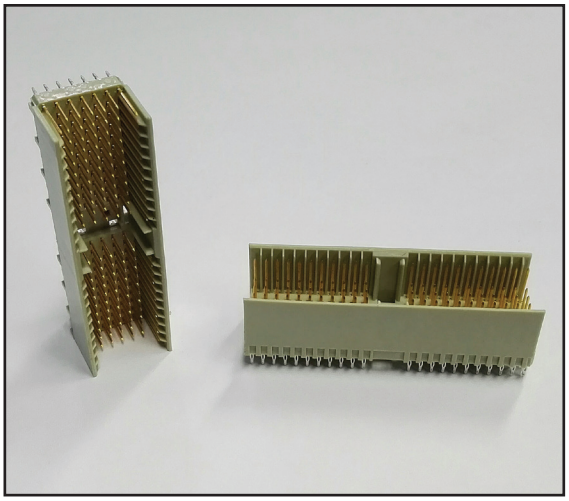
3M™ CP2 Press-Fit Header

2 mm Type A 110 Signal Contacts

CP2 Series



- 25 mm basic system unit
- 50 mm module
- 2 mm grid spacing allows for high signal density at low cost
- "Eye of the Needle" compliant pin press-fit design reduces manufacturing time and cost
- Three contact mating levels for Early Mate Late Break or "Hot Swap" applications reduces 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™ HSHM, UHM and CP2 Sockets
- End to end stackable with 5 row 3M™ HSHM, HM, and CP2 Headers
- See the Regulatory Information Appendix (RIA) in the "RoHS compliance" section of www.3Mconnectors.com for compliance information (RIA E1 & C1 apply)

Date Modified: August 5, 2015

Physical

Insulation:

Material: Glass Filled Polyester (PBT)

Flammability: UL94V-0

Contact:

Material: Copper Alloy

Plating: See Ordering Information

Mechanical

Mating Force: ≤ 0.75N/PIN

Withdrawl Force: ≥ 0.15N/PIN

Mating and Un-mating Operations: 200 for KR plating

Electrical

Current Rating: 1.0 Amperes at 70°C with all contacts powered

Contact Resistance: ≤ 20 mΩ

Insulation Resistance: ≥ 10,000 MΩ

Test Voltage: 750 VAC_{RMS}

Environmental

Temperature Ratings: -55°C to +125°C

PCB Data

Recommended PCB Plated Through Hole: Θ 0.6±0.05 mm

Drill Hole Diameter: Θ 0.7±0.02 mm

Hole platings: Cu 25~50 μm, Sn<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: ≤ 204N/pin on nominal hole diameter

Retention Force: ≥ 13.5N/pin on nominal hole diameter

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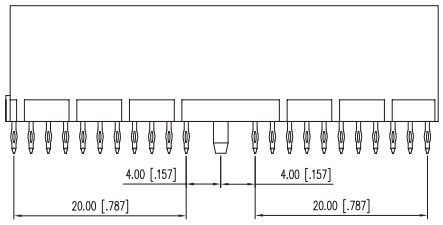

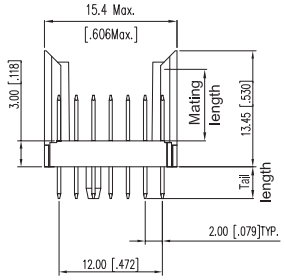

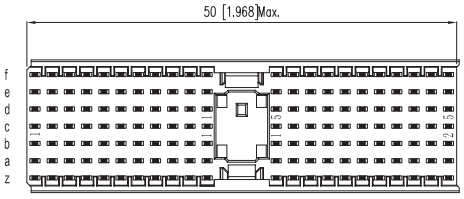

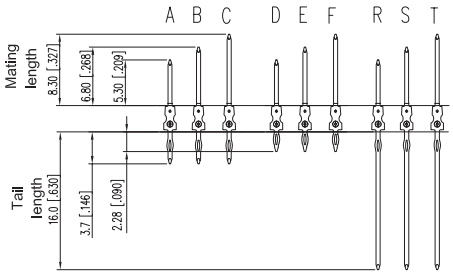

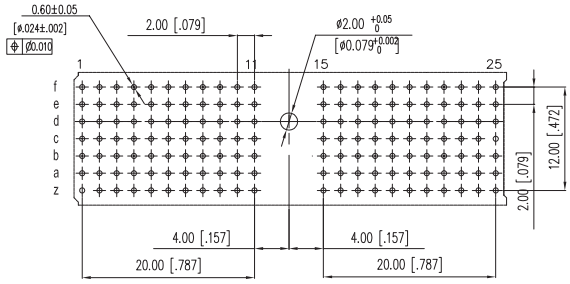

Recommended PCB Layout

mm
[Inch]

