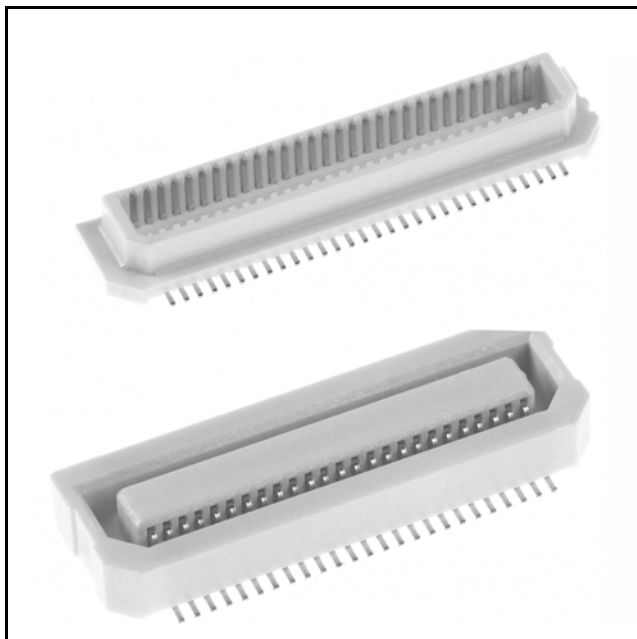


3M™ Board Stacking Connector System

0.5 mm, Vertical, Surface Mount, 3 mm Stack Height

P05N Series



- 0.5 mm pitch connector system ideal for applications with limited space
- Mated height of 3 mm
- Bellows type contact reduces mating stress and insures reliability
- “Tactile click” action assures complete mating and assures high resistance to vibration and shock
- Standard tape & reel packaging
- See Regulatory Information Appendix (RIA) for chemical compliance information

Date Modified: October 25, 2007

TS-1093-A
Sheet 1 of 4

Physical

Insulator

Material: High temperature thermoplastic

Flammability: UL 94V-0

Contact

Material: Copper Alloy

Plating

Underplating: 50 μ" [1.27 μm] Nickel

Wiping Area: 8 μ" [0.2 μm] Gold

Solder Tails: Flash Gold

Mechanical

Durability: 50 insertion/withdrawal cycles

Mating Forces: Max. 0.785N [80gf]x # contacts Insertion/Min 0.0588N [6gf]x # contacts Withdrawal

Electrical

Current Rating: 0.5 A per contact

Voltage Rating: 60 V_{AC/DC}

Insulation Resistance: 10³MΩ min. at 500 V_{DC}

Withstanding Voltage: 150 V_{RMS} for 1 minute

Environmental

Temperature Rating: -55°C to +85°C

Processing: 245°C max with <30 sec over 200°C



Interconnect Solutions

<http://www.3M.com/interconnects/>

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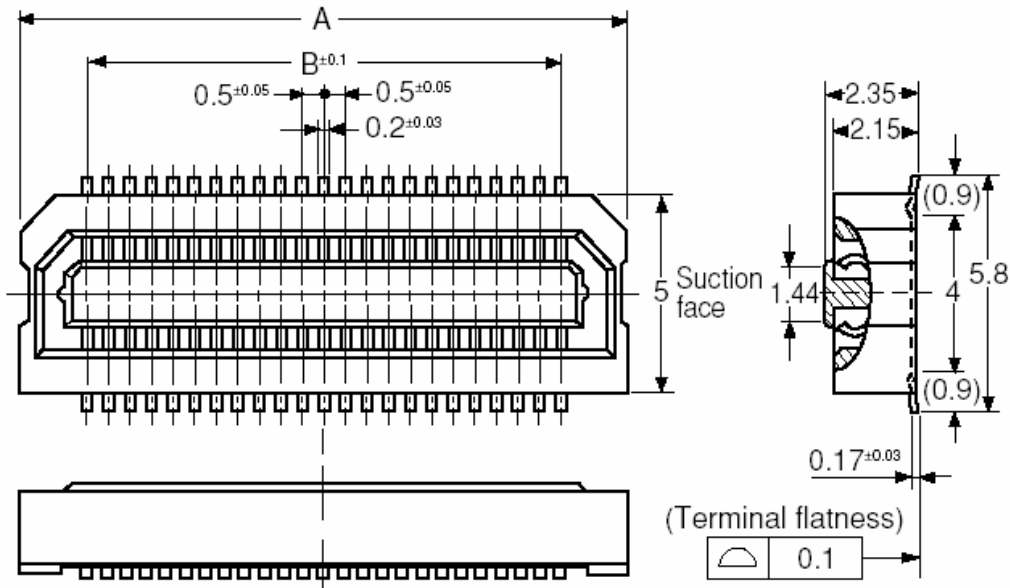
800-225-5373

