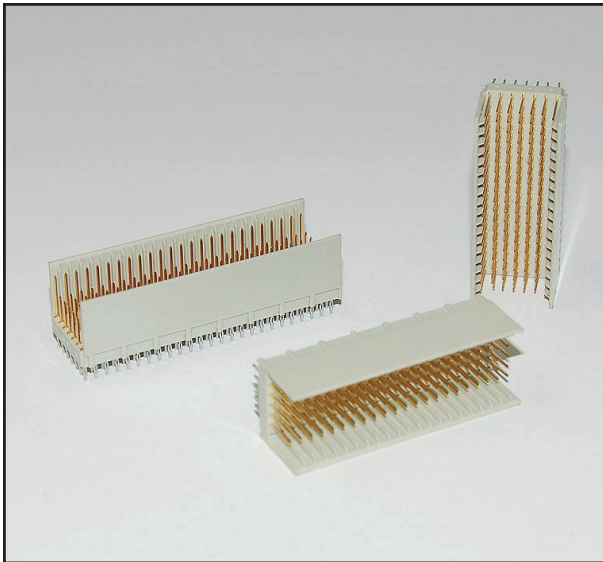


3M™ MetPak™ CP2 Press-Fit Header

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 for compliance information (RIA E1 & C1 apply)

Date Modified: January 19, 2010

TS-2267-B
Sheet 1 of 7

Physical

Insulation:

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

Contact:

Material: Copper Alloy
Plating: See Ordering Information

Mechanical

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

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_{RMS}

Environmental

Temperature Ratings: -55°C to +125°C

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 μm , Sn or SnPb < 10 μm
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

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Interconnect Solutions
<http://www.3Mconnector.com>

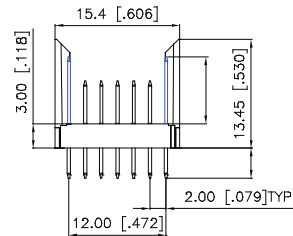
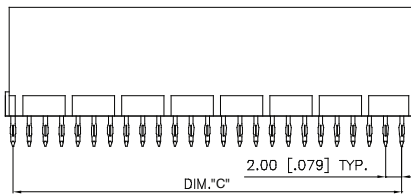
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800-225-5373

3M™ MetPak™ CP2 Press-Fit Header

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

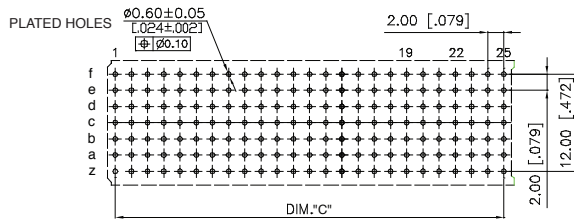
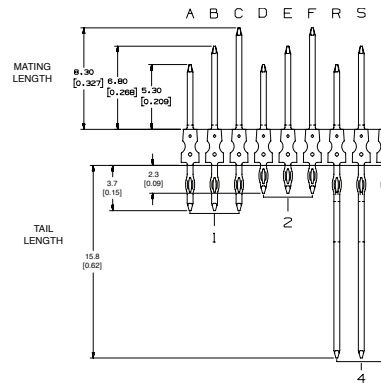
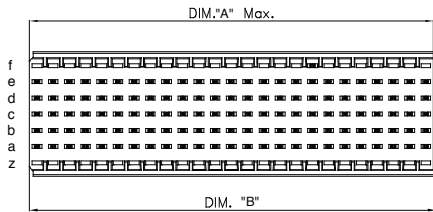
CP2 Series

| 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 μ" Gold Contact Area
100~200 μ" Bright Tin-Lead
50~80 μ" Nickel Underplate
(RIA E2 & C2 apply)

FJ= 10~20 μ" Gold Contact Area
100~200 μ" Matte Tin
50~80 μ" Nickel Underplate
(RIA E1 & C1 apply)

KR= 30~40 μ" Gold Contact Area
100~200 μ" Matte Tin
50~80 μ" Nickel Underplate
(RIA E1 & C1 apply)

KV =30~40 u" Two Gold Contact Areas
50~80 u" 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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Sheet 2 of 7

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

TS-2267-B
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 | |

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 | C |
| E | A | 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 | A |
| C | A | 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 | 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 | 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 | B |
| D | B | 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 | 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 | B |
| Z | C | 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 | 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 |
| C | 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 |
| A | 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 |
| | 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 | |

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