

SlimStack™ SMT Stacking

Board-to-Board Connectors

0.40 to 1.00mm (.016 to .039") Pitch



INTRODUCTION

molex[®] SlimStack™ SMT Board-to-Board Connector Family

SlimStack is the new family name for Molex's broad range of micro SMT board-to-board connectors. SlimStack offers system designers a wide range of flexibility to meet the tight packaging needs found in applications such as notebook PCs, cellular phones, camcorders and other compact equipment.

New stack heights, circuit sizes and smaller pitch sizes are continually being added. Contact your Molex representative to see how SlimStack can help save you valuable real-estate space today.

System Overview:

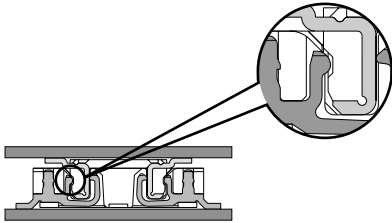
- Pitch sizes: 0.40, 0.50, 0.635 and 1.00mm (.016, .020, .025 and .039")
- Stack Heights: 1.50 to 20.00mm (.059 to .787")
- Circuit Size Range: 14 to 240
- Board Mounting: SMT
- Plating: Gold
- Mating Styles: Vertical and Right Angle
- Related Products:
 - *0.635mm (.025") pitch Twin-Stack™ (and H-Cap)
 - *0.80mm (.031") pitch SMT tin-plated versions
 - *1.00mm (.039") pitch Mezzanine connectors



FEATURES AND BENEFITS

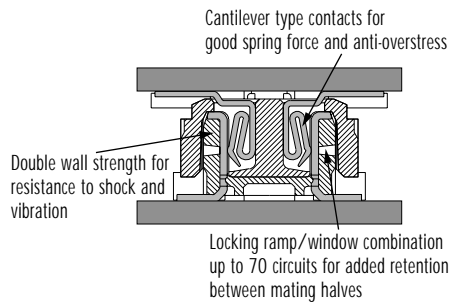
Locking Feature (for Smaller Stack Heights)

Molex's SlimStack series includes a unique metal friction lock on our smallest stacking height versions that provides added mating retention. The feature is ideal for portable applications that are subject to shock or vibration.



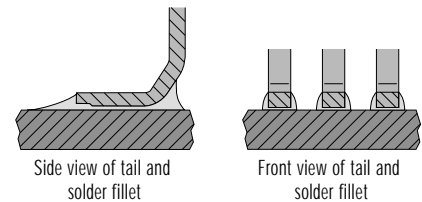
Contact/Retention Features

Various contact interfaces and locking features are used in the SlimStack family to attain the best electrical and mechanical performance.



SMT Tails

Specially designed SMT tail and PCB layout for shear strength.



APPLICATIONS

- Notebook PC
- Digital video camera
- Digital still camera
- Cellular phone
- Personal handy phone (PHS)
- Voice recorder
- PDA
- Any low-profile application

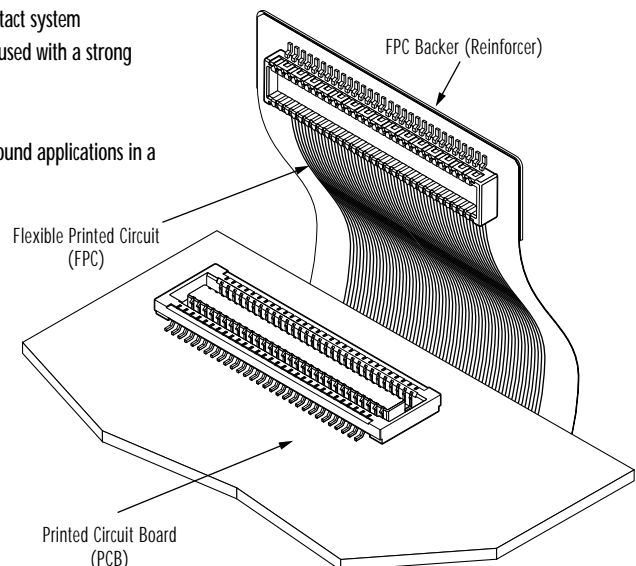
FPC Application:

Although it is a conventional board-to-board system, SlimStack can also be used in FPC (flexible printed circuit) - to-board applications (see illustration below).

