

# 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](http://www.3Mconnectors.com) for compliance information (RIA E1 & C1 apply)

Date Modified: August 5, 2015

TS-2265-C  
Sheet 1 of 5

---

## 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: 200 for KR plating

---

## Electrical

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

Contact Resistance:  $\leq 20\text{ m}\Omega$

Insulation Resistance:  $\geq 10,000\text{ M}\Omega$

Test Voltage: 750 VAC<sub>RMS</sub>

---

## Environmental

Temperature Ratings: -55°C to +125°C

---

## PCB Data

Recommended PCB Plated Through Hole:  $\text{Ø } 0.6 \pm 0.05\text{ mm}$

Drill Hole Diameter:  $\text{Ø } 0.7 \pm 0.02\text{ mm}$

Hole platings: Cu 25~50  $\mu\text{m}$ , Sn < 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**

Electronics Materials Solutions Division

Interconnect Solutions

<http://www.3Mconnectors.com>

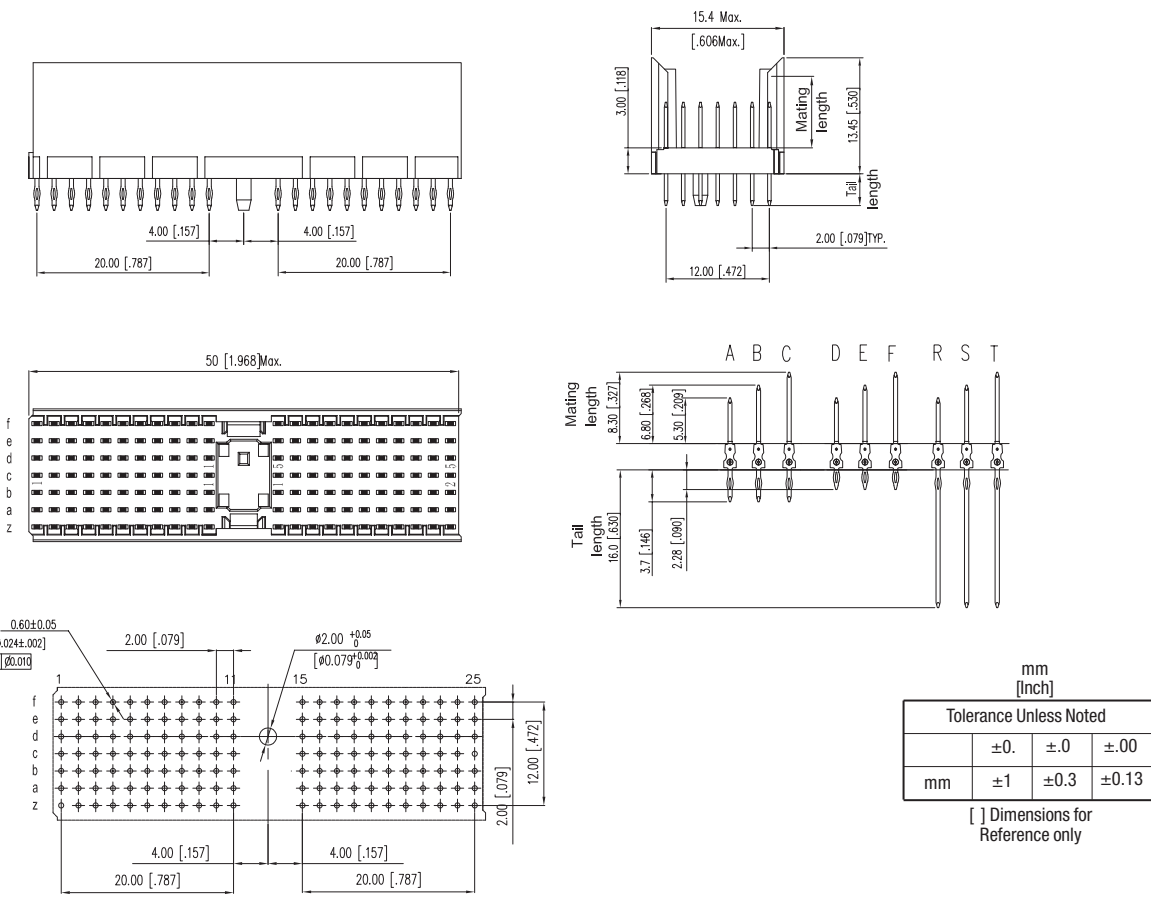
3M is a trademark of 3M Company.  
For technical, sales or ordering information call

**800-225-5373**

# 3M™ CP2 Press-Fit Header

2 mm Type A 110 Signal Contacts

CP2 Series



Recommended PCB Layout

## 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 μ" Mate End Gold Contact area  
Gold Flash Tail Contact area  
50~80 μ" 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.

