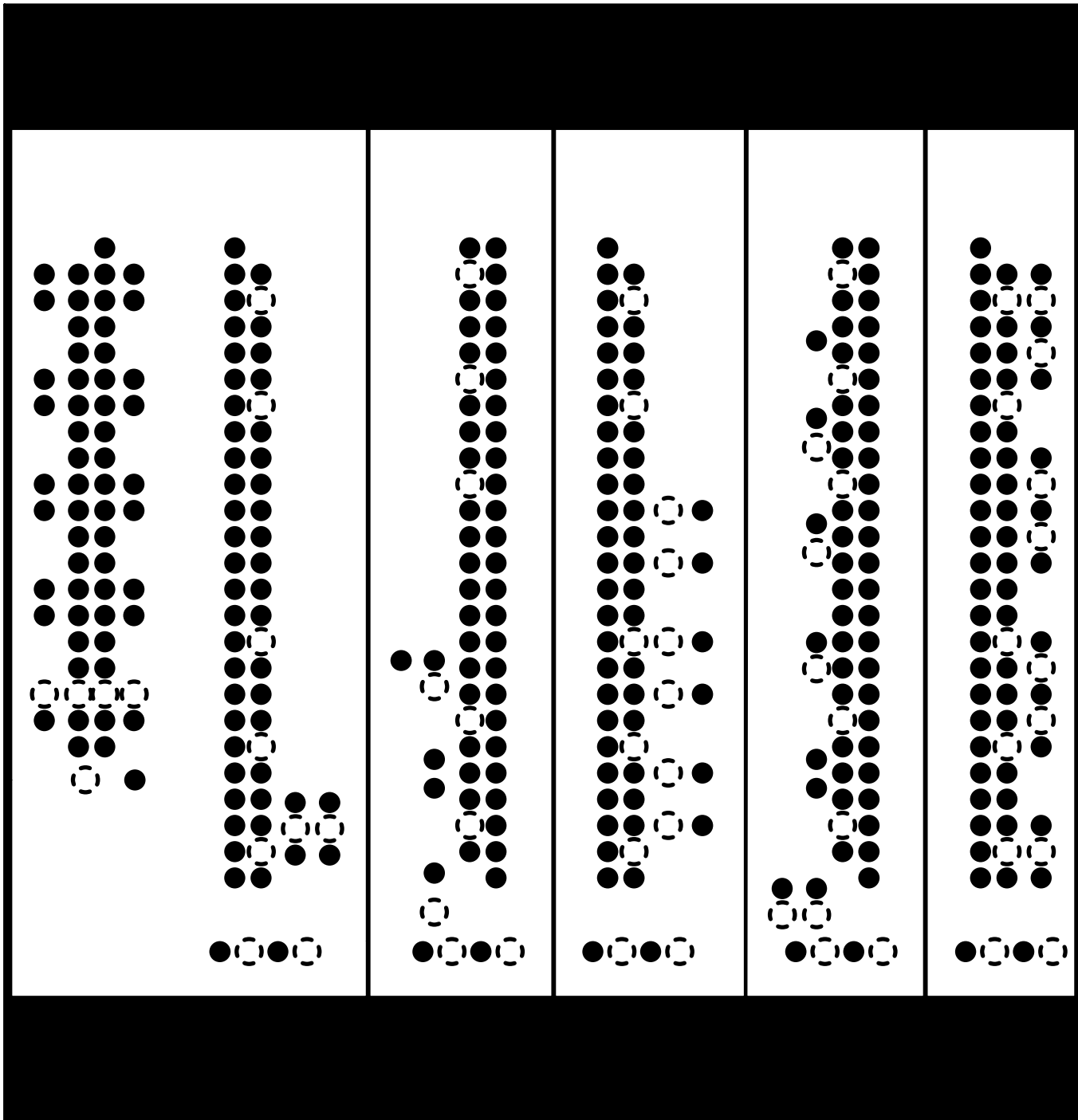
104 (mm)

108 (mm)



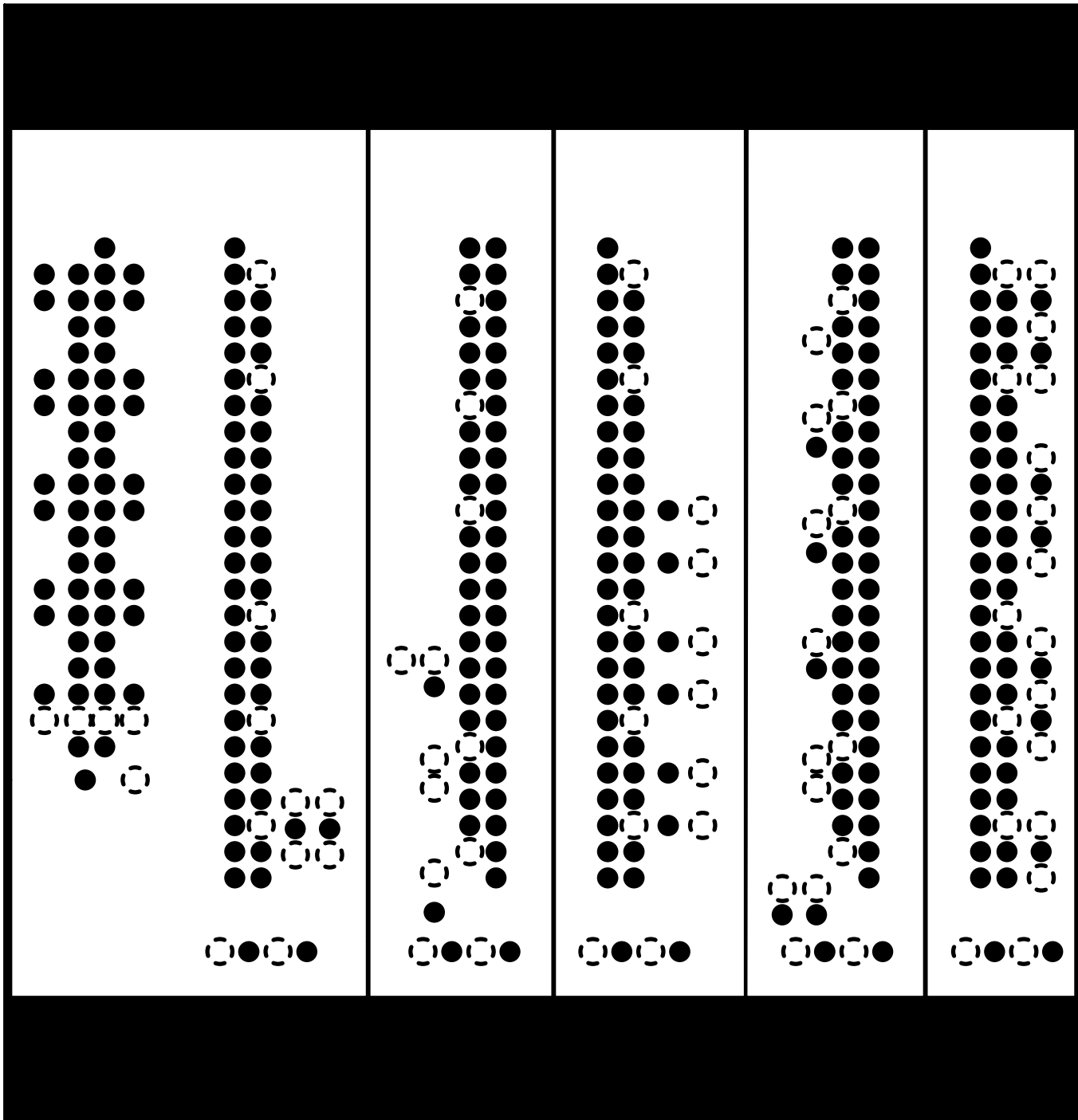
104 (mm)

