



# 1.85mm by 3.70mm (.073" by .146") Pitch I-Trac™ Backplane Connector System 7, 11 and 15 Row

*The I-Trac system is a broad-side coupled, skew-equalized design that handles speeds up to 12.5 Gbps, providing superior impedance control and lower cross-talk for traditional and orthogonal backplane applications*

The I-Trac backplane system effectively balances electrical performance, differential-pair density, mechanical robustness and cost savings to meet customer application needs. It is designed to support the telecommunications, data networking and storage markets.

At 12.5 Gbps data rates, the I-Trac broadside-coupled, skew equalized design provides multiple benefits, including superior impedance control, lower cross-talk and lower insertion loss versus other open pin-field or metal shielded-backplane products. Molex's I-Trac contact technology allows customers to use as few as 2.75 contacts per differential channel versus competitors' 3 contacts per channel. This reduces the number of pins required for high-speed channels, thus lowering the total cost of the connector solution.

I-Trac's open pin-field design allows customers the flexibility to assign high-speed differential pairs, low-speed signals, power and ground contacts anywhere within the pin-field. The broadside-coupling design allows the entire pinfield to be utilized for high-speed signals. I-Trac is designed for both standard backplane architectures, as well as orthogonal backplane

architectures, using the same connector part numbers. I-Trac is a press-fit, flexible, mono-block based system with integrated guidance, power and signals that can be stacked end-to-end to meet customer pin-count requirements.

The I-Trac standard backplane system offers the following options\*:

- The 7-row backplane product is available in 4, 6 or 10 column (56, 84 or 140 circuits)
- The 11-row backplane product is available in 5, 6, 8 or 10 column (110, 132, 176 or 220 circuits)
- The 15-row backplane product is available in 8, 9 or 10 column (240, 270 or 300 circuits)

**\*Note:**

A 5-row version is planned for release in the near future. Please contact [i-trac@molex.com](mailto:i-trac@molex.com) for additional information. Standalone Power Module options planned for release in the near future. Please contact [i-trac@molex.com](mailto:i-trac@molex.com) for additional information.

Co-Planar, Mezzanine, Reverse Gender options planned for release in the near future. Please contact [i-trac@molex.com](mailto:i-trac@molex.com) for additional information.

**76015 7-Row Backplane Signal Modules**

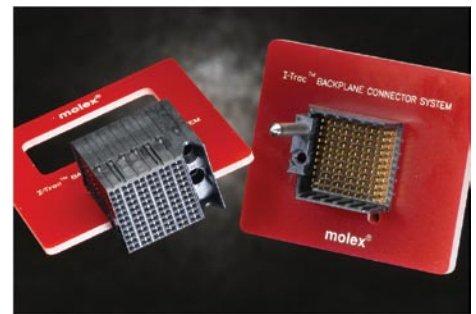
**76020 7-Row Daughtercard Signal Modules**

**75705 11-Row Backplane Signal Modules**

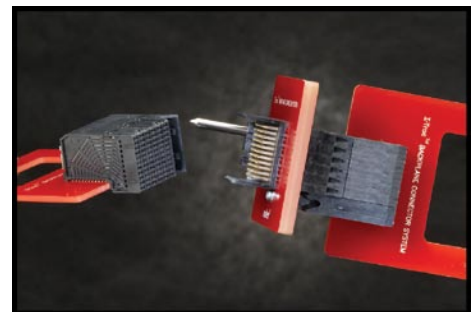
**75710 11-Row Daughtercard Signal Modules**