The FPC-to-board method provides:

- About double the circuit density of similar pitch ZIF FPC connectors
- Excellent shock absorption between PCBs, due to the flexibility of the FPC
- Extremely low profile connection—as low as 1.50mm (.059") between mating halves
- Super reliable gold-on-gold contact system
- Easy mating/un-mating, when used with a strong FPC backer

This interconnection solution has found applications in a variety of portable equipment.



SLIMSTACK™ 0.4

SlimStack 0.4 is the newest and smallest pitch addition to the growing SlimStack family. This new 0.40mm (.016") pitch version saves about 30% of PCB space versus similar 0.50mm (.020") pitch versions.

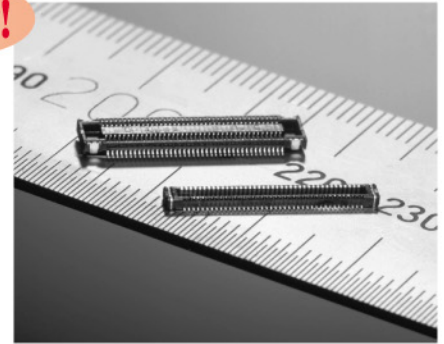
SlimStack 0.4 is available in straight and right angle versions with options such as solder tabs and pegs. The range includes stack heights from 1.50 to 4.00mm (.059 to .157") and circuit sizes from 40 to 120 with new versions being added regularly.

Specifications:

Voltage: 50V and 30V
 Current: 0.3A
 Housing: LCP, UL 94V-0
 Contact: Phosphor Bronze
 Plating: Gold
 Contact Resistance: 60mΩ max.
 Dielectric Withstanding Voltage: 250V AC
 Insulation Resistance: 100 MΩ min.
 Operating Temperature: -25 to +105°C

molex® 0.40mm (.016") Pitch SlimStack™ SMT

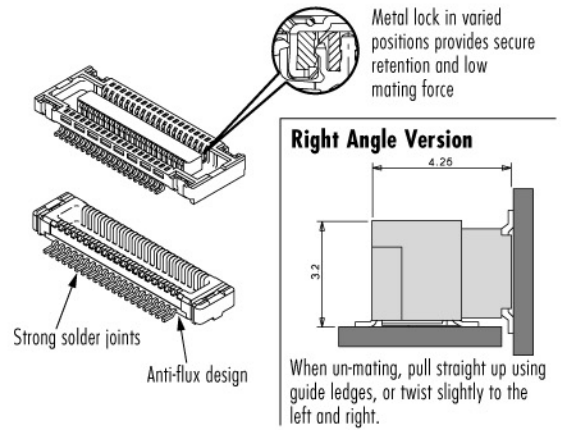
New!



FEATURES AND BENEFITS

Space Savings versus 0.50mm (.020") Pitch

	Receptacle	Plug
0.40mm (.016") Pitch Height=1.50mm (.059") [100 circuits]	 Area=124mm ² (72%)	 Area=87mm ² (73%)
0.50mm (.020") Pitch Height=1.50mm (.059") [100 circuits]	 Area=173mm ² (100%)	 Area=119mm ² (100%)

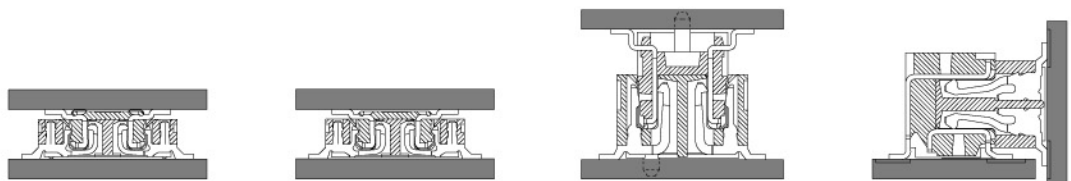


SLIMSTACK™ 0.4

























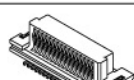
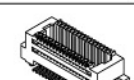
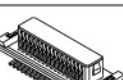

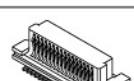
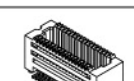


0.40mm (.016") Pitch SlimStack™ SMT




















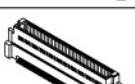
Mated Height	Receptacle	Plug	Circuit Sizes	Voltage/Current
1.50mm (.059")	54518 With Solder Tabs	55372 With Solder Tabs	60 to 100	50V/0.3A
1.50mm (.059")	54796	55622	40 to 80	50V/0.3A
4.00mm (.157")	54477 With Pegs	55339 With Pegs	80 to 120	30V/0.3A
3.20mm (.126") Right Angle	54552	55394 With Solder Tabs	40 to 80	30V/0.3A

*Note: 2.50mm (.098") and 3.50mm (.138") versions are also available. Contact Molex.