108 (mm)



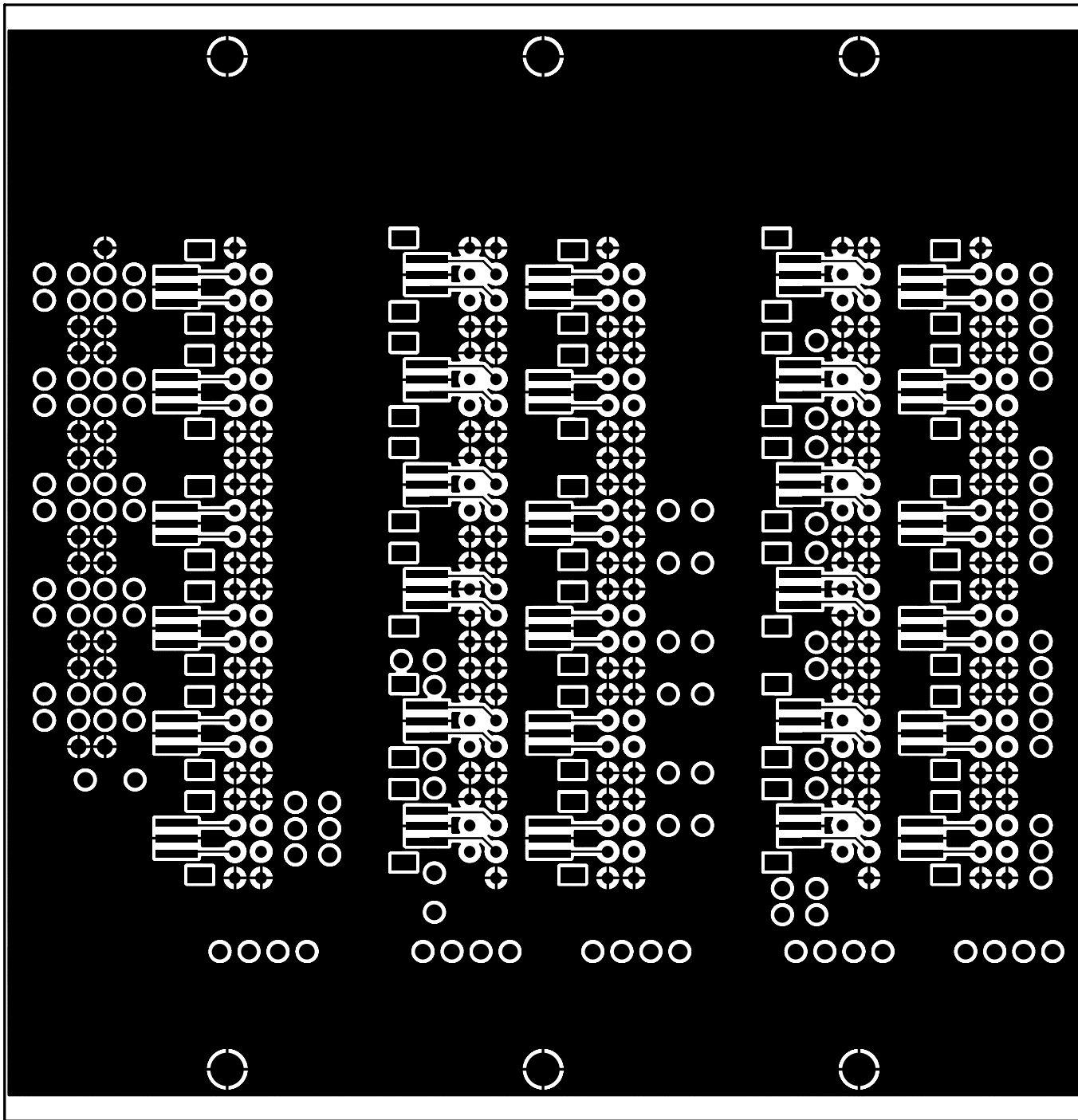
104 (mm)

108 (mm)