**76035 15-Row Backplane Signal Modules**

**76040 15-Row Daughtercard Signal Modules**



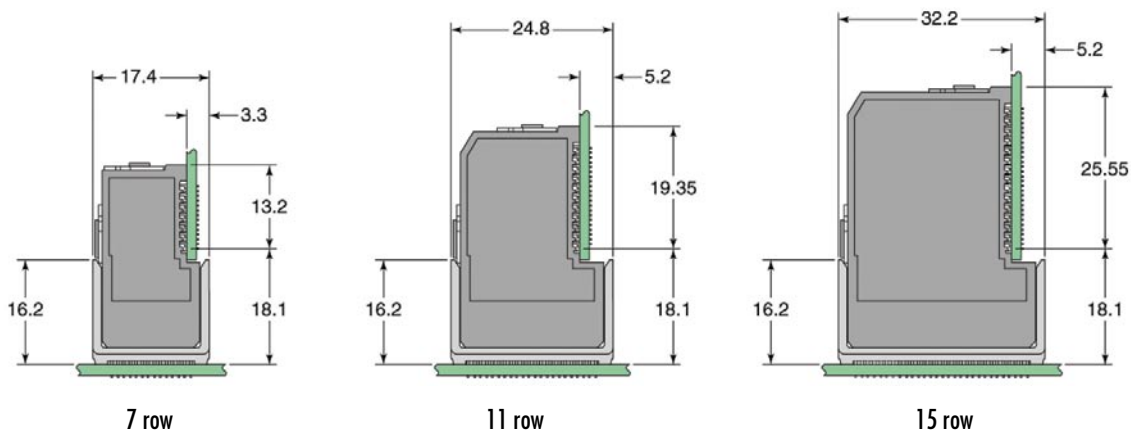
I-Trac Standard Backplane Interconnect



I-Trac Orthogonal Backplane Interconnect (same parts as Standard Backplane Interconnect)

**Product Family Overview**

	Slot Width	Pairs/Inch	Ortho Pairs/Node
7-Row I-Trac	17.4mm	34	16 (4x4)
11-Row I-Trac	24.8mm	55	36 (6x6)
15-Row I-Trac	32.2mm	69	64 (8x8)



## SPECIFICATIONS



# 1.85mm by 3.70mm (.073" by .146") Pitch I-Trac™ Backplane Connector System 7, 11 and 15 Row

### Features and Benefits

- Data rates of 12.5 Gbps or higher support future system performance upgrades
- Broadside-coupled, skew-equalized, differential pair system offers superior impedance control, low cross-talk, and low insertion loss
- Differential pair density up to 69 pairs per linear inch using open pin-field design provides high-density, high-bandwidth connection with pin-by-assignment flexibility
- Allows standard and orthogonal connections using the same parts allows design flexibility, connector and PCB cost savings
- Quad PCB routing capability reduces PCB layers required to route high-speed lines, reducing PCB cost
- Integrated guidance gives superior mating performance
- Bifurcated contact beams in daughtercard interface provides greater reliability with 2 points of contact to the header pin

### \*Reference Information

#### Packaging:

Daughtercard Assemblies — Trays

Headers —

11 and 15 row — Trays

7 row — Tube

UL File No.: E29179

CSA File No.: Pending

Designed In: Millimeters

### Electrical

Signal Contact Current Rating: 1.0A

Contact to Plated Through-Hole Resistance:  
1.0 milliohm max.

Dielectric Withstanding Voltage: 750V RMS

Insulation Resistance: 1,000 Megaohms min.

### Mechanical

Contact Insertion Force: 35.6N (8.0 lb) max. per contact

Contact Retention Force: 4.45N (1.0 lb) min. per contact

Mating Force: 0.69N (0.15 lb) max. per contact

Durability: 200 cycles

### Physical

Housing: Liquid Crystal Polymer, UL 94V-0

Contact: High Performance Copper (Cu) Alloy

Plating:

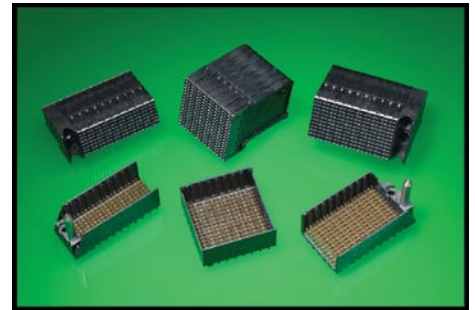
Contact Area — 0.76 $\mu$ m (30 $\mu$ in) Gold (Au) min.

Solder Tail Area — Tin (Sn) or Tin/Lead (Sn/Pb)

Underplating — Nickel (Ni)

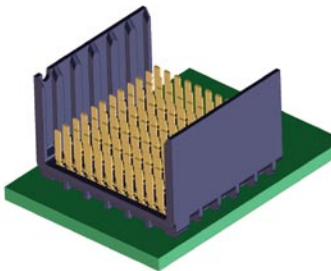
PCB Thickness: 1.60mm (.062") min.

Operating Temperature: -55 to +85°C

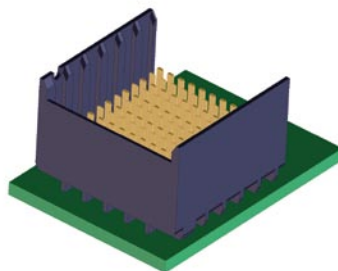


\*For complete electrical and mechanical test reports, contact [i-trac@molex.com](mailto:i-trac@molex.com)

