

Datasheet for 76650-0192

General Information

Part Number:	76650-0192
Manufacturer:	Molex / Waldom
Title:	Deluxe Board Stacking Application Kit
Description:	Includes KK100, HDM, EBBI 50D, SEARAY, Plateau HS Mezz, IEEE1386, SlimStack Product Families. Pitches range: 0.635mm (.025)" - 2.54mm (0.1)"
Product Family:	Mezzanine IEEE 1386, HDM@**, SlimStack™, KK@ 100, EBBI™ 50D, Plateau HS Mezz™, and SEARAY*
Certificates:	(Molex Parts within this kit) - EU RoHS and RoHS by Exempt Compliant
Country of Origin:	Kit assembled in U.S.A.

Specifications

Design

Configuration:	Board-to-Board
Pitch:	0.635mm (.025"), 1.0mm (.039"), 1.20mm (.047"), 1.27mm (.050"), [1.27mm (.050")]sq. , 2mm (.079"), and 2.54mm (.100")
Connector Type:	Receptacles and Headers/Plugs
Circuit Sizes:	2, 3, 4, 6, 8, 12, 20, 50, 64, 72 and 200
Current Rating:	0.5, 1.0, 1.5, 2.5 and 4 Amps
Voltage:	30, 100 and 240 Volts

Product Highlights

The SEARAY board-to-board connector is designed for computer, networking, telecom, storage and general market applications with high pin-count devices or memory modules that are mounted on mezzanine or module PC Boards (PCBs). The design of our SEARAY has superior electrical and mechanical features that are cost competitive. The unique, Molex-patented, solder charge technology results in better process yields and a lower applied cost versus equivalent BGA connector products. Circuit sizes range from 160 through 500 positions, and mated stack heights cover 7mm (.276") to 13mm (.512").

Molex's SlimStack connectors are tested to accommodate frequency rates up to 3 GHz for various high-speed applications. With a broad range of circuit sizes and stack heights, SlimStack offers an economical way to achieve high-speed performance in both 50 and 100 Ohm systems.

Utilizes proprietary Plateau Technology™ (plated gold housing) to provide a high-speed high-density mezzanine connector system for differential and single-ended signal applications. The gold-plated plastic shields each differential pair from neighboring pairs, lowering crosstalk and improving signal clarity. Different stack heights and circuit sizes provide flexibility in design and grounding the conductive housing eliminates the need for individual ground pin designations within the connector.

* SEARAY is a trademark of Samtec, Inc.

** HDM@ is a registered trademark of Amphenol Corporation

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Datasheet for 76650-0192

Product Highlights continued

The High Density Metric (HDM) connector system is designed for applications that require high interconnect density and high-speed signal integrity. Signal modules of 72 and 144 contacts are available. Daughtercard modules are combined on a metal stiffener so that they are handled as one connector. Special modules are available for power, guidance, mounting and coding functions. These building blocks can be combined to create very large connectors. Connectors of above 1000 circuits are not unusual. The power contacts can handle 15A of current per power blade, efficiently delivering hundreds of watts in multiple voltage levels, even in hot plug applications.

The IEEE 1386 standard contains the details for adding standardized PCI mezzanine cards (PMC) to VMEbus and Multibus host boards. There are also many LAN, WAN, telecommunications, PC and workstation users who want a standardized mezzanine scheme and see the IEEE 1386 as the best approach. The fully shrouded leaf-style design minimizes the chance of damaging plug contacts. Our receptacle contacts feature a low mating force that reduces PCB stress. Gold over Nickel contact plating enhances long-term reliability, while the UL94V-0 LCP housings withstand SMT reflow processes.

Excellent tolerance absorption allows the connector to be used in combinations of one to four mated pairs for up to 256 circuits. The connector design is hard-metric, easy-mating, robust, surface-mounted and features high circuit density, with excellent electrical performance. Along with that, it comes in a range of stacking heights from 8.00 through 15.00mm (.315 through .591") for optimizing system function.

The proven KK system of "building block" connectors can be used to create thousands of different configurations. The Molex KK interconnection system can provide all the options necessary to complement PC board interconnection design requirements. For this reason, KK has become known as a versatile interconnecting system developed to meet the challenge of modularization.

The Molex EBBI 50D series meets the market demand for low-cost, unshielded, high density, leaf-style connectors. Several configurations are available including vertical, right angle and blind-mating to provide valuable design flexibility and expandability. Leaf-style terminals are arranged in two rows on .050" spacing within a polarized "D"-shaped housing for rugged mechanical protection. Housings are made of high temperature, UL 94V-0 thermoplastic. Terminals are plated with 30 micro-inches min. gold in the mating area for long term reliability and durability.