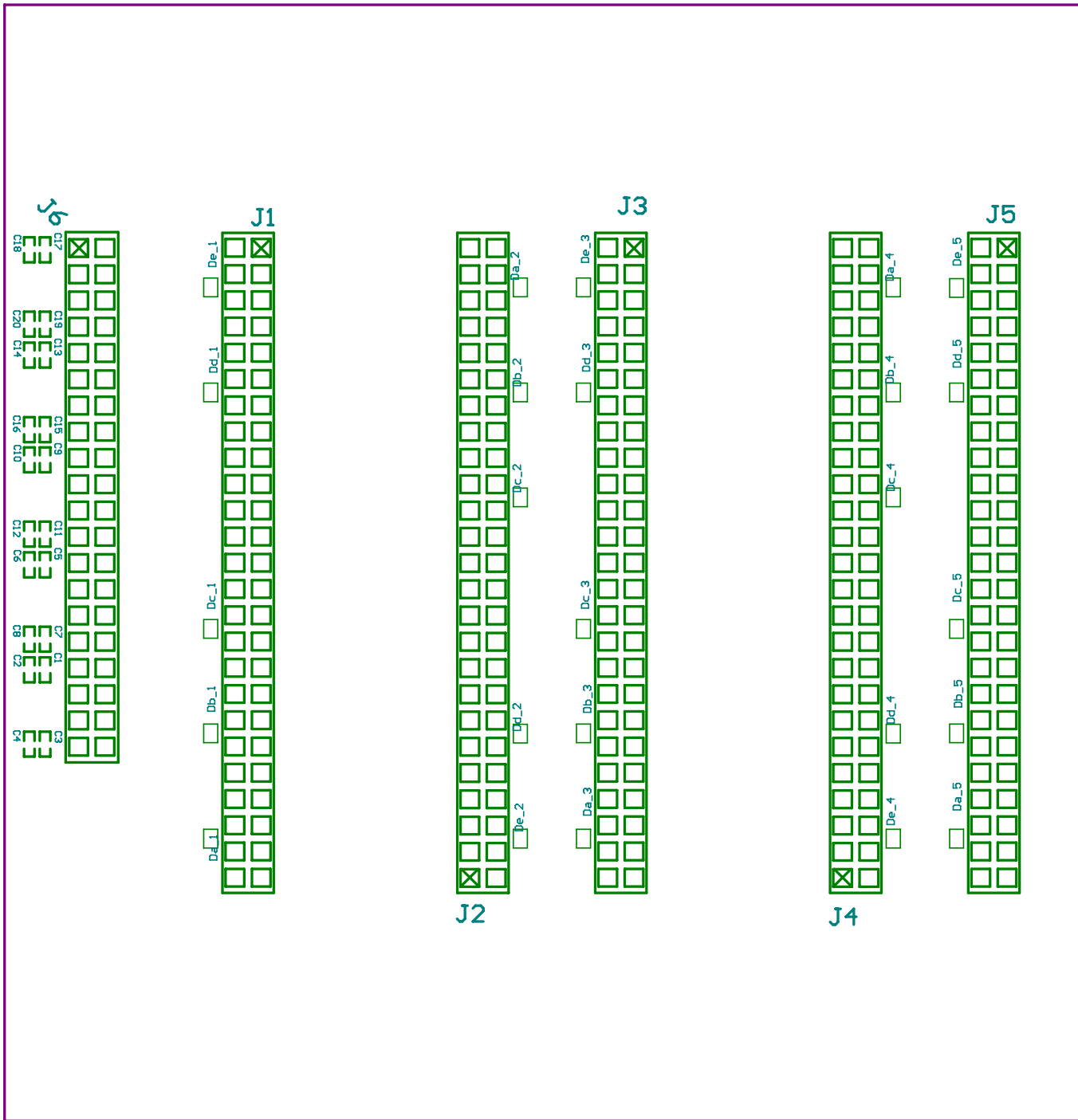
104 (mm)

108 (mm)



104 (mm)

108 (mm)



104 (mm)

108 (mm)

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19~1	1P~1	1c~1	1~1	1P~1	1e~1			
S_9L	S_bL	S_T	S_cL	S_dL	S_eL			
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
19~3	1P~3	1c~3	1~3	1P~3	1e~3			
A_9L	A_bL	A_T	A_cL	A_dL	A_eL			
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
19~2	1P~2	1c~2	1~2	1P~2	1e~2			

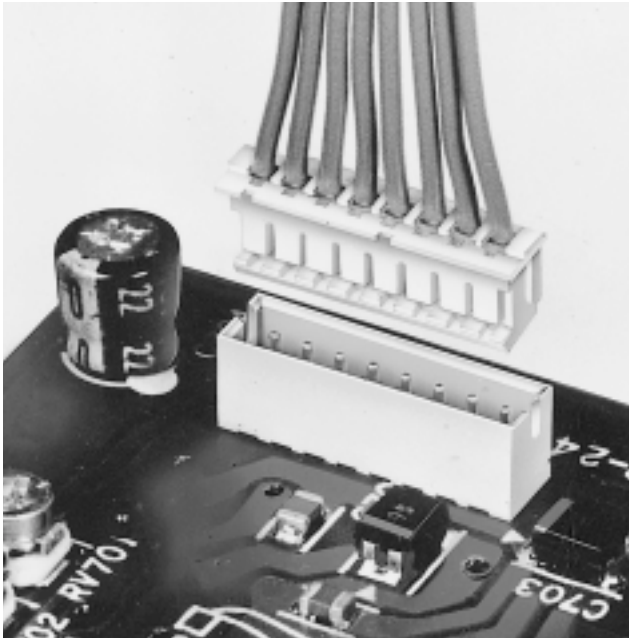
104 (mm)

108 (mm)