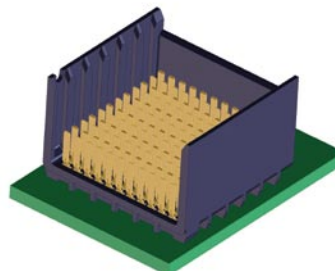
### Backplane Signal Modules



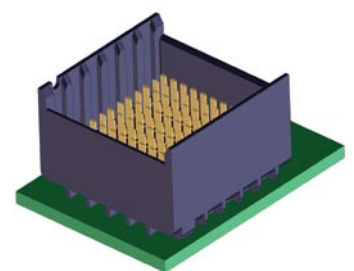
Open



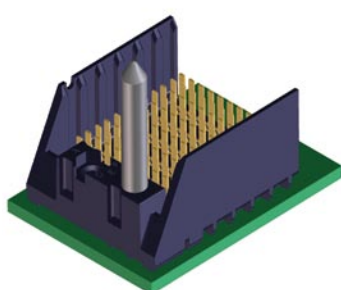
Left endwall, right open



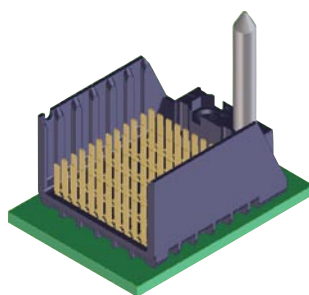
Right endwall, left open



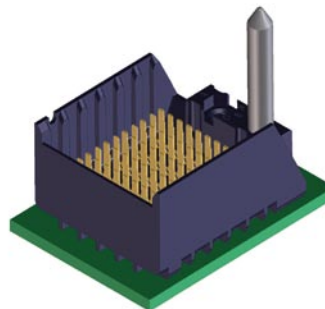
Dual endwall



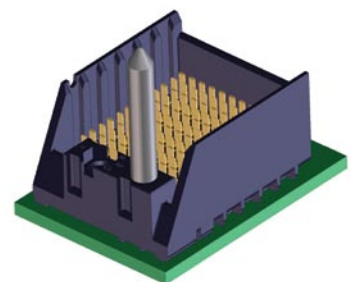
Left guide, right open



Left open, right guide



Left endwall, right guide



Left guide, right endwall

**ORDERING INFORMATION**



**1.85mm by 3.70mm  
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Backplane Connector System  
7, 11 and 15 Row**

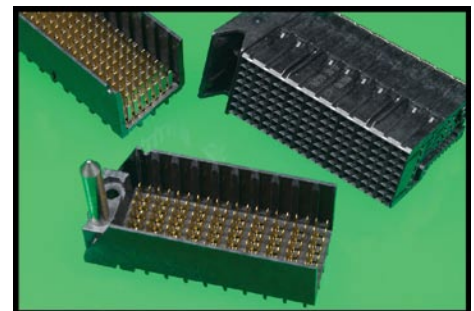
**7-Row Backplane Signal Modules**

Order Number	Column	Circuits	Module Type						
			Left Guide	Right Guide	Left Endwall	Right Endwall	Left Open	Right Open	
76015-1403	4	56					X	X	
76015-1413					X			X	
76015-1433							X	X	
76015-1423							X	X	
76015-3403					X				X
76015-5403						X			X
76015-7403					X			X	
76015-9403						X	X		
76015-1603			6	84					X
76015-1613					X			X	
76015-1633							X	X	
76015-1623							X	X	
76015-3603					X				X
76015-5603						X			X
76015-7603					X			X	
76015-9603						X	X		
76015-1103	10	140							X
76015-1113					X			X	
76015-1133							X	X	
76015-1123							X	X	
76015-3103					X				X
76015-5103						X			X
76015-7103					X			X	
76015-9103						X	X		

**Note:**  
 - Part numbers listed above are tin plated and RoHS compliant  
 - For Tin/Lead plating order numbers, please contact [i-trac@molex.com](mailto:i-trac@molex.com)  
 - To view all pin contact lengths and keying options, please contact [i-trac@molex.com](mailto:i-trac@molex.com)

**7-Row Daughtercard Signal Modules**

Order Number	Column	Circuits	Module Type		
			Left Guide	Right Guide	Open
76020-1004	4	56			X
76020-3004			X		
76020-5004				X	
76020-1006	6	84			X
76020-3006			X		
76020-5006				X	
76020-1010	10	140			X
76020-3010			X		
76020-5010				X	





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**11-Row Backplane Signal Modules**