Tolerance Unless Noted			
	±0.	±.0	±.00
mm	±1	±0.3	±0.13

[ ] Dimensions for Reference only

Ordering Information

CP2-HA110-XXX-XXXX

Loading Configurations

(See diagrams on following pages)

Grounding Options:

G= with ground pins

Blank= without ground pins

EMLB Patterns

Primary Tail Length

1= 3.7 mm

2= 2.3 mm

4= 15.8 mm

Plating Options

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" Mate End Gold Contact area
Gold Flash Tail Contact area
50-80 u" Nickel Underplate
(RIA E1 & C1 apply)
For Primary Tail Length Option 4 only

- 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™ CP2 Press-Fit Header

2 mm Type A 110 Signal Contacts — CP2 Series

CP2-HA110-E1-TG30 — **Connector Type A22**

	1	2	3	4	5	6	7	8	9	10	11				15	16	17	18	19	20	21	22	23	24	25
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																									

CP2-HA110-GE1-TG30 — **Connector Type A22**

	1	2	3	4	5	6	7	8	9	10	11				15	16	17	18	19	20	21	22	23	24	25
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

CP2-HA110-A1-TG30 — **Connector Type A22**

	1	2	3	4	5	6	7	8	9	10	11				15	16	17	18	19	20	21	22	23	24	25
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																									

CP2-HA110-GA1-TG30 — **Connector Type A22**

	1	2	3	4	5	6	7	8	9	10	11				15	16	17	18	19	20	21	22	23	24	25
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

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3M™ CP2 Press-Fit Header

2 mm Type A 110 Signal Contacts — CP2 Series

CP2-HA110-D1-TG30 — **Connector Type A22**

	1	2	3	4	5	6	7	8	9	10	11				15	16	17	18	19	20	21	22	23	24	25
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	B	B	A	A	A	A	A	A	A	A	A				A	A	A	A	A	A	A	A	A	B	B
C	C	C	A	A	A	A	A	A	A	A	A				A	A	A	A	A	A	A	A	A	C	C
B	B	B	A	A	A	A	A	A	A	A	A				A	A	A	A	A	A	A	A	A	B	B
A	A	A	A	A	A	A	A	A	A	A	A				A	A	A	A	A	A	A	A	A	A	A
Z																									

CP2-HA110-GB1-TG30 — **Connector Type A22**

	1	2	3	4	5	6	7	8	9	10	11				15	16	17	18	19	20	21	22	23	24	25
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	A				B	B	B	B	B	B	B	B	B	B	B
C	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
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

CP2-HA110-GC1-TG30 — **Connector Type A22**

	1	2	3	4	5	6	7	8	9	10	11				15	16	17	18	19	20	21	22	23	24	25
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	C	B	B	B	C	B	C	B	A				C	B	C	B	C	B	C	B	C	B	B
C	B	C	B	C	B	B	B	B	B	B	B				B	B	B	B	B	C	B	C	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
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

CP2-HA110-GA4-GG30 — **Connector Type A22**

	1	2	3	4	5	6	7	8	9	10	11				15	16	17	18	19	20	21	22	23	24	25
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

Signal Contact Configuration Worksheet — **Connector Type A22**

	1	2	3	4	5	6	7	8	9	10	11				15	16	17	18	19	20	21	22	23	24	25
F																									
E																									
D																									
C																									
B																									
A																									
Z																									

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3M™ CP2 Press-Fit Header

2 mm Type A 110 Signal Contacts — CP2 Series

CP2-HA110-F1-KR — **Connector Type A22**

	1	2	3	4	5	6	7	8	9	10	11				15	16	17	18	19	20	21	22	23	24	25
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	B	B	B	B	B	B	B	B	B	B	B				B	B	B	B	B	B	B	B	B	B	B
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																									

CP2-HA110-GF1-KR — **Connector Type A22**

	1	2	3	4	5	6	7	8	9	10	11				15	16	17	18	19	20	21	22	23	24	25
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	B	B	B	B	B	B	B	B	B	B	B				B	B	B	B	B	B	B	B	B	B	B
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

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6801 River Place Blvd.
Austin, TX 78726-9000
U.S.A.
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www.3Mconnectors.com

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