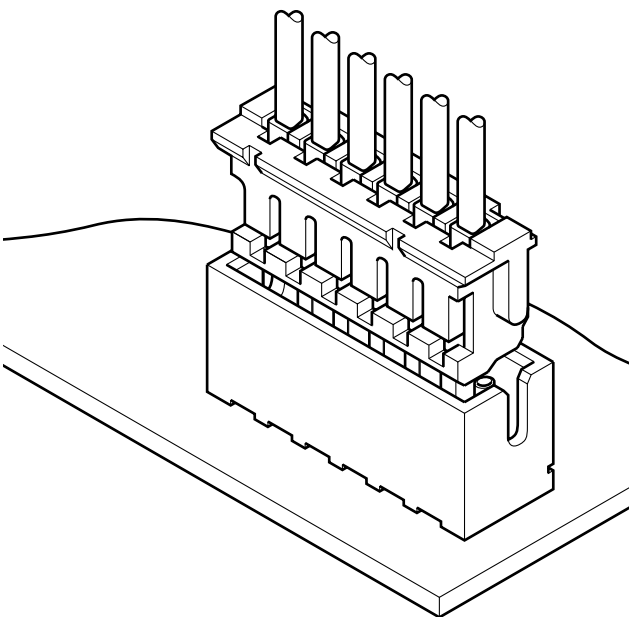


# ZH CONNECTOR

Disconnectable Crimp style connectors



**The ZH connector is very small with a mounting height of 5.6mm (.220") and a thickness of only 3.5mm (.138"). Contact retention lances on the housing make insertion easier, while the dimple at the center of the contact ensures reliable contact with the post.**



## Features

### • Compact, low profile design

The ZH connector requires only about 45% of the installation space required by the standard JST 2.0mm (.079") pitch connector.

### • Housing lances

The contact retention lances on the resilient housing allow visual confirmation of contact lock-in for easy and secure insertion.

### • Reliable contact construction

The dimple at the center of the contact ensures positive contact and low contact resistance at all times, even when the connector is subjected to vibration or distortion. Therefore this connector is ideal for use under low current, low voltage conditions.

### • Distortion resistant construction

The header is fully shrouded and thus protects the receptacle from damage that could be caused by mating the connectors at an angle or by otherwise mismatching the connectors.

### • Compatible with the ZR insulation displacement connectors

The same shrouded header can be used for either the ZR IDC-style connector or the ZH crimp style connector. This allows both types of connector to be used interchangeably without replacing the header.

## Specifications

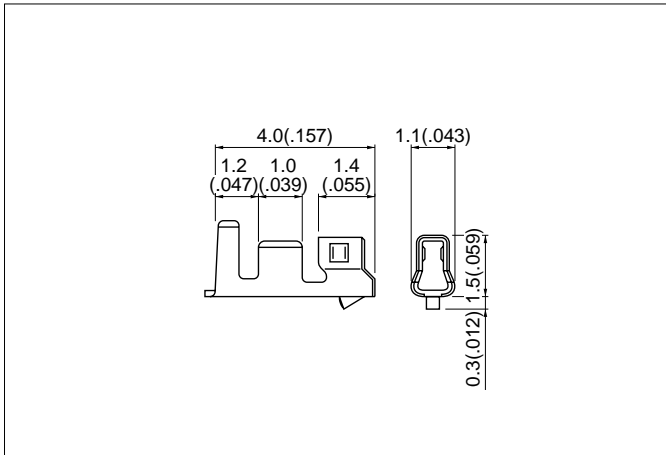
- Current rating: 1.0A AC, DC (AWG #26)
- Voltage rating: 50V AC, DC
- Temperature range: -25°C to +85°C  
(including temperature rise in applying electrical current)
- Contact resistance: Initial value/20m Ω max.  
After environmental testing/30m Ω max.
- Insulation resistance: 500M Ω min.
- Withstanding voltage: 500V AC/minute
- Applicable wire: AWG #32 to #26
- Applicable PC board thickness: 0.6 to 1.2mm (.024" to .047"),  
1.6mm (.063")

\* Contact JST for details.

## Standards

- Recognized E60389
- 1 Certified LR20812
- 2 R9351092

## Contact

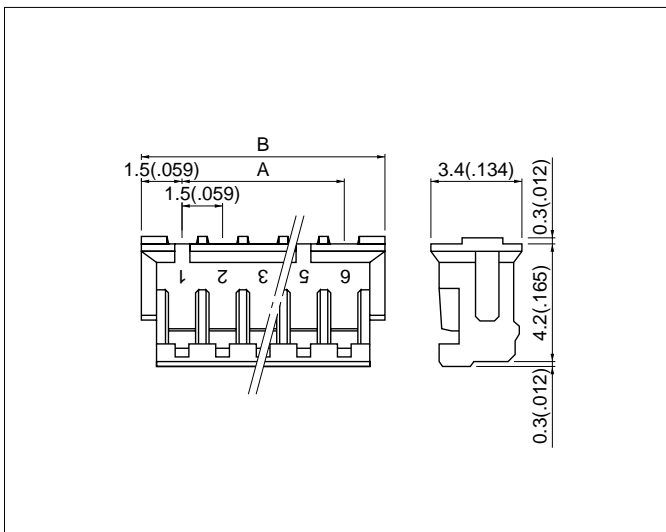


Model No.	Applicable wire			Q'ty / reel
	mm <sup>2</sup>	AWG #	Insulation O.D. mm(in.)	
<b>SZH-002T-P0.5</b>	0.08 to 0.13	28 to 26	0.8 to 1.1(.031 to .043)	13,000
<b>SZH-003T-P0.5</b>	0.032 to 0.08	32 to 28	0.5 to 0.9(.020 to .035)	16,000

### Material and Finish

Phosphor bronze, tin-plated

## Housing



Circuits	Model No.	Dimensions mm(in.)		Q'ty / bag
		A	B	
2	<b>ZHR- 2</b>	1.5(.059)	4.5(.177)	1,000
3	<b>ZHR- 3</b>	3.0(.118)	6.0(.236)	1,000
4	<b>ZHR- 4</b>	4.5(.177)	7.5(.295)	1,000
5	<b>ZHR- 5</b>	6.0(.236)	9.0(.354)	1,000
6	<b>ZHR- 6</b>	7.5(.295)	10.5(.413)	1,000
7	<b>ZHR- 7</b>	9.0(.354)	12.0(.472)	1,000
8	<b>ZHR- 8</b>	10.5(.413)	13.5(.531)	1,000
9	<b>ZHR- 9</b>	12.0(.472)	15.0(.591)	1,000
10	<b>ZHR-10</b>	13.5(.531)	16.5(.650)	1,000
11	<b>ZHR-11</b>	15.0(.591)	18.0(.709)	1,000
12	<b>ZHR-12</b>	16.5(.650)	19.5(.768)	1,000
13	<b>ZHR-13</b>	18.0(.709)	21.0(.827)	1,000