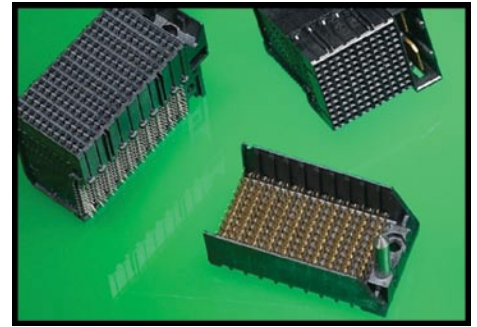
Order Number	Column	Circuits	Module Type						
			Left Guide	Right Guide	Left Endwall	Right Endwall	Left Open	Right Open	
75705-1503	5	110					X	X	
75705-1513					X			X	
75705-1533							X		
75705-1523							X		
75705-3503					X				X
75705-5503						X		X	
75705-7503					X			X	
75705-9503						X	X		
75705-1603			6	132					X
75705-1613					X				X
75705-1633								X	
75705-1623							X	X	
75705-3603					X				X
75705-5603						X		X	
75705-7603					X			X	
75705-9603						X	X		
75705-1103	8	176					X	X	
75705-1813					X				X
75705-1833								X	
75705-1823							X	X	
75705-3803					X				X
75705-5803						X		X	
75705-7803					X			X	
75705-9803						X	X		
75705-1103	10	220					X	X	
75705-1113					X				X
75705-1133								X	
75705-1123							X	X	
75705-3103					X				X
75705-5103						X		X	
75705-7103					X			X	
75705-9103						X	X		

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**11-Row Daughtercard Signal Modules**

Order Number	Columns	Circuits	Module Type		
			Left Guide	Right Guide	Open
75710-1005	5	110			X
75710-3005			X		
75710-5005				X	
75710-1006	6	132			X
75710-3006			X		
75710-5006				X	
75710-1008	8	176			X
75710-3008			X		
75710-5008				X	
75710-1010	10	220			X
75710-3010			X		
75710-5010				X	


**15-Row Backplane Signal Modules**

Order Number	Column	Circuits	Module Type						
			Left Guide	Right Guide	Left Endwall	Right Endwall	Left Open	Right Open	
76035-1803	8	240					X	X	
76035-1813					X			X	
76035-1833							X	X	
76035-1823							X	X	
76035-3803					X				X
76035-5803						X			X
76035-7803					X			X	
76035-9803						X	X		
76035-1903			9	270					X
76035-1913					X			X	
76035-1933							X	X	
76035-1923							X	X	
76035-3903					X				X
76035-5903						X			X
76035-7903					X			X	
76035-9903						X	X		
76035-1103	10	300							X
76035-1113					X			X	
76035-1133							X	X	
76035-1123							X	X	
76035-3103					X				X
76035-5103						X			X
76035-7103					X			X	
76035-9103						X	X		

- Note:**
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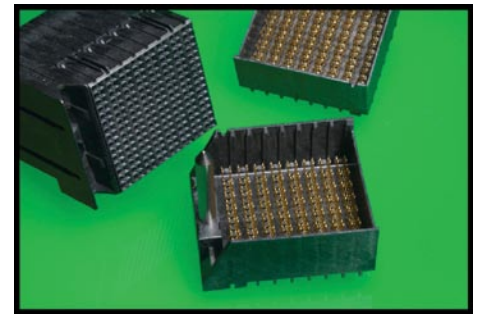
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### 15-Row Daughtercard Signal Modules

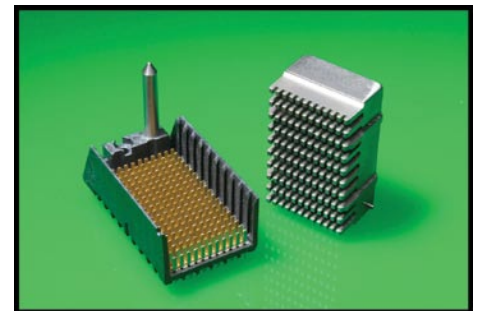
Order Number	Column	Circuits	Module Type		
			Left Guide	Right Guide	Open
76040-1008	8	240			X
76040-3008			X		
76040-5008				X	
76040-1009	9	270			X
76040-3009			X		
76040-5009				X	
76040-1010	10	300			X
76040-3010			X		
76040-5010				X	



## TOOLING INFORMATION

### Backplane Signal Module Press-In Tooling

Header type	Number of columns	Insertion tool part number
7 row	4	62201-8607
	6	62201-8608
	10	62201-8609
11 row	5	62201-8601
	6	62201-8602
	8	62201-8617
	10	62201-8603
15 row	8	62201-8619
	9	62201-8620
	10	62201-8621



### Daughtercard Signal Module Press-In Tooling

Receptacle type	Number of columns	Insertion tool part number
7 row	4	62201-8610
	6	62201-8611
	10	62201-8612
11 row	5	62201-8604
	6	62201-8605
	8	62201-8618
	10	62201-8606
15 row	8	62201-8622
	9	62201-8623
	10	62201-8624

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