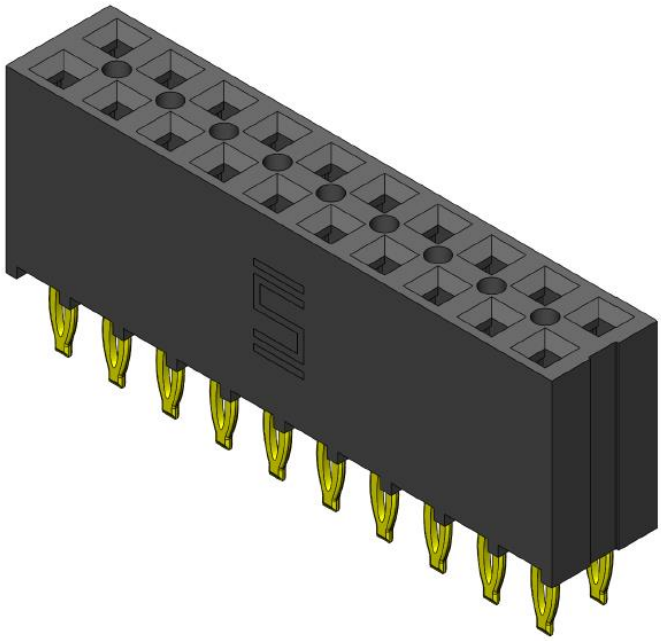
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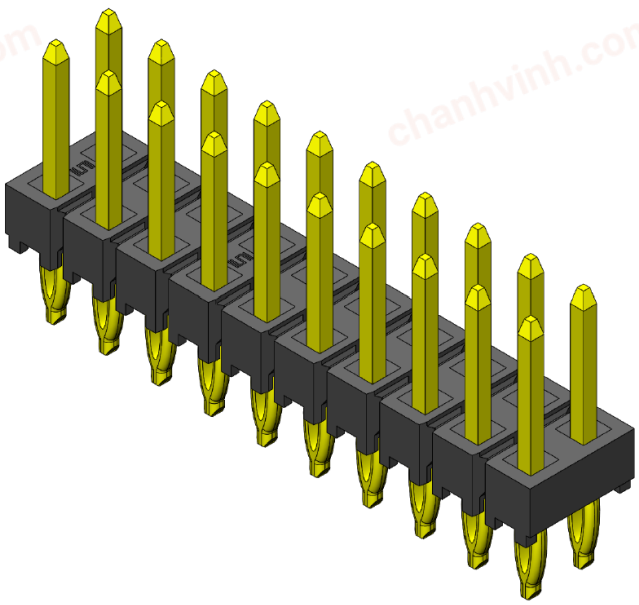
Product Specification

Series: PHF/PHT .100” (2.54 mm) Press-Fit Socket and Terminal Strip

PHF Series – Socket, Vertical Orientation



PHT Series – Terminal, Vertical Orientation



Other configurations available for:

Polarized, and Single Row, Double Row applications

See www.samtec.com for more information.

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Series: PHF/PHT .100” (2.54 mm) Press-Fit Socket and Terminal Strip

1.0 SCOPE

1.1 This specification covers performance, testing and quality requirements for Samtec’s PHF/PHT Series .100’’ (2.54 mm) Press-Fit Socket and Terminal Strip. All information contained in this specification is for a press-fit socket / terminal mated configuration unless otherwise noted.

2.0 DETAILED INFORMATION

2.1 Product prints, footprints, catalog pages, test reports and other specific, detailed information can be found at https://www.samtec.com/products/pht and https://www.samtec.com/products/phf

3.0 TESTING

3.1 Current Rating: 4.8 A (One pin powered per row)

3.2 Voltage Rating: 338 VAC

3.3 Operating Temperature Range: -55°C to +125°C

3.4 Operating Humidity Range: up to 95% (Per EIA-364-31)

3.5 Electrical:

ITEM	TEST CONDITION	REQUIREMENT	STATUS
Withstanding Voltage	EIA-364-20 (No Flashover, Sparkover, or Breakdown)	1013 VAC	Pass
Insulation Resistance	EIA-364-21 (1000 MΩ minimum)	10,000 MΩ	Pass
Contact Resistance (LLCR)	EIA-364-23	Δ 15 mΩ (Samtec defined)/ No damage	Pass

