

## Datasheet for 76650-0146

### General Information

<b>Part Number:</b>	76650-0146
<b>Manufacturer:</b>	Molex / Waldom
<b>Title:</b>	Deluxe Blind Mate Application Kit
<b>Description:</b>	Includes EBBI 50D, SPOX BMI, Micro-Fit 3.0 BMI, Mini-Fit BMI Product Families. Pitches range: 1.27mm (.050)" - 4.2mm (.165)"
<b>Product Family:</b>	BMI - EBBI 50D, SPOX BMI, Micro-Fit BMI, & Mini-Fit BMI
<b>Certificates:</b>	(Molex Parts within this kit) - EU RoHS Compliant, UL and CSA
<b>Country of Origin:</b>	Kit assembled in U.S.A.

### Specifications

#### Design

<b>Configuration:</b>	(Wire-to-Wire), (Wire-to-Board) and (Board-to-Board)
<b>Pitch:</b>	[1.27mm (.050"), 2.50mm (.098"), 3.00mm (.118"), and 4.20mm (.165")]
<b>Connector Type:</b>	Plugs, Receptacle Headers, Receptacles and Headers
<b>Mounting</b>	
<b>Oreintation:</b>	Right Angle and Vertical
<b>Current Rating:</b>	[ 1, (1.5 - 3) dep. on AWG, 3, 5, (3 - 9) dep. on AWG, (8 - 12) ]Amp
<b>Voltage Rating:</b>	[30, 250, 600] Volts
<b>Wire size:</b>	[(28-22), (24-22), (24-20), (24-18)] AWG

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### Product Highlights

SPOX BMI connectors offer self-aligning features in one of the smallest blind-mate packages available. The unique low-profile design of the SPOX Blind-mate Interface (BMI) allows for a mated stack distance of only 11.00mm (0.430").

Utilizing proven SPOXstyle contacts for high reliability, the products are suitable for situations requiring highly reliable tin interfaces.

The Molex EBBI 50D series meets the market demand for low-cost, unshielded, high density, leaf-style connectors. 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.

The Mini-Fit BMI is designed for high current/ high density applications requiring the blind mating of modules, subassemblies or printed circuit boards. The Mini-Fit BMI allows a misalignment of up to .100". It is appropriate for both power and signal applications as it can carry currents of up to 9.0A per circuit and has a 10mW contact resistance.

Micro-Fit 3.0 BMI™ 3.00mm (.118") pitch connectors are the perfect choice when you need compact connectors that carry up to 5 amperes of current.

Features and Benefits	Applications
<ul style="list-style-type: none"> <li>• First-mate/last-break circuits provide sequential engagement of contacts for design flexibility</li> <li>• Robust alignment features virtually eliminate contact damage</li> <li>• Very low profile</li> <li>• Panel mounting feature permits up to 3.00mm (.120") misalignment in horizontal and vertical directions permitting blind-mating of products as connectors can self-align</li> <li>• Anti-fishhooking design</li> <li>• Polarized guide posts on ends provide generous 2.0mm radial lead-in for blind mating</li> <li>• Chamfered lead-in on tails for PCB mounting</li> <li>• Press-fit retention pegs for mechanical hold down before and after processing</li> <li>• Surface Mount Compatible</li> <li>• Polarized D-shape leaf contact for parallel board packaging</li> <li>• Mates to standard .062" PCB card edge</li> </ul>	<ul style="list-style-type: none"> <li>• Telecommunications</li> <li>-Hubs</li> <li>-Servers</li> <li>-Routers</li> <li>• Other Markets</li> <li>-Fan-tray assemblies</li> <li>-Low-current blind-mating applications</li> <li>-Lower-current power supply applications</li> <li>• Consumer (General)</li> <li>• Vending and Gaming</li> <li>• Business Machines</li> <li>• High-End Computer</li> <li>• Production Equipment</li> </ul>

**For additional Molex / Waldom Design and Solution Kits please go to [www.molexkits.com](http://www.molexkits.com)**

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| <ul style="list-style-type: none"> <li>• Positive housing locks to mate with Mini-Fit Jr.</li> <li>• Fully isolated terminals to protect contacts</li> <li>• Uses low engagement force terminals</li> <li>• Receptacle floats in panel cutout up to 1.27mm (.050") in any direction</li> <li>• Innovative panel mounting design holds connectors firmly in place</li> <li>• Use standard Micro-Fit 3.0 terminals to reduce inventory</li> <li>• Fully polarized to prevent mismating</li> <li>• 4 points of contact for optimum reliability</li> <li>• Locking tang secures terminal in housing</li> <li>• Fully isolated contacts prevent terminal damage</li> <li>• Box-type spring contact for high normal force</li> </ul> | <ul style="list-style-type: none"> <li>• Security and Alarms</li> <li>• Vending and Gaming</li> <li>• White Goods</li> <li>• High End Computer</li> <li>• Business Machines</li> <li>• Storage</li> <li>• Energy and Power</li> <li>• Environmental Equipment and Controls</li> <li>• Production Equipment</li> <li>• Broadcast Equipment</li> <li>• Telecom Infrastructure</li> <li>• Personal Computers</li> <li>• Computers and Workstations</li> <li>• Handheld Devices</li> <li>• Office Equipment</li> <li>• Fan Tray Assemblies</li> <li>• Power Supplies</li> <li>• Gaming and Vending</li> </ul> |
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**Bill of Materials for Part No. 76650-0146**