### Material

Nylon 66, UL94V-0, natural (white)

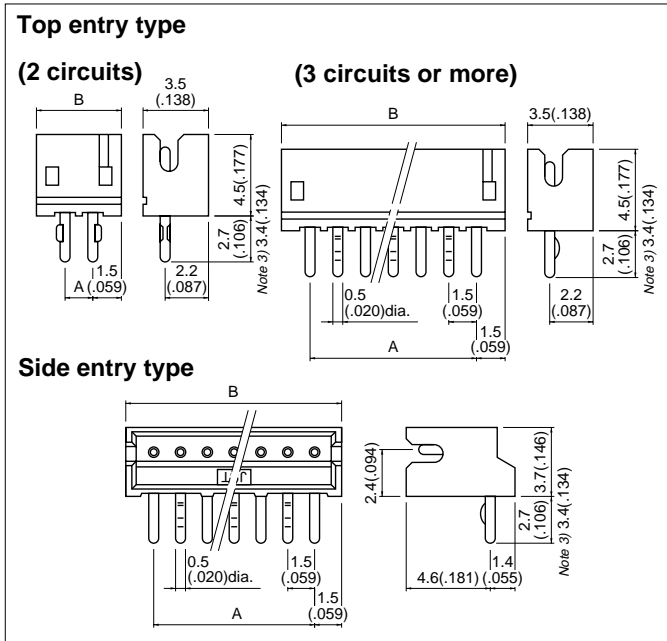
<For reference> As the color identification, the following alphabet shall be put in the underlined part. For availability, delivery and minimum order quantity, contact JST.

ex. **ZHR-2-oo**  
 (blank)...natural (white)  
 K...black R...red E...blue M...green

# ZH CONNECTOR

## Through-hole type shrouded header

The shrouded headers are interchangeable with those of the ZR insulation displacement connectors.



Circuits	Model No.				Dimensions mm(in.)		Q'ty / box	
	Top entry type	Side entry type	Note 3) Top entry type	Note 3) Side entry type	A	B	Top entry type	Side entry type
2	B 2B-ZR	S 2B-ZR	B 2B-ZR-3.4	S 2B-ZR-3.4	1.5(.059)	4.5(.177)	2,000	2,000
3	B 3B-ZR	S 3B-ZR	B 3B-ZR-3.4	S 3B-ZR-3.4	3.0(.118)	6.0(.236)	2,000	2,000
4	B 4B-ZR	S 4B-ZR	B 4B-ZR-3.4	S 4B-ZR-3.4	4.5(.177)	7.5(.295)	2,000	2,000
5	B 5B-ZR	S 5B-ZR	B 5B-ZR-3.4	S 5B-ZR-3.4	6.0(.236)	9.0(.354)	2,000	1,000
6	B 6B-ZR	S 6B-ZR	B 6B-ZR-3.4	S 6B-ZR-3.4	7.5(.295)	10.5(.413)	2,000	1,000
7	B 7B-ZR	S 7B-ZR	B 7B-ZR-3.4	S 7B-ZR-3.4	9.0(.354)	12.0(.472)	1,000	1,000
8	B 8B-ZR	S 8B-ZR	B 8B-ZR-3.4	S 8B-ZR-3.4	10.5(.413)	13.5(.531)	1,000	1,000
9	B 9B-ZR	S 9B-ZR	B 9B-ZR-3.4	S 9B-ZR-3.4	12.0(.472)	15.0(.591)	1,000	1,000
10	B10B-ZR	S10B-ZR	B10B-ZR-3.4	S10B-ZR-3.4	13.5(.531)	16.5(.650)	1,000	1,000
11	B11B-ZR	S11B-ZR	B11B-ZR-3.4	S11B-ZR-3.4	15.0(.591)	18.0(.709)	1,000	500
12	B12B-ZR	S12B-ZR	B12B-ZR-3.4	S12B-ZR-3.4	16.5(.650)	19.5(.768)	1,000	500
13	B13B-ZR	S13B-ZR	B13B-ZR-3.4	S13B-ZR-3.4	18.0(.709)	21.0(.827)	500	500

### Material and Finish

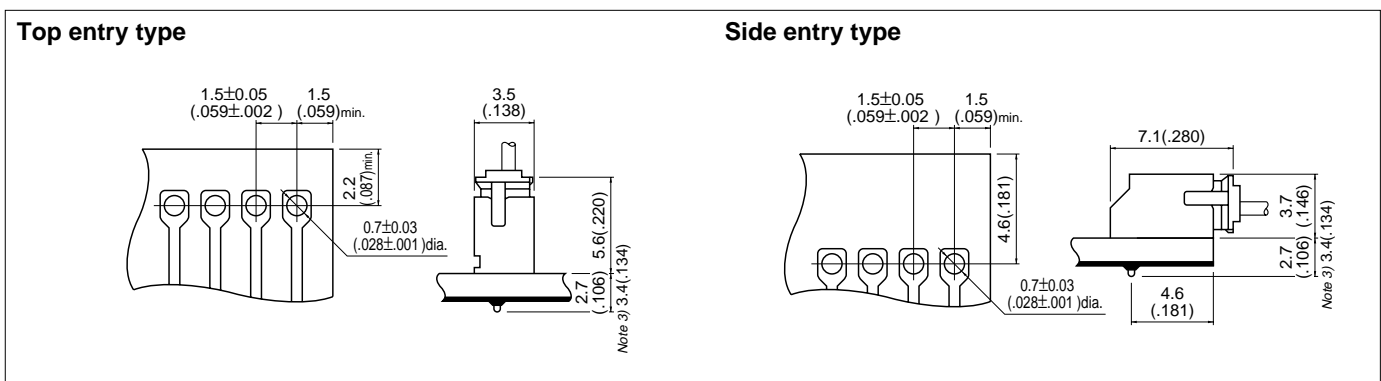
Pin: Brass, copper-undercoated, tin/lead-plated  
Wafer: Glass-filled nylon 66, UL94V-0, natural (ivory)

Note: 3. Headers with 3.4mm(.134") long solder tails, suited for the 1.6mm(.063") thick PC board.