3.6 Mechanical:

ITEM	TEST CONDITION	REQUIREMENT	STATUS
Durability	EIA-364-09C	100 cycles	Pass
Random Vibration	EIA-364-28 Condition V, Letter B 7.56 G 'RMS', 50 to 2000 Hz, 2 hours per axis, 3 axis total, PSD 0.04 Nanosecond Event Detection: EIA-364-87	Visual Inspection: No Damage LLCR: Δ 15 mΩ No Events	Pass
Mechanical Shock	EIA-364-27 100 G, 6 milliseconds, sawtooth wave, 12.3 fps, 3 shocks/direction, 3 axis (18 total shocks) Nanosecond Event Detection: EIA-364-87	Visual Inspection: No Damage LLCR: Δ 15 mΩ No Events	Pass
Normal Force	EIA-364-04	30 grams minimum for Gold interface	Pass

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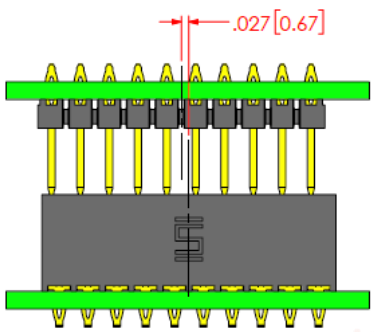
3.7 Environmental:

ITEM	TEST CONDITION	REQUIREMENT	STATUS
Thermal Shock	EIA-364-32 Thermal Cycles: 100 (30 minute dwell) Hot Temp: 85°C Cold Temp: -55°C Hot/Cold Transition: Immediate	Visual Inspection: No Damage LLCR: Δ 15 mΩ DWV: 1013 VAC IR: >10,000 MΩ	Pass
Thermal Aging (Temp Life)	EIA-364-17 Test Condition 4 @ 105°C Condition B for 250 hours	Visual Inspection: No Damage LLCR: Δ 15 mΩ	Pass
Cyclic Humidity	EIA-364-31 Test Temp: 25°C to 65°C Relative Humidity: 90 to 95% Test Duration: 240 hours	Visual Inspection: No Damage LLCR: Δ 15 mΩ DWV: 1013 VAC IR: >10,000 MΩ	Pass
Gas Tight	EIA-364-36 Gas Exposure: Nitric Acid Vapor Duration: 60 min. Drying Temp.: 50°C +/- 3°C Measurements: Within 1 hour of Exposure	LLCR: Δ 15 mΩ	Pass

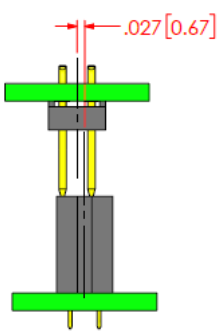
4.0 PROCESSING RECOMMENDATIONS

4.1 Mating Alignment Requirements:

4.1.1 Allowable initial linear misalignment



INITIAL X AXIS LINEAR MISALIGNMENT



INITIAL Y AXIS LINEAR MISALIGNMENT

NON APPLICABLE

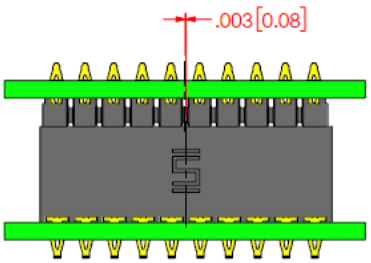
INITIAL Z AXIS LINEAR MISALIGNMENT

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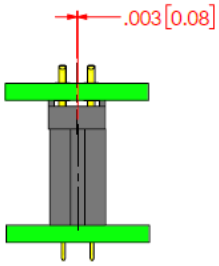
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4.1.2 Allowable final linear misalignment



FINAL X AXIS LINEAR MISALIGNMENT



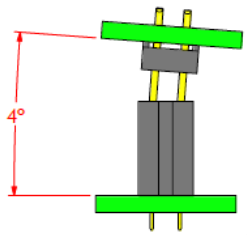
FINAL Y AXIS LINEAR MISALIGNMENT

SEE MATED VIEWS DOCUMENT

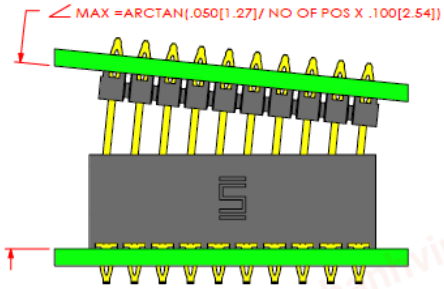
FINAL Z AXIS LINEAR MISALIGNMENT

4.2 Mating Angle Requirements:

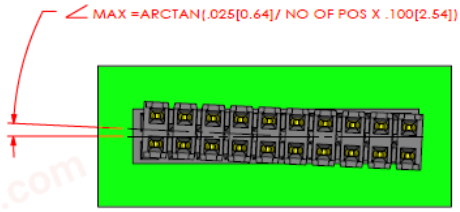
4.2.1 Allowable initial angular misalignment