** HDM® is a registered trademark of Amphenol Corporation

Features and Benefits

- Unique patented solder attach is more cost effective and reliable than BGA
- SEARAY footprint is compatible with other 1.27mm(.050") by 1.27mm(.050") products
- Robust guidance and polarization aligns connectors to mate in correct position

Applications

- High and Mid-Range Computers and Servers
- Medical Scanning Equipment
- Military
- Network Routers and Switches
- Mobile Base Stations

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Datasheet for 76650-0192

Features and Benefits continued	Applications continued
<ul style="list-style-type: none">• 3 GHz performance• Cross Talk < 7%• 6.00 to 16.00mm stack heights• Economical design• For 50 and 100 Ohm applications• Anti-flux design• Metal solder tabs provide PCB hold down and strain relief for SMT tails• Polarizing pegs assist placement• Housing lock on 20 to 60 circuits• Superior terminal design/wipe length• Easy board processing• Advanced gold-plated housings with integrated shielding system• Two points of contact on each signal• Multiple stack heights from 10 to 25mm (.394 to .984")• Available in 6, 12, 24, and 36 differential pair sizes (12, 24, 48 and 72 contacts)• Up to 32mm board-to-board stack heights• For parallel board packaging• Available in press-fit or solder tail• For Mezzanine cards, parallel backplanes and bridge board applications• End walls facilitate blind mating• Surface Mount Compatible• High-density 2.00mm metric connector in the same form factor as Future bus• 6-row 2mm connector provides 30 contacts per linear centimeter (> 75/inch)• Designed for high-density, high-speed applications• Modular components for design flexibility; 72 position (6 row by 12) and 144 position (6 row by 24) modules• Tail lengths available in 0.5mm increments to optimize PCB thickness	<ul style="list-style-type: none">• Mobile Phone• PDA• Digital Video Camera• Digital Still Camera• Digital Video Player• Digital Audio Player• Voice Recorder• Notebook PC• Any Compact Applications • Switches and Hubs• Routers• Servers and Blade Servers• Workstations• Storage Devices • High-End Computer• Storage• Telecom (General)• Broadcast Equipment• Telecom Infrastructure• Networking• Telecom (Home/Office)

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- Leaf-style design protects pins
- Low insertion force
- For use in combinations of 1 to 4 mated pairs
- High-temperature LCP housing for use with lead-free processing temps
- Multiple stack heights 8.00-15.00mm (.315-.591"), offers design flexibility
- Low mating forces, less stress on PCB and solder joints
- Select 30u" Gold plating on contact, high reliability with 100-cycle durability rating
- Anti-flux intrusion feature, compatible with no-wash soldering processes
- End-to-end stackable
- Strain relieving board hooks
- Also available without board hooks
- Various pin lengths available
- Voided circuits available (contact Molex)
- Versions to accept mating pins vertically, horizontally or through the PCB
- Polarized D-shape leaf contact for parallel board packaging
- Leaf-style interface provides high-durability
- Available in 50, 68, and 80 circuits
- Blind-mate version
- SMT versions available
- Receptacle mates to standard .062 inch pc card edge
- Polarized guide posts allow extra lead-in on blind-mate versions
- Polarized guide features provide generous 2.0mm radial lead-in for blind mating
- Press-fit retention pegs for mechanical hold down before and after processing
- Low profile—12.50mm (.492") stack height for parallel board stacking
- Surface Mount Compatible
- Network Interface Cards for NIC-HBA
- SCSI Host Bus and Adapter Cards for NIC-HBA
- Board-to-Board Mezzanine Connectors for Switch-Router
- Mezzanine Card Connectors for Server
- Mezzanine Card Connectors for Disk Array
- Vending and Gaming Machines
- Production Equipment
- Industrial Instruments
- Energy and Power
- Comfort and Infotainment
- Brown Goods
- Security and Alarms
- Business Machines
- Computer Peripherals
- Consumer (General)
- Vending and Gaming
- Business Machines
- High-End Computer
- Production Equipment