<For reference> As the color identification, the following alphabet shall be put in the underlined part. For availability, delivery and minimum order quantity, contact JST.

ex. **B2B-ZR-3.4-oo**  
(blank)...natural (ivory)  
K...black R...red E...blue M...green

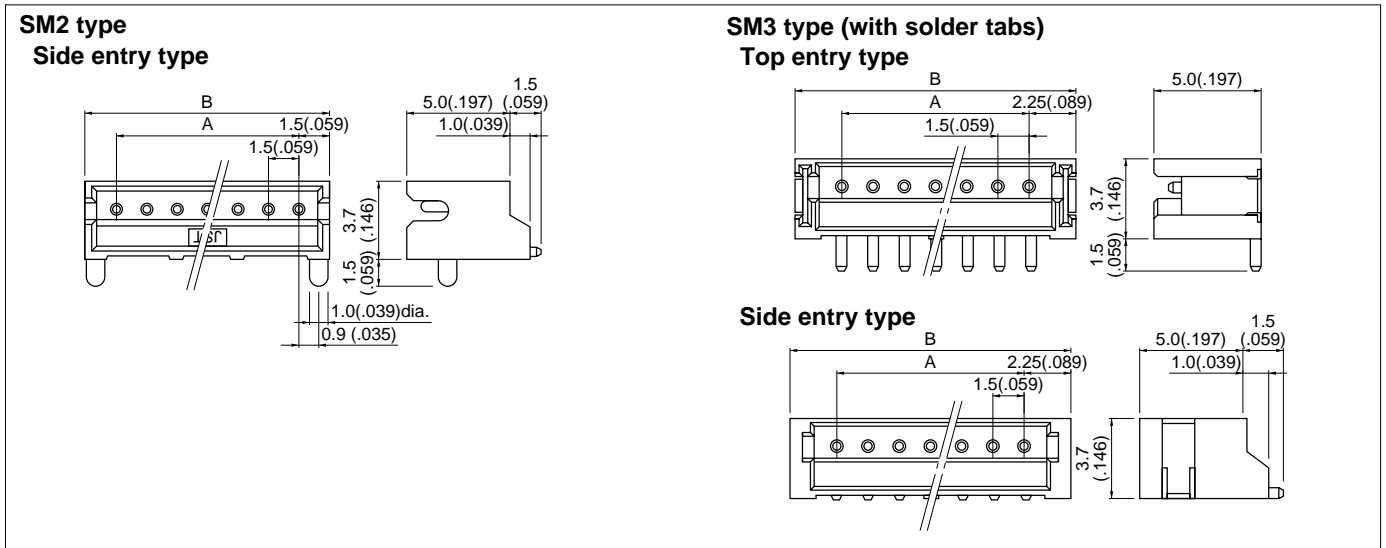
## Through-hole type PC board layout (viewed from soldering side) and Assembly layout



Note: 1. Tolerances are non-cumulative:  $\pm 0.05\text{mm}(\pm .002")$  for all centers.

2. Hole dimensions differ according to the kind of PC board and piercing method. The dimensions above should serve as a guideline. Contact JST for details.

## SMT type shrouded header



Cir- cuits	SM2 type				SM3 type					
	Model No.	Dimensions mm(in.)		Q'ty / reel	Model No.		Dimensions mm(in.)		Q'ty / reel	
	Side entry type	A	B		Top entry type	Side entry type	A	B	Top entry type	Side entry type
2	<b>S 2B-ZR-SM2-TF</b>	1.5(.059)	4.5(.177)	1,000	<b>B 2B-ZR-SM3-TF</b>	<b>S 2B-ZR-SM3A-TF</b>	1.5(.059)	6.0(.236)	1,000	1,000
3	<b>S 3B-ZR-SM2-TF</b>	3.0(.118)	6.0(.236)	1,000	<b>B 3B-ZR-SM3-TF</b>	<b>S 3B-ZR-SM3A-TF</b>	3.0(.118)	7.5(.295)	1,000	1,000
4	<b>S 4B-ZR-SM2-TF</b>	4.5(.177)	7.5(.295)	1,000	<b>B 4B-ZR-SM3-TF</b>	<b>S 4B-ZR-SM3A-TF</b>	4.5(.177)	9.0(.354)	1,000	1,000
5	<b>S 5B-ZR-SM2-TF</b>	6.0(.236)	9.0(.354)	1,000	<b>B 5B-ZR-SM3-TF</b>	<b>S 5B-ZR-SM3A-TF</b>	6.0(.236)	10.5(.413)	1,000	1,000
6	<b>S 6B-ZR-SM2-TF</b>	7.5(.295)	10.5(.413)	1,000	<b>B 6B-ZR-SM3-TF</b>	<b>S 6B-ZR-SM3A-TF</b>	7.5(.295)	12.0(.472)	1,000	1,000
7	<b>S 7B-ZR-SM2-TF</b>	9.0(.354)	12.0(.472)	1,000	<b>B 7B-ZR-SM3-TF</b>	<b>S 7B-ZR-SM3A-TF</b>	9.0(.354)	13.5(.531)	1,000	1,000
8	<b>S 8B-ZR-SM2-TF</b>	10.5(.413)	13.5(.531)	1,000	<b>B 8B-ZR-SM3-TF</b>	<b>S 8B-ZR-SM3A-TF</b>	10.5(.413)	15.0(.591)	1,000	1,000
9	<b>S 9B-ZR-SM2-TF</b>	12.0(.472)	15.0(.591)	1,000	<b>B 9B-ZR-SM3-TF</b>	<b>S 9B-ZR-SM3A-TF</b>	12.0(.472)	16.5(.650)	1,000	1,000
10	<b>S10B-ZR-SM2-TF</b>	13.5(.531)	16.5(.650)	1,000	<b>B10B-ZR-SM3-TF</b>	<b>S10B-ZR-SM3A-TF</b>	13.5(.531)	18.0(.709)	1,000	1,000
11	<b>S11B-ZR-SM2-TF</b>	15.0(.591)	18.0(.709)	1,000	<b>B11B-ZR-SM3-TF</b>	<b>S11B-ZR-SM3A-TF</b>	15.0(.591)	19.5(.768)	1,000	1,000
12	<b>S12B-ZR-SM2-TF</b>	16.5(.650)	19.5(.768)	1,000	<b>B12B-ZR-SM3-TF</b>	<b>S12B-ZR-SM3A-TF</b>	16.5(.650)	21.0(.827)	1,000	1,000
13	<b>S13B-ZR-SM2-TF</b>	18.0(.709)	21.0(.827)	1,000	<b>B13B-ZR-SM3-TF</b>	<b>S13B-ZR-SM3A-TF</b>	18.0(.709)	22.5(.886)	1,000	1,000