3M™ Board Stacking Connector System

0.5 mm, Vertical, Surface Mount, 3 mm Stack Height

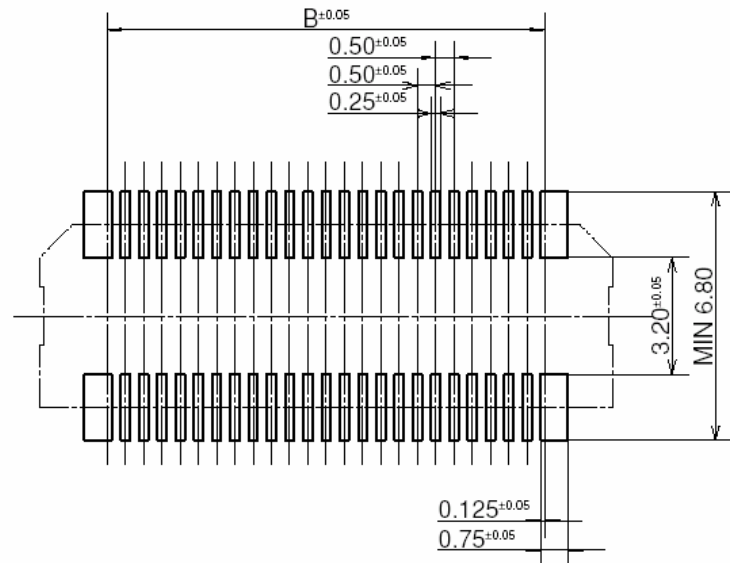
P05N Series

Socket



# of Contacts	A	B
020	8.20	4.50
030	10.70	7.00
040	13.20	9.50
050	15.70	12.00
060	18.20	14.50
080	23.20	19.50
100	28.20	24.50

Recommended PC board pattern (TOP VIEW)



mm
[Inch]

Tolerance Unless Noted			
	.0	.00	.000
mm	$\pm .3$	$\pm .13$	

[] Dimensions for Reference only

Ordering Information

P05N-XXXST-A-G (RIA E1 & C1 apply)

Contact Quantity: _____
See table

TS-1093-A
Sheet 2 of 4



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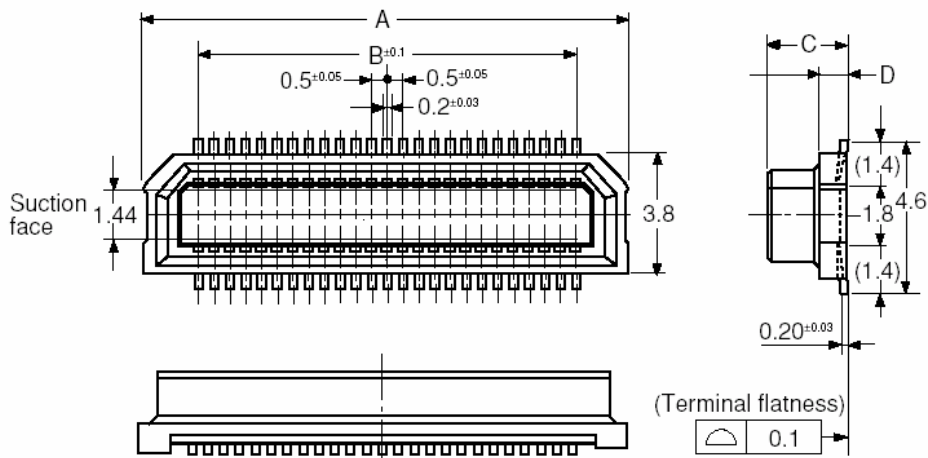
800-225-5373