TS-2265-C  
Sheet 2 of 5



Electronics Materials Solutions Division  
Interconnect Solutions

http://www.3Mconnectors.com

3M is a trademark of 3M Company.  
For technical, sales or ordering information call  
**800-225-5373**

# 3M™ CP2 Press-Fit Header

2 mm Type A 110 Signal Contacts

CP2 Series

CP2-HA110-E1-TG30											Connector Type A22																	
F																												
E	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
C	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
Z																												
	1	2	3	4	5	6	7	8	9	10								15	16	17	18	19	20	21	22	23	24	25

CP2-HA110-GE1-TG30											Connector Type A22																	
F	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
D	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
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
Z	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								15	16	17	18	19	20	21	22	23	24	25

CP2-HA110-A1-TG30											Connector Type A22																	
F																												
E	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
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
A	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								15	16	17	18	19	20	21	22	23	24	25

CP2-HA110-GA1-TG30											Connector Type A22																	
F	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
D	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
A	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
	1	2	3	4	5	6	7	8	9	10								15	16	17	18	19	20	21	22	23	24	25

# 3M™ CP2 Press-Fit Header

2 mm Type A 110 Signal Contacts

CP2 Series

CP2-HA110-D1-TG30											Connector Type A22														
F																									
E	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	B	B
C	C	C	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	B	B
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				15	16	17	18	19	20	21	22	23	24	25

CP2-HA110-GB1-TG30											Connector Type A22														
F	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
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
	1	2	3	4	5	6	7	8	9	10	11				15	16	17	18	19	20	21	22	23	24	25

CP2-HA110-GC1-TG30											Connector Type A22														
F	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
	1	2	3	4	5	6	7	8	9	10	11				15	16	17	18	19	20	21	22	23	24	25

CP2-HA110-GA4-GG30											Connector Type A22														
F	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				15	16	17	18	19	20	21	22	23	24	25

Signal Contact Configuration Worksheet											Connector Type A22														
F																									
E																									
D																									
C																									
B																									
A																									
Z																									
	1	2	3	4	5	6	7	8	9	10	11				15	16	17	18	19	20	21	22	23	24	25

# 3M™ CP2 Press-Fit Header

2 mm Type A 110 Signal Contacts

CP2 Series

CP2-HA110-F1-KR

Connector Type A22

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

CP2-HA110-GF1-KR

Connector Type A22

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

**3M is a trademark of 3M Company.**

Unless otherwise noted, references to industry specifications are intended to indicate substantial compliance to the material elements of the specification. Such references should not be construed as a guarantee of compliance to all requirements in a given specification.

### **Important Notice**

All statements, technical information, and recommendations related to 3M's products are based on information believed to be reliable, but the accuracy or completeness is not guaranteed. Before using this product, you must evaluate it and determine if it is suitable for your intended application. You assume all risks and liability associated with such use. Any statements related to the product which are not contained in 3M's current publications, or any contrary statements contained on your purchase order shall have no force or effect unless expressly agreed upon, in writing, by an authorized officer of 3M.

### **Warranty; Limited Remedy; Limited Liability**

This product will be free from defects in material and manufacture for a period of one (1) year from the time of purchase. **3M MAKES NO OTHER WARRANTIES INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** If this product is defective within the warranty period stated above, your exclusive remedy shall be, at 3M's option, to replace or repair the 3M product or refund the purchase price of the 3M product. **Except where prohibited by law, 3M will not be liable for any direct, indirect, special, incidental or consequential loss or damage arising from this 3M product, regardless of the legal theory asserted.**



#### **Electronics Materials Solutions Division**

6801 River Place Blvd.  
Austin, TX 78726-9000  
U.S.A.  
1-800-225-5373  
[www.3Mconnectors.com](http://www.3Mconnectors.com)

Please recycle. Printed in USA.  
© 3M 2015. All rights reserved.  
RIA-2217A-E

## Данный компонент на территории Российской Федерации

### Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

### Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: [info@moschip.ru](mailto:info@moschip.ru)

Skype отдела продаж:

moschip.ru

moschip.ru\_4

moschip.ru\_6

moschip.ru\_9