### Material and Finish

Pin: Brass, copper-undercoated, tin/lead-plated  
 Wafer: Glass-filled nylon 46, UL94V-0, natural (white)  
 Solder tab: Brass, copper-undercoated, tin/lead-plated

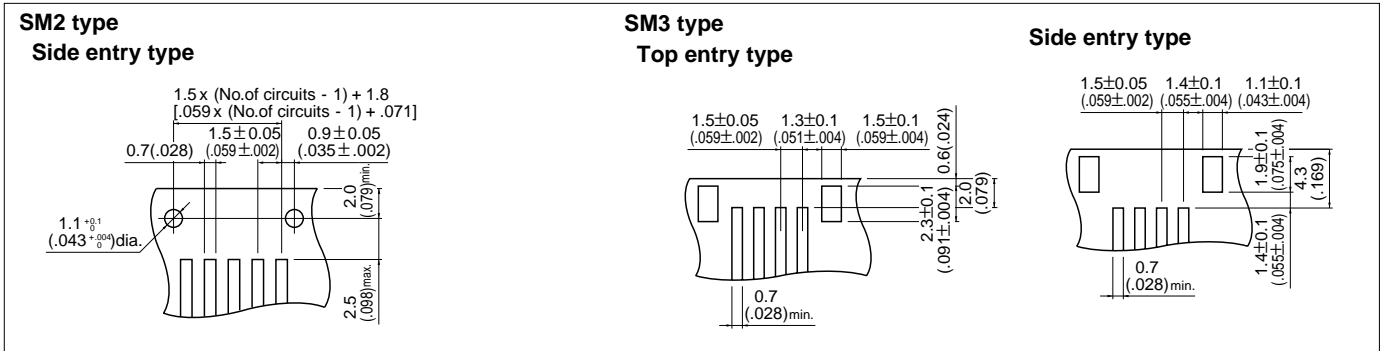
Note: 1. The products listed above are supplied on embossed-tape.  
 2. Contact JST for the top entry type headers with suction cap.

<For reference> As the color identification,  
 the following alphabet shall be put in the underlined part.  
 For availability, delivery and minimum order quantity, contact JST.

ex. **S2B-ZR-SM3A-oo-TF**  
 (blank)...natural (white)  
 K...black R...red E...blue M...green

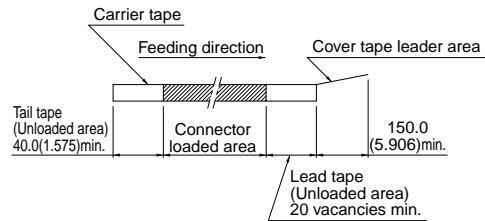
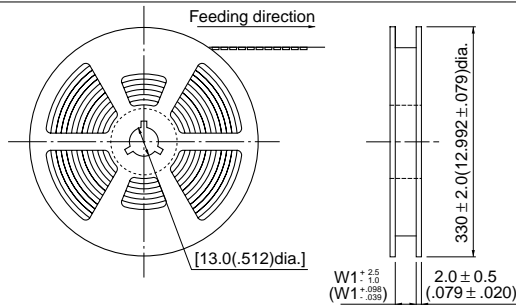
# ZH CONNECTOR

## SMT type PC board layout (viewed from component side)



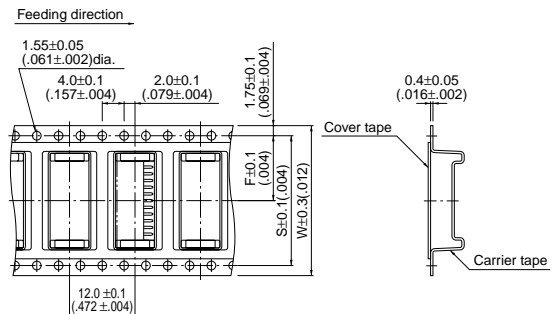
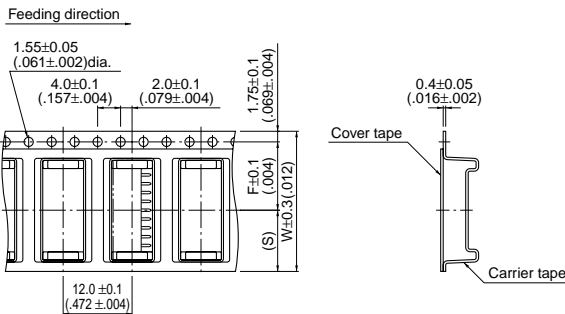
Note: 1. Tolerances are non-cumulative:  $\pm 0.05\text{mm}(\pm .002")$  for all centers.  
 2. The dimensions above should serve as a guideline. Contact JST for details.

