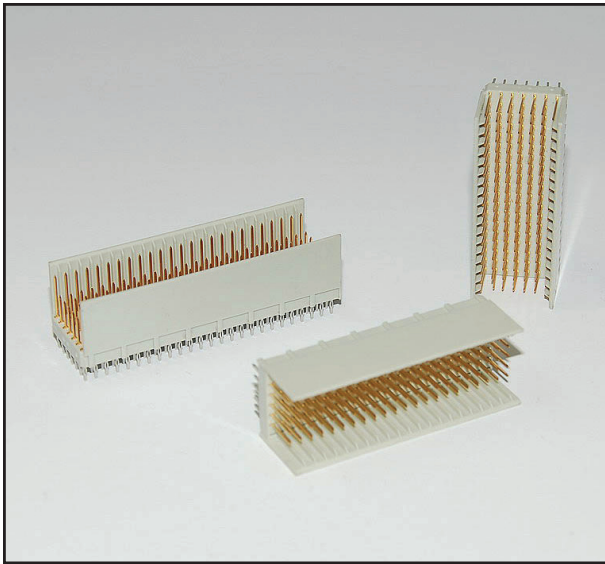


# 3M™ MetPak™ CP2 Press-Fit Header

2 mm Type B, 95, 110 and 125 Signal Contacts

CP2 Series



- 25 mm basic system unit
- 38, 44 and 50 mm module
- 2 mm grid spacing allows for high signal density at low cost
- “Eye of the Needle” compliant pin press-fit design helps reduce manufacturing time and cost
- Three contact mating levels for Early Mate Late Break or “Hot Swap” applications help reduce manufacturing time and cost
- Feed through termination available for midplane applications
- Additional grounding rows available for improved ground bounce and EMI immunity
- Mates with 5 row 3M™ MetPak™ HSHM, HM, and CP2 sockets
- End to end stackable with 5 row 3M™ MetPak™ HSHM, HM, and CP2 headers
- See the Regulatory Information Appendix (RIA) in the “RoHS compliance” section of [www.3Mconnector.com](http://www.3Mconnector.com) for compliance information (RIA E1 & C1 apply)

Date Modified: January 19, 2010

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Sheet 1 of 7

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## Physical

### Insulation:

Material: Glass Filled Polyester (PBT)  
Flammability: UL94V-0

### Contact:

Material: Copper Alloy  
Plating: See Ordering Information

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## Mechanical

Mating Force:  $\leq 0.75\text{N/PIN}$   
Withdrawl Force:  $\geq 0.15\text{N/PIN}$   
Mating and Un-mating Operations: 50

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## Electrical

Electrical Load: 1.0 A at +70°C  
Contact Resistance:  $\leq 20\text{ m}\Omega$   
Insulation Resistance:  $\geq 10,000\text{ M}\Omega$   
Test Voltage: 750 VAC<sub>RMS</sub>

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## Environmental

Temperature Ratings: -55°C to +125°C

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## PCB Data

Recommended PCB Plated Through Hole:  $\Theta 0.6\pm 0.05\text{ mm}$   
Drill Hole Diameter:  $\Theta 0.7\pm 0.02\text{ mm}$   
Hole platings: Cu 25~50  $\mu\text{m}$ , Sn or SnPb < 10  $\mu\text{m}$   
PCB thickness: 2.4-5.6 mm for 3.7 mm tails, 1.4-5.6 mm for 2.3 mm tails  
Press-In Force:  $\leq 204\text{N/pin}$  on nominal hole diameter  
Retention Force:  $\geq 13.5\text{N/pin}$  on nominal hole diameter

# 3M™ MetPak™ CP2 Press-Fit Header

2 mm Type B, 95, 110 and 125 Signal Contacts

CP2 Series

Signal Contact Quantity	Dimension A	Dimension B	Dimension C
95	38.00	38.30	36.00
110	44.00	44.30	42.00
125	50.00	50.30	48.00



mm [Inch]			
Tolerance Unless Noted			
	0.	.0	.00
mm	1	0.3	0.13

[ ] Dimensions for Reference only



Recommended PCB Layout

## Ordering Information

### CP2-HBXXX-XXX-XXXX

Number of Signal Contacts  
095, 110, 125

Grounding Options:  
G= with ground pins  
Blank= without ground pins

Loading Configurations and EMLB Patterns  
(see diagrams on following pages)

Primary Tail Length  
1= 3.7 mm  
2= 2.3 mm  
4= 15.8 mm

Plating Options

TG30= 30~40  $\mu$ m Gold Contact Area  
100~200  $\mu$ m Bright Tin-Lead  
50~80  $\mu$ m Nickel Underplate  
(RIA E2 & C2 apply)