INITIAL X AXIS ANGULAR MISALIGNMENT

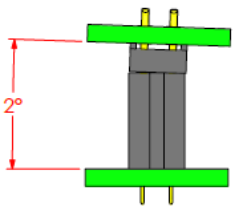


INITIAL Y AXIS ANGULAR MISALIGNMENT

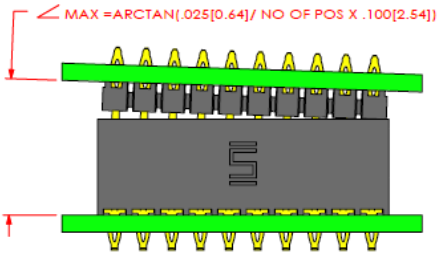


INITIAL Z AXIS ANGULAR MISALIGNMENT

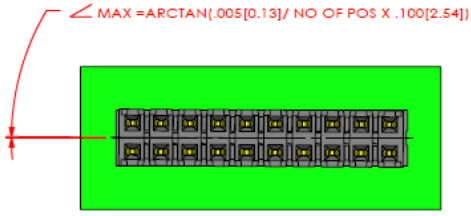
4.2.2 Allowable final angular misalignment



FINAL X AXIS ANGULAR MISALIGNMENT



FINAL Y AXIS ANGULAR MISALIGNMENT



FINAL Z AXIS ANGULAR MISALIGNMENT

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4.3 Board Insertion Procedure for Press Fit Connector

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- Insert press fit tails into holes on the PCB. The top surface of the housing should be parallel with the top surface of PCB after all the tips have been properly inserted. See figure 1

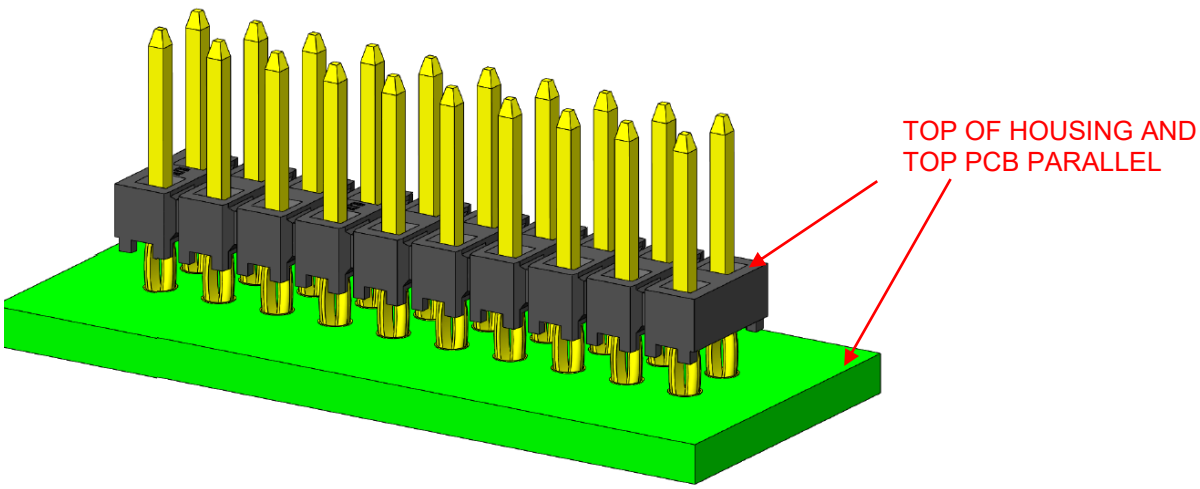


Figure 1: Connector Parallel to Top of PCB

- Using a **bottom** support tool **(CAT-PT-PH-1XX-X-B)**, align PCB **holes** to the dowels of the bottom support **tool** as shown in figure 2.