## Taping specifications



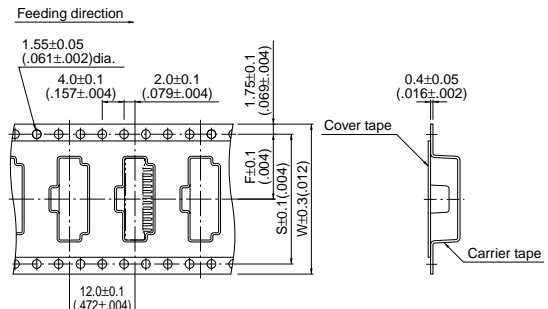
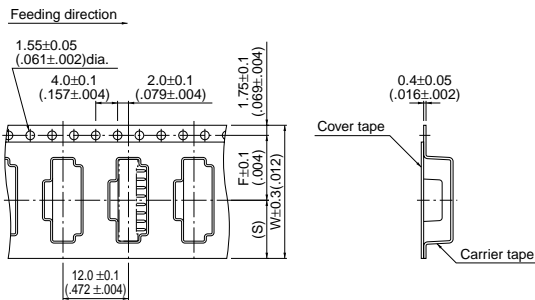
**SM2 type**  
(Side entry type) 2 to 11 circuits  
**SM3 type**  
(Side entry type) 2 to 10 circuits

**SM2 type**  
(Side entry type) 12 to 13 circuits  
**SM3 type**  
(Side entry type) 11 to 13 circuits



**SM3 type**  
(Top entry type)  
2 to 10 circuits

**SM3 type**  
(Top entry type)  
11 to 12 circuits



Circuits		Taping dimensions mm(in.)			Reel dimensions mm(in.)	Q'ty / reel	
		F	S	W	W1		
SM2 Type	Side entry type	2 to 6	7.5(.295)	6.75(.266)	16.0(.630)	17.5(.689)	1,000
		7 to 11	11.5(.453)	10.75(.423)	24.0(.945)	25.5(1.004)	1,000
		12 to 13	14.2(.559)	28.4(1.118)	32.0(1.260)	33.5(1.319)	1,000
SM3 Type	Top entry type	2	5.5(.217)	4.75(.187)	12.0(.472)	13.5(.531)	1,000
		3 to 5	7.5(.295)	6.75(.266)	16.0(.630)	17.5(.689)	1,000
		6 to 10	11.5(.453)	10.75(.423)	24.0(.945)	25.5(1.004)	1,000
	Side entry type	11 to 12	14.2(.559)	28.4(1.118)	32.0(1.260)	33.5(1.319)	1,000
		2 to 5	7.5(.295)	6.75(.266)	16.0(.630)	17.5(.689)	1,000
		6 to 10	11.5(.453)	10.75(.423)	24.0(.945)	25.5(1.004)	1,000
		11 to 12	14.2(.559)	28.4(1.118)	32.0(1.260)	33.5(1.319)	1,000
	13	20.2(.795)	40.4(1.591)	44.0(1.732)	45.5(1.791)	1,000	

**Note:**

1. Specifications conform to JIS C 0806. The tape width, connector recess dimensions, etc. are determined by the number of circuits and external shape of the connector to be loaded.
2. Specifications are subject to change without prior notice.

# ZH CONNECTOR

## Applicator for the semi-automatic press AP-K2N

Contact	Crimp applicator MKS-L		Compact crimp applicator MKS-LS		Strip-crimp applicator MKS-SC
	with safety cover	without safety cover	with safety cover	without safety cover	with safety cover
<b>SZH-002T-P0.5</b>	APLMK SZH002-05	APLNC SZH002-05	–	–	APLSC SZH002-05
<b>SZH-003T-P0.5</b>	APLMK SZH003-05	APLNC SZH003-05	–	–	APLSC SZH003-05

## Thin Profile 110Ω AES/EBU Digital Audio Multi-pair & Single-pair

### Features & Benefits

- 25MHz Bandwidth for 192kHz Sampling Rates
- Extra-Flexible
- Thin Profile
- Precision 110Ω Impedance
- Stabilizing Polyethylene Rod
- Easy-to-Terminate
- UL Type CM Rated

### Applications

- AES3 Digital Audio
- 32kHz to 192kHz Sampling Rates
- Studio Interconnect, Permanent Installation or Portable Snakes
- Multi-pin Cable Assemblies

The DS series of 110Ω AES/EBU digital audio cables features extended bandwidth for high-resolution sampling rates in a new and extra-flexible construction. Gepco DS series cables are rated up to 25MHz to meet the AES3-2003 specifications for transmission of sampling rates up to 192kHz. Each pair features minimal attenuation, low-jitter, and a 110Ω impedance that remains stable when the cable is bent or flexed. The 26 gage thin-profile series is extremely flexible, easy-to-terminate, and has reduced diameters for use in high-density terminations or with multi-pin connectors.



### MULTI-PAIR

#### Mechanical Specifications (Series)

Conductors	Insulation (type, wall thick)	Pair Shield	Pair Drain	Pair Jacket/Color Code	Master Jacket	UL Type
26 AWG (7x34) Stranded TC	Foam PP, .015"/White & Black	100% Foil	24 AWG (7x32) Stranded TC	PVC, .143"/Base 10	Gep-Flex TPE, Black	CM

#### Mechanical Specifications (Individual)

Part Number	# of Pairs	Nominal OD	Approx. Weight
DS604	4	.435"	65 lbs/Mft
DS608	8	.560"	140 lbs/Mft
DS612	12	.685"	200 lbs/Mft
DS616	16	.785"	270 lbs/Mft
DS624	24	.975"	395 lbs/Mft

### SINGLE-PAIR

#### Mechanical Specifications

Part #	# of Pairs	Nominal OD	Conductors	Dielectric (type, wall thick) Color Code	Shield	Drain Wire	Jacket (type, colors)	UL Type	Approx. Weight
DS601	1	.143"	26 AWG (7x34) Stranded TC	Foam PP, .015"/White & Black	100% Foil	24 AWG (7x32) Stranded TC	PVC, Black	CM	19 lbs/Mft

### Electrical Specifications

Impedance	Capacitance	Cond. DCR	Drain DCR	Attenuation (dB per 100 ft)				
				1MHz	3MHz	6MHz	12MHz	25MHz
110 Ω	14 pF/ft between conductors, 27 pF/ft between one conductor and other tied to shield	38.5 Ω/Mft	38.5 Ω/Mft	1.25	1.85	2.40	3.16	4.20