Mated Height	H=1.50mm (.059")	H=1.50mm (.059")	H=4.00mm (.157")	Right Angle H=3.20mm (.126")
Receptacle	54518	54796	54477	54552
Plug	55372	55622	55339	55394

Mated Height	Receptacle	Plug	Circuit Sizes	Voltage/Current
1.50mm (.059")	54722 	55560 	16 to 50	50V/0.5A
1.50mm (.059")	54037 	53794 	60 to 80	50V/0.5A
1.50mm (.059")	54137 With Solder Tabs 	53929 With Solder Tabs 	70 to 100	50V/0.5A
2.00mm (.079")	54729 	55559 	16	50V/0.5A
2.00mm (.079")	54363 With Solder Tabs 	55201 With Solder Tabs 	20 to 140	50V/0.5A
2.50mm (.098")	54102 (No Tabs)/ 54150 With Solder Tabs 	53885 (No Tabs)/ 53949 With Solder Tabs 	20 to 70 50 to 80	50V/0.5A
3.00mm (.118")	52991/54167 	53748 	20 to 80	50V/0.5A
3.00mm (.118")	54363 With Solder Tabs 	55299 With Solder Tabs 	20 to 140	50V/0.5A
4.00mm (.157")	52991/54167 	53916 	20 to 60	50V/0.5A
4.00mm (.157")	54434 With Solder Tabs 	55297 With Solder Tabs 	40 to 70	50V/0.5A
5.00mm (.197")	54206 	55018 	60	50V/0.4A
5.00mm (.197")	54450 	55306 	140	50V/0.5A
5.50mm (.217")	54230 With Solder Tabs and Pegs 	55055 With Solder Tabs and Pegs 	50 to 80	60V/0.4A
5.60mm (.220") Right Angle	54434 With Solder Tabs 	55289 With Solder Tabs 	40 to 70	50V/0.5A
6.00mm (.236")	54124 With Pegs 	53887 With Pegs 	60	50V/0.4A
7.00mm (.276")	87577 With Solder Tabs 	87579 With Solder Tabs 	70	50V/0.5A









Mated Height	Receptacle	Plug	Circuit Sizes	Voltage/Current
3.00mm (.118")	52921 	53671 	30 to 140	100V/0.5A
4.00mm (.157")	52851/52883 	53569/53623 	40 to 150	100V/0.5A
5.00mm (.197")		52760/52885 	20 to 240	100V/0.5A
6.00mm (.236")		55091 	20 to 100	100V/0.5A
6.00mm (.236")		53467/53645 	120 to 240	100V/0.5A
7.00mm (.276")		53481/53625 	20 to 240	100V/0.5A
8.00mm (.315")		53551/53647 	20 to 160	100V/0.5A
9.00mm (.354")		53552/53649 	40 to 140	100V/0.5A
10.00mm (.394")		53553/53627 	20 to 200	100V/0.5A
11.00mm (.433")			52837/52901 	20 to 180
12.00mm (.472")	55091 		20 to 100	100V/0.5A
12.00mm (.472")	53467/53645 		120 to 180	100V/0.5A
13.00mm (.512")	53481/53625 		20 to 180	100V/0.5A
14.00mm (.551")	53551/53647 		20 to 160	100V/0.5A
15.00mm (.591")	53552/53649 		40 to 140	100V/0.5A
16.00mm (.630")	53553/53627 		20 to 180	100V/0.5A

*Note: See Molex website for packaging specifications.