Molex Part No.	Country of Origin	Description	Quantity in Kit
45627-0002-C	USA	SPOX™ Male Terminal 24-22 AWG	20
08-70-1040	China	Mini-SPOX™ Female Terminal, 28-22 AWG	30
45626-0001	USA	2.50mm (.098") Pitch SPOX™ BMI Plug, Dual Row, Panel Mount, 6 Circuits	3
45579-0001	China	2.50mm (.098") Pitch SPOX™ BMI Receptacle, Panel Mount, 6 Circuits	5
71661-7050	USA	50CKT .050 In Pitch EBBI™ 50D Blind Mate Vertical Plug	1
71661-7080	USA	80CKT .050 In Pitch EBBI™ 50D Blind Mate Vertical Plug	1
71660-7050	USA	50CKT .050 In Pitch EBBI™ 50D Blind Mate Vertical Receptacle	1
71660-7080	USA	80CKT .050 In Pitch EBBI™ 50D Blind Mate Vertical Receptacle	1
15-06-0040	USA	4.20mm (.165") Pitch Mini-Fit BMI™ Receptacle Panel Mount, 4 Circuits	2
15-06-0060	USA	4.20mm (.165") Pitch Mini-Fit BMI™ Receptacle Panel Mount, 6 Circuits	2
15-06-0045	USA	4.20mm (.165") Pitch Mini-Fit BMI™ Plug Panel Mount 4 Circuits	2
15-06-0065	USA	4.20mm (.165") Pitch Mini-Fit BMI™ Plug Panel Mount 6 Circuits	2
15-24-6040	Mexico	4.20mm (.165") Pitch Mini-Fit BMI™ Header, Right Angle, 4 Circuits Tin Plating	2

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15-24-6060	Mexico	4.20mm (.165") Pitch Mini-Fit BMI™ Header, Right Angle, 6 Circuits Tin Plating	2
15-24-6046	Mexico	4.20mm (.165") Pitch Mini-Fit BMI™ Header, Vertical, 4 Circuits Tin Plating	2
15-24-6066	Mexico	4.20mm (.165") Pitch Mini-Fit BMI™ Header, Vertical, 6 Circuits Tin Plating	2
15-24-7040	Mexico	4.20mm (.165") Pitch Mini-Fit BMI™ Receptacle Header, Vertical, 4 Circuits	1
15-24-7060	Mexico	4.20mm (.165") Pitch Mini-Fit BMI™ Receptacle Header, Vertical, 6 Circuits	1
39-00-0039	USA	Mini-Fit® Female Crimp Terminals (24-18)AWG	25
39-00-0041	USA	Mini-Fit® Male Crimp Terminals (24-18)AWG	25
43030-0007	USA	Micro-Fit 3.0™ Crimp Terminal, Female, 24-20 AWG	10
43031-0007	USA	Micro-Fit 3.0™ Crimp Terminal, Male, 24-20 AWG	10

**Bill of Materials for Part No. 76650-0146 continued**

<b>Molex Part No.</b>	<b>Country of Origin</b>	<b>Description</b>	<b>Quantity in Kit</b>
44133-0400	USA	Micro-Fit 3.0 BMI™ Receptacle, Panel Mount, 4 Circuits	1
44133-0600	USA	Micro-Fit 3.0 BMI™ Receptacle, Panel Mount, 6 Circuits	1
44300-0400	USA	Micro-Fit 3.0 BMI™ Plug, Panel Mount, 4 Circuits	1
44300-0600	USA	Micro-Fit 3.0 BMI™ Plug, Panel Mount, 6 Circuits	1
44428-0401	USA	Micro-Fit 3.0 BMI™ Header, Right Angle, 4 Circuits	1
44428-0601	USA	Micro-Fit 3.0 BMI™ Header, Right Angle, 6 Circuits	1
44432-0401	USA	3.00mm (.118") Pitch Micro-Fit 3.0 BMI™ Header, Vertical, 4 Circuits	1
44432-0601	USA	3.00mm (.118") Pitch Micro-Fit 3.0 BMI™ Header, Vertical, 6 Circuits	1
44764-0401	USA	Micro-Fit 3.0 BMI™ Receptacle Header, Right Angle, 4 Circuits	1
44764-0601	USA	Micro-Fit 3.0 BMI™ Receptacle Header, Right Angle, 6 Circuits	1
44769-0401	USA	Micro-Fit 3.0 BMI™ Receptacle Header, Vertical, 4 Circuits	1
44769-0601	USA	Micro-Fit 3.0 BMI™ Receptacle Header, Vertical, 6 Circuits	1

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**Recommended Molex Tool(s) for Part No. 76650-0146\***

<b>Molex Part No.</b>	<b>Country of Origin</b>	<b>Description</b>
63811-5200 *	Germany	Hand Crimp Tool - SPOX™
63813-1400 *	USA	Manual Extraction Tool for SPOX™ 33467/33468
11-26-0167 *	Germany	JAPAN Hand Crimp Tool JHTR5974
11-03-0044 *	USA	Extraction Tool (HT60630B) for Mini-Fit™ Jr.
63819-0900 *	Sweden	Hand Crimp Tool for Mini-Fit™ Jr. 24-16 AWG
57031-6000 *	USA	JAPAN Hand Extraction Tool
63819-0000 *	Sweden	Hand Crimp Tool Micro-Fit 3.0™
11-03-0043 *	USA	Extraction Tool (HT60923A) Micro-Fit 3.0™

\*Tool(s) not included in kit. Tool(s) ordered separately.