3M™ Board Stacking Connector System

0.5 mm, Vertical, Surface Mount, 3 mm Stack Height

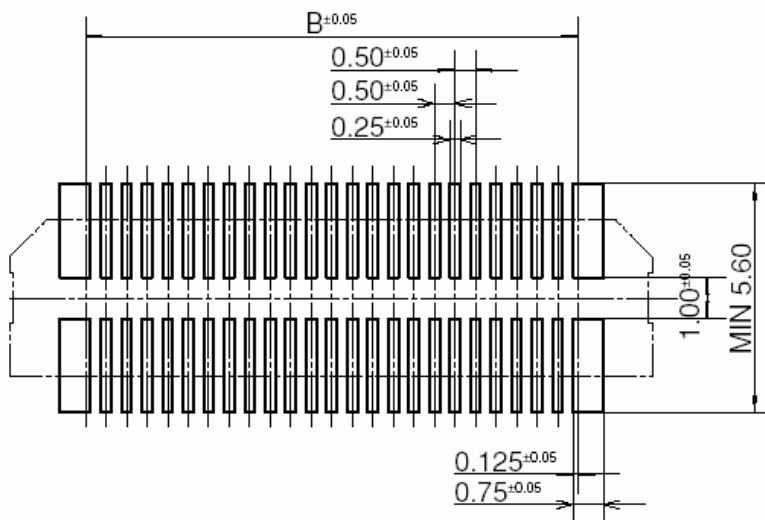
P05N Series

Plug



# of Contacts	A	B
020	8.20	4.50
030	10.70	7.00
040	13.20	0.50
050	15.70	12.00
060	18.20	14.50
080	23.20	19.50
100	28.20	24.50
Dim C	2.4	
Dim D	0.85	

Recommended PC board pattern (TOP VIEW)



Ordering Information

P05N-XXXPT-A-G (RIA E1 & C1 apply)

Contact Quantity: _____
See table

TS-1093-A
Sheet 3 of 4



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3M™ Board Stacking Connector System

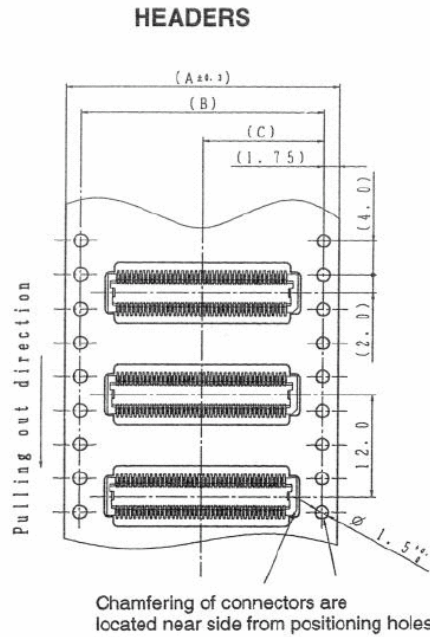
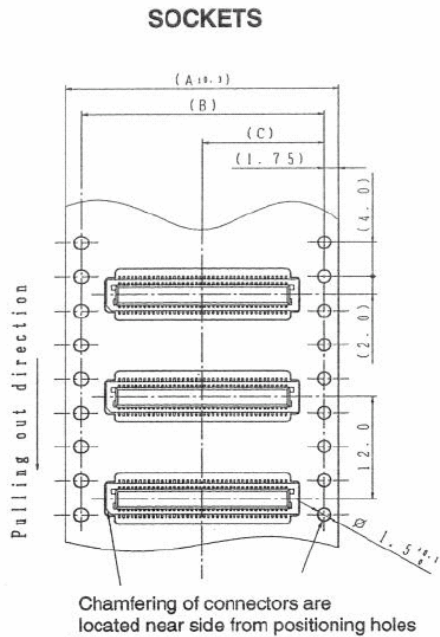
0.5 mm, Vertical, Surface Mount, 3 mm Stack Height

P05N Series

Tape & Reel Information

Notes:

1. 300 mm diameter reels
2. 2 reels per box
3. Cover tape toward outside of reel

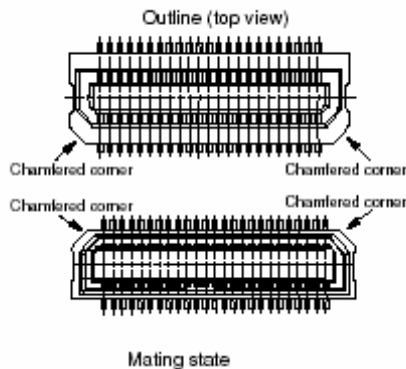


Contacts	20-60	80	100
A dim	24	32	44
B dim	---	28.4	40.4
C dim	11.5	14.2	20.2
D dim	24.4	32.4	44.4

Application Information

1. Prevention of reverse mating

Other than 120, 130, 160 contacts type, the socket and header are protected from reverse mating by a molded resin key. Excessive mating force may damage the key, so be sure to match chamfered corners when mating.



2. Using a bellows-type contact construction gives the product the dropping shock and torsion resistance required particularly for portable equipments.