Mated Height	Receptacle	Plug	Circuit Sizes	Voltage/Current
4.00mm (.157")	52855 	53583 	200	100V/0.5A
5.00mm (.197")	52770 	53486 	180	100V/0.5A
H-Cap				
6.00mm (.236")	Removable H-Cap is used to place and position two 0.635mm connectors on the PCB, then removed after soldering 	Receptacle: 54425 Plug: 55275	240	100V/0.5A
7.00mm (.276")		54425 55293	240	
11.00mm (.433")		54662 55506	360	
12.00mm (.472")		54662 55927	280	

SLIMSTACK™ 1.0

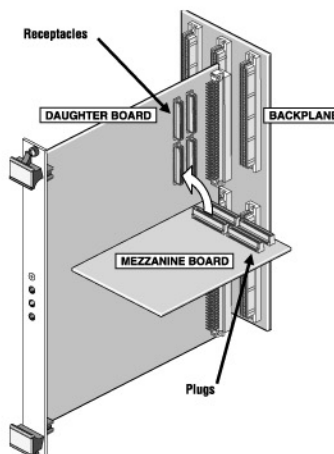
**1.00mm (.039") Pitch
SlimStack™ SMT**

Mated Height	Receptacle	Plug	Circuit Sizes	Voltage/Current
8.00mm (.315")	52584 	53395 	20 to 140	100V/0.5A
9.00mm (.354")		53396 	100	100V/0.5A
10.00mm (.394")		53397 	50 to 140	100V/0.5A
18.00mm (.709")		53408 	50 to 140	100V/0.5A
12.00mm (.472")	52602 	53397 	50 to 140	100V/0.5A
20.00mm (.787")		53408 	24 to 140	100V/0.5A



1.00MM (.039") PITCH MEZZANINE IEEE 1386






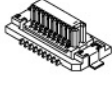




The IEEE P1386 standard contains the details for adding standardized general option, PCI and S-bus mezzanine cards to VMEbus and Multibus host boards. There are also many LAN, WAN, telecom, PC and workstation users who want a standardized mezzanine scheme, and see the IEEE P1386 as the best approach.

Molex's fully shrouded leaf-style design minimizes the chance of damaging plug contacts, and our receptacle contacts feature a low mating force, reducing PCB stress. Gold-over-Nickel contact plating enhances long-term reliability and UL 94V-0 LCP housings withstand SMT reflow processes. Excellent tolerance absorption allows the connectors to be used in combinations of 1-4 mated pairs for up to 256 circuits.



**Mezzanine IEEE 1386
(64 circuits)**

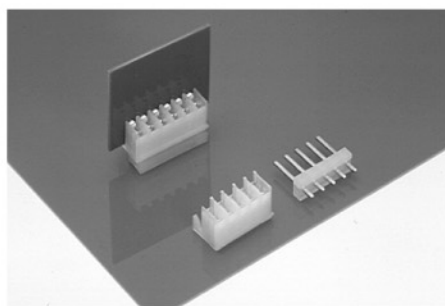
Mated Height	Receptacle 71439	Plug 71436
8.00mm (.315")		
9.00mm (.354")		
10.00mm (.394")		
11.00mm (.433")		
12.00mm (.472")		
13.00mm (.512")		
14.00mm (.551")		
15.00mm (.591")		

Mated Height	Receptacle	Plug	Circuit Sizes	Voltage/Current
4.50mm (.177")		53307 	10 to 40	50V/0.5A
6.00mm (.236")		53364 	10 to 40	50V/0.5A
7.00mm (.276")		53353 	10 to 28	50V/0.5A
5.65mm (.222") Right Angle		53309 	10 to 40	50V/0.5A
5.50mm (.217")		53307 	18 to 30	50V/0.5A
7.00mm (.276")		53364 	20 to 30	50V/0.5A
8.00mm (.315")		53353 	28	50V/0.5A
6.65mm (.262") Right Angle		53309 	18 to 30	50V/0.5A

OTHER MOLEX BOARD-TO-BOARD CONNECTORS



One-Piece SMT Compression



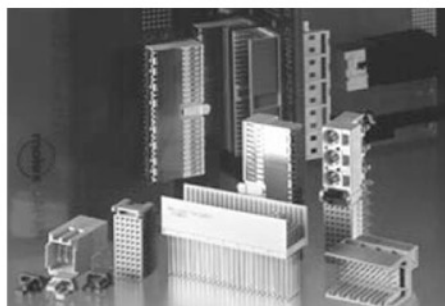
Through Hole



Leaf-Style



Docking



Backplane



Positive Lock



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