Bill of Materials for Part No. 76650-0192

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Molex Part No.	Country of Origin	Description	Quantity in Kit
45970-2311	USA	[1.27mm (.050")]sq. Pitch SEARAY* Plug, 200 Circuits, H = 6.1mm	1
45971-2311	USA	[1.27mm (.050")]sq. Pitch SEARAY* Receptacle, 200 Circuits, H = 6.55mm	1
52885-0274	Japan	.635mm (.025") Pitch SlimStack™ 20 Circuit Receptacle, H = 5 MM	1
52901-0274	Japan	.635mm (.025") Pitch SlimStack™ 20 Circuit Receptacle, H = 11 MM	1
55091-0274	Japan	.635mm (.025") Pitch SlimStack™ 20 Circuit Plug, H = 6 mm	1
53647-0274	Japan	.635mm (.025") Pitch SlimStack™ 20 Circuit Plug, H = 8 mm	1
75003-0305	USA	1.20mm (.047") Pitch Plateau HS Mezz™ Plug 6 Pair 12 Circuit, H = 5.5mm	1
75003-0308	USA	1.20mm (.047") Pitch Plateau HS Mezz™ Plug 6 Pair 12 Circuit, H = 8.5mm	1
75005-0304	USA	1.20mm (.047") Pitch Plateau HS Mezz™ Receptacle 6 Pair 12 Circuit, H = 4.5mm	1
75005-0306	USA	1.20mm (.047") Pitch Plateau HS Mezz™ Receptacle 6 Pair 12 Circuit H = 6.5mm	1
73770-0100	USA	2mm (.079") Pitch 72 Circuit HDM®** Press-Fit Stacking Header, H = 15mm	1
73780-2257	USA	2mm (.079") Pitch 72 Circuit HDM®** Press-Fit Receptacle, H = 17mm	1
71436-0164	USA	1.00mm (.039") Pitch Mezzanine IEEE 1386, 64 Circuit Plug, H = 8mm	1
71436-2164	USA	1.00mm (.039") Pitch Mezzanine IEEE 1386, 64 Circuit Plug, H = 10mm	1
71439-0164	USA	1.00mm (.039") Pitch Mezzanine IEEE 1386, 64 Circuit Receptacle, H = 8mm	1
22-03-2021	MEXICO	2.54mm (.100") Pitch KK® 100 Header Vertical 2 Circuit	5
22-03-2031	MEXICO	2.54mm (.100") Pitch KK® 100 Header Vertical 3 Circuit	3
22-03-2041	MEXICO	2.54mm (.100") Pitch KK® 100 Header Vertical 4 Circuit	3
22-03-2061	MEXICO	2.54mm (.100") Pitch KK® 100 Header Vertical 6 Circuit	2
22-03-2081	MEXICO	2.54mm (.100") Pitch KK® 100 Header Vertical 8 Circuit	2

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Molex Part No.	Country of Origin	Description	Quantity in Kit
22-02-2025	MEXICO	2.54mm (.100") Pitch KK® 100 Receptacle^ Top Entry 2 Circuit	5
22-02-2035	MEXICO	2.54mm (.100") Pitch KK® 100 Receptacle^ Top Entry 3 Circuit	3
22-02-2045	MEXICO	2.54mm (.100") Pitch KK® 100 Receptacle^ Top Entry 4 Circuit	3
22-02-2065	MEXICO	2.54mm (.100") Pitch KK® 100 Receptacle^ Top Entry 6 Circuit	2
22-02-2085	MEXICO	2.54mm (.100") Pitch KK® 100 Receptacle^ Top Entry 8 Circuit	2
71660-7050	USA	1.27mm (.050") Pitch EBBI™ 50D Receptacle, Vertical, Blind-Mate, 50 Circuits	1
71661-7050	USA	1.27mm (.050") Pitch EBBI™ 50D Plug, Vertical, Blind-Mate, 50 Circuits	1
44812-0002	USA	2.54mm (.100") Pitch KK® 100 Receptacle Bottom and Top Entry 2 Circuit	2
44812-0003	USA	2.54mm (.100") Pitch KK® 100 Receptacle Bottom and Top Entry 3 Circuit	2
44812-0004	USA	2.54mm (.100") Pitch KK® 100 Receptacle Bottom and Top Entry 4 Circuit	2
44812-0006	USA	2.54mm (.100") Pitch KK® 100 Receptacle Bottom and Top Entry 6 Circuit	1
44812-0008	USA	2.54mm (.100") Pitch KK® 100 Receptacle Bottom and Top Entry 8 Circuit	1

^ Current rating is dependent upon PCB traces, Copper weight, solder, etc. (contact Molex for more information)

No Recommended Molex Tool for Part No. 76650-0192*