• What is meant by "bellows type" contact? Rather than two broken-out surfaces, the contact is formed by the surfaces of two rolled plates. This helps the contact hold up better to repeated insertions and removals, while at the same time achieving highly reliable contact.

The roll surfaces are in contact with each other, providing high contact reliability.



Since the contact is formed by bending thin plate, it has a spring-like quality. This construction helps make it resistant to dropping and twisting.

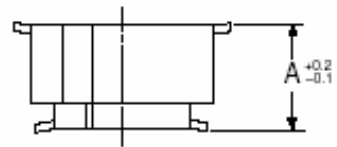
3. Even with the low profile, the mating length has been extended to ensure that there is some latitude in the mating.



3. Mating Height:

A = 3.0 mm

Effective mating length of contact wipe is 0.75 mm.



4. These A type connectors (mating height 3 mm) are NOT intermateable or footprint compatible with B typ3 or AF type connectors in this series.

TS-1093-A
Sheet 4 of 4



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Regulatory Information Appendix

3M Electronic Solutions Division/Interconnect

EUROPE

Appendix E1: European Union RoHS

Directive 2002/95/EC, Restriction of the Use of Certain Hazardous Substances in Electrical & Electronic Equipment, as amended by EU Commission Decision 2005/618/EC.

This product is RoHS Compliant 2005/95/EC.

“RoHS Compliant 2005/95/EC” means that the product or part (“Product”) does not contain any of the substances in excess of the maximum concentration values in EU Directive 2002/95/EC, as amended by Commission Decision 2005/618/EC, unless the substance is in an application that is exempt under EU RoHS. Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

In the event any product is proven not to conform with 3M’s Regulatory Information Appendix, then 3M’s entire liability and Buyer’s exclusive remedy will be in accordance with the Warranty stated below.

Appendix E2: European Union RoHS

Directive 2002/95/EC, Restriction of the Use of Certain Hazardous Substances in Electrical & Electronic Equipment, as amended by EU Commission Decision 2005/618/EC.

This product contains lead in the compliant pin area in excess of the maximum concentration value allowed but is compliant by exemption under EU Commission Decision 2005/747/EC.

“RoHS Compliant 2005/95/EC” means that the product or part (“Product”) does not contain any of the substances in excess of the maximum concentration values in EU Directive 2002/95/EC, as amended by Commission Decision 2005/618/EC, unless the substance is in an application that is exempt under EU RoHS. Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

In the event any product is proven not to conform with 3M’s Regulatory Information Appendix, then 3M’s entire liability and Buyer’s exclusive remedy will be in accordance with the Warranty stated below.

Appendix E3: European Union RoHS

Directive 2002/95/EC, Restriction of the Use of Certain Hazardous Substances in Electrical & Electronic Equipment as amended by Commission Decision 2005/618/EC.

This product contains lead in the solder tail area in excess of the maximum concentration value allowed.

Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

In the event any product is proven not to conform with 3M’s Regulatory Information Appendix, then 3M’s entire liability and Buyer’s exclusive remedy will be in accordance with the Warranty stated below.

Appendix E4: European Union RoHS

Directive 2002/95/EC, Restriction of the Use of Certain Hazardous Substances in Electrical & Electronic Equipment, as amended by EU Commission Decision 2005/618/EC.

This product contains decaBDE in the insulating material in excess of the maximum concentration value allowed but is compliant by exemption under EU Commission Decision 2005/717/EC.

“RoHS Compliant 2005/95/EC” means that the product or part (“Product”) does not contain any of the substances in excess of the maximum concentration values in EU Directive 2002/95/EC, as amended by Commission Decision 2005/618/EC, unless the substance is in an application that is exempt under EU RoHS. Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

In the event any product is proven not to conform with 3M’s Regulatory Information Appendix, then 3M’s entire liability and Buyer’s exclusive remedy will be in accordance with the Warranty stated below.

Appendix E5: European Union RoHS

Directive 2002/95/EC, Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment, as amended by EU Commission Decision 2005/618/EC.

This product contains lead in excess of the maximum concentration value allowed but is compliant by exemption under Item 6 of the Annex to the Directive.

“RoHS Compliant 2005/95/EC” means that the product or part (“Product”) does not contain any of the substances in excess of the maximum concentration values in EU Directive 2002/95/EC, as amended by Commission Decision 2005/618/EC, unless the substance is in an application that is exempt under EU RoHS. Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

In the event any product is proven not to conform with 3M’s Regulatory Information Appendix, then 3M’s entire liability and Buyer’s exclusive remedy will be in accordance with the Warranty stated below.