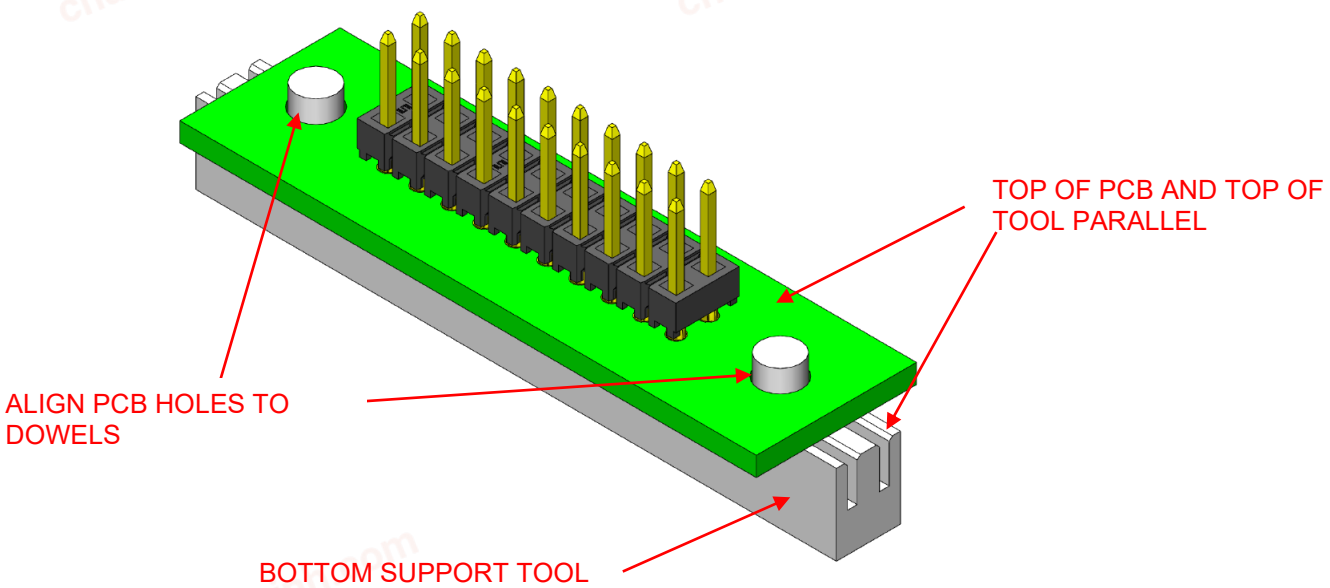


Figure 2: Align & Seat PCB to Bottom Support Tool

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- Using a top support tool (CAT-PT-PH-1XX-X-T) & a insertion press, apply force to the top support tool as shown in figure 3. For PHF, flat rock upper tooling may be used in place of CAT-PT-PH-1XX-X-T.

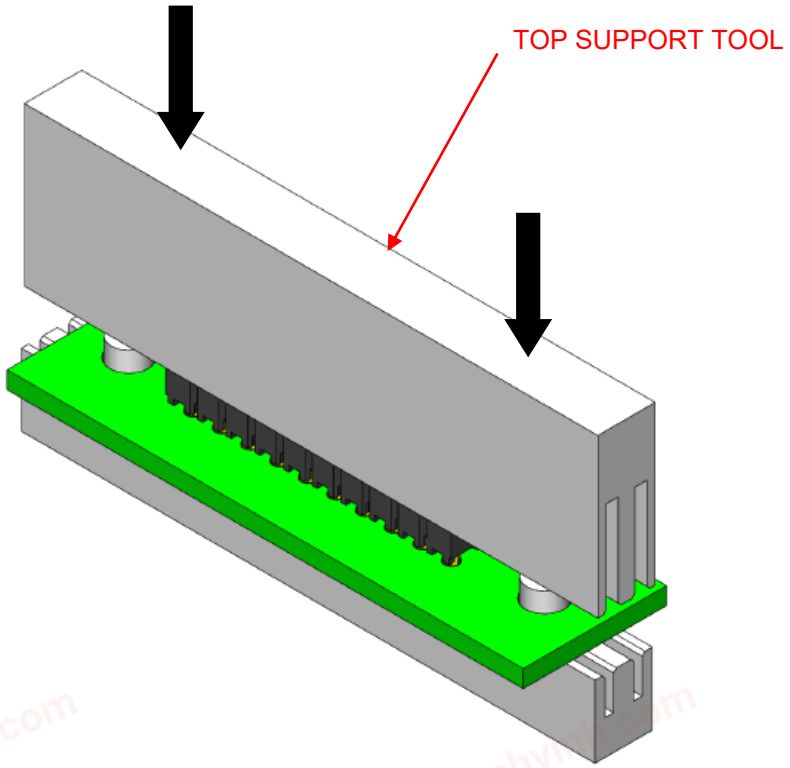


Figure 3: Top Support Tool Application to Seat Connector

4.4 Support Tool Description

The connector support tools are the hand tools used to press the connector into the PCB, both support tools are required to support around the connector during the pressing process, the following are Samtec support tool part numbers for different options, the “XX” in the table should follow the connector positions.