FJ= 10~20  $\mu$ m Gold Contact Area  
100~200  $\mu$ m Matte Tin  
50~80  $\mu$ m Nickel Underplate  
(RIA E1 & C1 apply)

KR= 30~40  $\mu$ m Gold Contact Area  
100~200  $\mu$ m Matte Tin  
50~80  $\mu$ m Nickel Underplate  
(RIA E1 & C1 apply)

KV= 30~40  $\mu$ m Two Gold Contact Areas  
50~80  $\mu$ m Nickel Underplate  
(RIA E2 & C2 apply)

- This diagram serves only for Part Number descriptive definitions.
- For standard product configuration please see following pages.

PLEASE CONTACT YOUR LOCAL SALES REPRESENTATIVE FOR CUSTOMER SPECIFIC PRODUCT CONFIGURATIONS.

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# 3M™ MetPak™ CP2 Press-Fit Header

2 mm Type B, 95, 110 and 125 Signal Contacts

CP2 Series

CP2-HB095-E1-TG30																			Connector Type B19																		
F																																					
E	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A																		
D	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A																		
C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A																		
B	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A																		
A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A																		
Z																																					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19																		

CP2-HB095-GE1-TG30																			Connector Type B19																		
F	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C																		
E	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A																		
D	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A																		
C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A																		
B	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A																		
A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A																		
Z	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C																		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19																		

CP2-HB095-A1-TG30																			Connector Type B19																		
F																																					
E	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B																		
D	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B																		
C	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B																		
B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B																		
A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B																		
Z																																					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19																		

CP2-HB095-GA1-TG30																			Connector Type B19																		
F	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C																		
E	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B																		
D	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B																		
C	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B																		
B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B																		
A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B																		
Z	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C																		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19																		

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Sheet 3 of 7

# 3M™ MetPak™ CP2 Press-Fit Header

2 mm Type B, 95, 110 and 125 Signal Contacts

CP2 Series

CP2-HB095-GA4-KV																			Connector Type B19
F	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
E	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
D	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
C	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
A	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Z	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19

Signal Contact Configuration Worksheet																			Connector Type B19
F																			
E																			
D																			
C																			
B																			
A																			
Z																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19

CP2-HB110-E1-TG30																						Connector Type B22
F																						
E	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
D	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
B	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
Z																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22

CP2-HB110-GE1-TG30																						Connector Type B22
F	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
E	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
D	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
B	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
Z	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22

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# 3M™ MetPak™ CP2 Press-Fit Header

2 mm Type B, 95, 110 and 125 Signal Contacts

CP2 Series

## CP2-HB110-GE1-TG30

Connector Type B22

F	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
E	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
D	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
B	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Z	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22

## CP2-HB110-GA1-TG30

Connector Type B22

F	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
E	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
D	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
C	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Z	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22

## CP2-HB110-GA4-KV

Connector Type B22

F	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
E	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
D	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
C	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
A	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Z	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22

## Signal Contact Configuration Worksheet

Connector Type B22

F																						
E																						
D																						
C																						
B																						
A																						
Z																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22

# 3M™ MetPak™ CP2 Press-Fit Header

2 mm Type B, 95, 110 and 125 Signal Contacts

CP2 Series

CP2-HB125-E1-TG30																						Connector Type B25			
F																									
E	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A			
D	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A			
C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A			
B	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A			
A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A			
Z																									
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

CP2-HB125-GE1-TG30																						Connector Type B25			
F	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B			
E	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A			
D	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A			
C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A			
B	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A			
A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A			
Z	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

CP2-HB125-A1-TG30																						Connector Type B25			
F																									
E	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B			
D	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B			
C	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B			
B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B			
A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B			
Z																									
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

CP2-HB125-GA1-TG30																						Connector Type B25			
F	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C			
E	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B			
D	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B			
C	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B			
B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B			
A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B			
Z	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

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Sheet 6 of 7

# 3M™ MetPak™ CP2 Press-Fit Header

2 mm Type B, 95, 110 and 125 Signal Contacts

CP2 Series

CP2-HB125-GA4-KV																	Connector Type B25									
F	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
E	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
D	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
C	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
B	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
A	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Z	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	

CP2-HB125-A2-KR																	Connector Type B25								
F																									
E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
D	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
C	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
B	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
A	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Z																									
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

CP2-HB125-GA2-KR																	Connector Type B25								
F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
D	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
C	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
B	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
A	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Z	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

Signal Contact Configuration Worksheet																	Connector Type B25								
F																									
E																									
D																									
C																									
B																									
A																									
Z																									
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

**Important Notice**

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