CHINA

Appendix C1: China RoHS



Electronic Industry Standard of the People’s Republic of China, SJ/T11363-2006, Requirements for Concentration Limits for Certain Hazardous Substances in Electronic Information Products.

This symbol, per Marking for the Control of Pollution Caused by Electronic Information Products, SJ/T11364-2006, means that the product or part **does not** contain any of the following substances in excess of the following maximum concentration values in any homogeneous material: (a) 0.1% (by weight) for lead, mercury, hexavalent chromium, polybrominated biphenyls or polybrominated diphenyl ethers; or (b) 0.01% (by weight) for cadmium. Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

In the event any product is proven not to conform with 3M’s Regulatory Information Appendix, then 3M’s entire liability and Buyer’s exclusive remedy will be in accordance with the Warranty stated below.

Appendix C2: China RoHS



Electronic Industry Standard of the People’s Republic of China, SJ/T11363-2006, Requirements for Concentration Limits for Certain Hazardous Substances in Electronic Information Products.

This symbol, per Marking for the Control of Pollution Caused by Electronic Information Products, SJ/T11364-2006, means that the product or part **does** contain a substance, as detailed in the chart below, in excess of the following maximum concentration values in any homogeneous material: (a) 0.1% (by weight) for lead, mercury, hexavalent chromium, polybrominated biphenyls or polybrominated diphenyl ethers; or (b) 0.01% (by weight) for cadmium. Unless otherwise stated by 3M in writing, this information represents 3M’s best knowledge and belief based upon information provided by third party suppliers to 3M.

The numerical reference in the symbol above should not be construed as a representation regarding the product’s life or an extension of a product warranty. The product warranty is stated below. In the event any product is proven not to conform with 3M’s Regulatory Information Appendix, then 3M’s entire liability and Buyer’s exclusive remedy will be in accordance with the product Warranty stated below.

产品中有毒有害物质或元素的名称及含量 Name and Content of Hazardous Substances or Elements

部件名称 (Part or Component Name)	有毒有害物质或元素 (Hazardous Substances or Elements)					
	铅(Pb)	汞(Hg)	镉(Cd)	六价铬(Cr(VI))	多溴联苯(PBB)	多溴二苯醚(PBDE)
端子镀层(contact plating)	×	○	○	○	○	○
○: 表示该有毒有害物质在该部件所有均质材料中的含量均在SJ/T11363-2006 标准规定的限量要求以下。(Indicates that this hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement in SJ/T11363-2006.) ×: 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T11363-2006 标准规定的限量要求。(Indicates that this hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement in SJ/T11363-2006.)						

Appendix C3: China RoHS

Electronic Industry Standard of the People's Republic of China, SJ/T11363-2006, Requirements for Concentration Limits for Certain Hazardous Substances in Electronic Information Products.

This symbol, per Marking for the Control of Pollution Caused by Electronic Information Products, SJ/T11364-2006, means that the product or part **does** contain a substance, as detailed in the chart below, in excess of the following maximum concentration values in any homogeneous material: (a) 0.1% (by weight) for lead, mercury, hexavalent chromium, polybrominated biphenyls or polybrominated diphenyl ethers; or (b) 0.01% (by weight) for cadmium. Unless otherwise stated by 3M in writing, this information represents 3M's best knowledge and belief based upon information provided by third party suppliers to 3M.

The numerical reference in the symbol above should not be construed as a representation regarding the product's life or an extension of a product warranty. The product warranty is stated below. In the event any product is proven not to conform with 3M's Regulatory Information Appendix, then 3M's entire liability and Buyer's exclusive remedy will be in accordance with the product Warranty stated below.

产品中有毒有害物质或元素的名称及含量 Name and Content of Hazardous Substances or Elements

部件名称 (Part or Component Name)	有毒有害物质或元素 (Hazardous Substances or Elements)					
	铅(Pb)	汞(Hg)	镉(Cd)	六价铬(Cr(VI))	多溴联苯(PBB)	多溴二苯醚(PBDE)
合金(Metal alloy)	×	○	○	○	○	○
○：表示该有毒有害物质在该部件所有均质材料中的含量均在SJ/T11363-2006 标准规定的限量要求以下。(Indicates that this hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement in SJ/T11363-2006.) ×：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T11363-2006 标准规定的限量要求。(Indicates that this hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement in SJ/T11363-2006.)						

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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 indirect, special, incidental or consequential loss or damage arising from this 3M product, regardless of the legal theory asserted.**



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