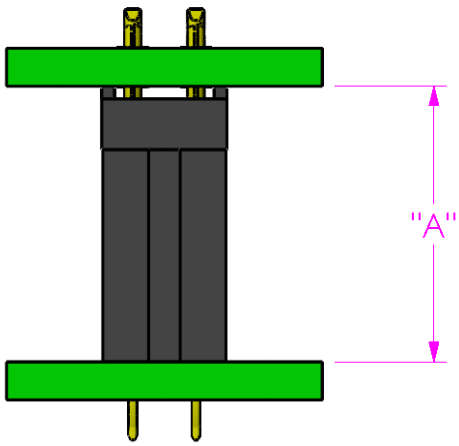
Support Tools		
	CAT-PT-PH-1XX-X-X	
Option	Single Row	Double Row
Top Tool	CAT-PT-PH-1XX-S-T	CAT-PT-PH-1XX-D-T
Bottom Tool	CAT-PT-PH-1XX-S-B	CAT-PT-PH-1XX-D-B

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4.5 Hardware: Board-to-board standoffs are recommended to provide a robust mechanical connection. Samtec offers several different types, which can be found here: Samtec Standoff Offerings.



	PHF LEAD STYLE							
	-01		-02		-03		-04	
PHT LEAD STYLE	Nominal Connector Stack Height "A" in [mm]	Standoff	Nominal Connector Stack Height "A" in [mm]	Standoff	Nominal Connector Stack Height "A" in [mm]	Standoff	Nominal Connector Stack Height "A" in [mm]	Standoff
-01	.435 [11.05]	XXXX-1115	.535 [13.59]	XXXX-1375	.635 [16.13]	XXXX-1625	.735 [18.67]	XXXX-1875
-02	.535 [13.59]	XXXX-1375	.635 [16.13]	XXXX-1625	.735 [18.67]	XXXX-1875	.835 [21.21]	XXXX-2135
-03	.635 [16.13]	XXXX-1625	.735 [18.67]	XXXX-1875	.835 [21.21]	XXXX-2135	.935 [23.75]	XXXX-2385
-04	.735 [18.67]	XXXX-1875	.835 [21.21]	XXXX-2135	.935 [23.75]	XXXX-2385	1.035 [26.30]	XXXX-2645



4.6 Please see Samtec Compliant Pin Termination Specifications for further processing recommendations.

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Series: PHF/PHT .100” (2.54 mm) Press-Fit Socket and Terminal Strip

5.0 ADDITIONAL RESOURCES

5.1 For additional mechanical testing or product information, contact our Customer Engineering Support Group at CES@samtec.com

5.2 For additional information on high speed performance testing, contact our Signal Integrity Group at SIG@samtec.com

5.3 For additional processing information, contact our Interconnect Processing Group at IPG@samtec.com.

5.4 For RoHS, REACH or other environmental compliance information, contact our Product Environmental Compliance Group at PEC@samtec.com

USE OF PRODUCT SPECIFICATION SHEET

This Product Specification Sheet (“PSS”) is a brief summary of information related to the Product identified. As a summary, it should only be used for the limited purpose of considering the purchase/use of Product. For specific, detailed information, including but not limited to testing and Product footprint, refer to Section 2.0 of this document and the links there provided to test reports and prints. This PSS is the property of Samtec, Inc. (“Samtec”) and contains proprietary information of Samtec, our various licensors, or both. Samtec does not grant express or implied rights or license under any patent, copyright, trademark or other proprietary rights and the use of the PSS for building, reverse engineering or replication is strictly prohibited. By using the PSS, the user agrees to not infringe, directly or indirectly, upon any intellectual property rights of Samtec and acknowledges that Samtec, our various licensors, or both own all intellectual property therein. The PSS is presented “AS IS”. While Samtec makes every effort to present excellent information, the PSS is only provided as a guideline and does not, therefore, warrant it is without error or defect or that the PSS contains all necessary and/or relevant information about the Product. The user agrees that all access and use of the PSS is at its own risk. **NO WARRANTIES EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY KIND WHATSOEVER ARE PROVIDED.**

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