

FI-R Series High-Speed Board-to-Cable Connector

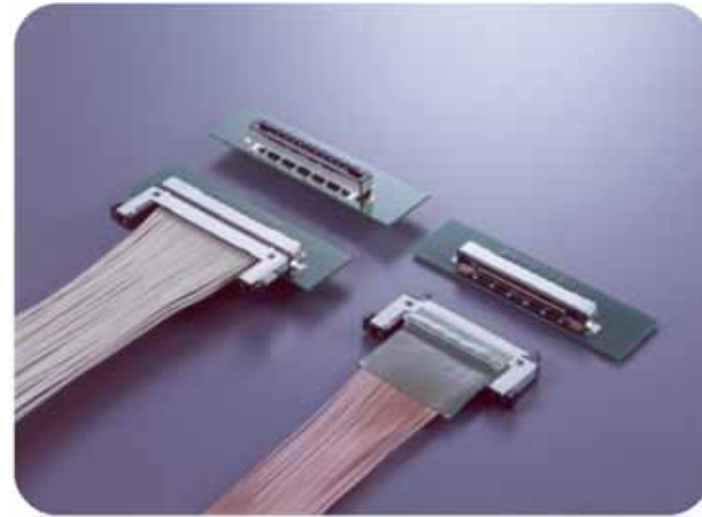
Training Module

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Overview





The FI-R series is a board-to-cable connector family which is designed to transmit high speed differential signals such as LVDS, TMDS, V by One, PCIe, etc. It is adopted as an industry standard for the LCD interface in high definition TVs. There are various options available, such as vertical or horizontal mating, and discrete or micro-coaxial wire termination to suit various applications. This connector system is also very reliable and robust. Locking latches are included to ensure secure mating, while large guide posts on the plug allow for blind mating.


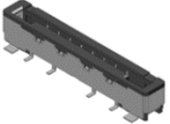



General Specifications

Number of Contacts	21, 31, 41, 51
Rated Current	0.7A
Rated Voltage	200V AC/DC
Operating Temperature	-40 °C to +80 °C
Mating Durability	50 cycles
Differential Impedance	100 Ω
Applicable Wire	Discrete: AWG #30, 32, 36 Coax: AWG #40
Mounting Height	3.75mm (horizontal mating)

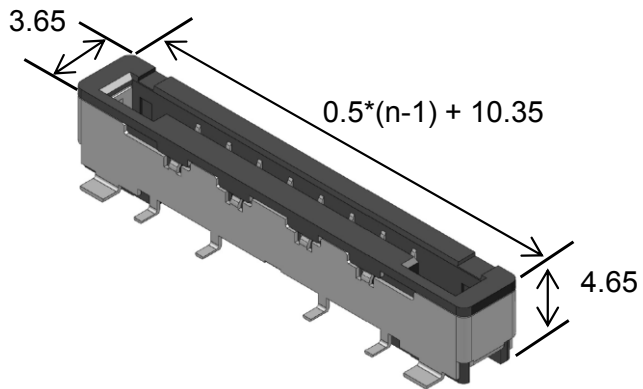
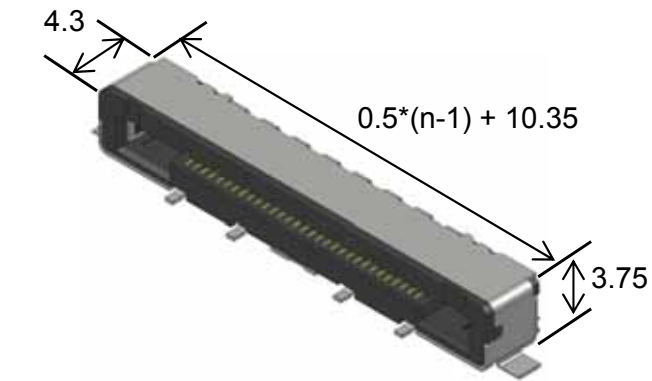
Available Options

	Description	Part Number
	Discrete wire plug (crimp contacts sold separately)	FI-RE##HL (Contacts: FI-RC3-1A-1E-15000, FI-RC3-1B-1E-15000)
	Discrete wire plug, No shell and no lock (21 and 41 pos only, crimp contacts sold separately)	FI-R##H (Contacts: FI-RC3-1A-1E-15000, FI-RC3-1B-1E-15000)
	Discrete wire plug, Center release lock (41 and 51 pos only, crimp contacts sold separately)	FI-RE##HLS-M (Contacts: FI-RC3-1A-1E-15000, FI-RC3-1B-1E-15000)
	Micro Coaxial wire (cover shell sold separately)	FI-RE##CL (Shell: FI-RE##CL-SH2-3000)

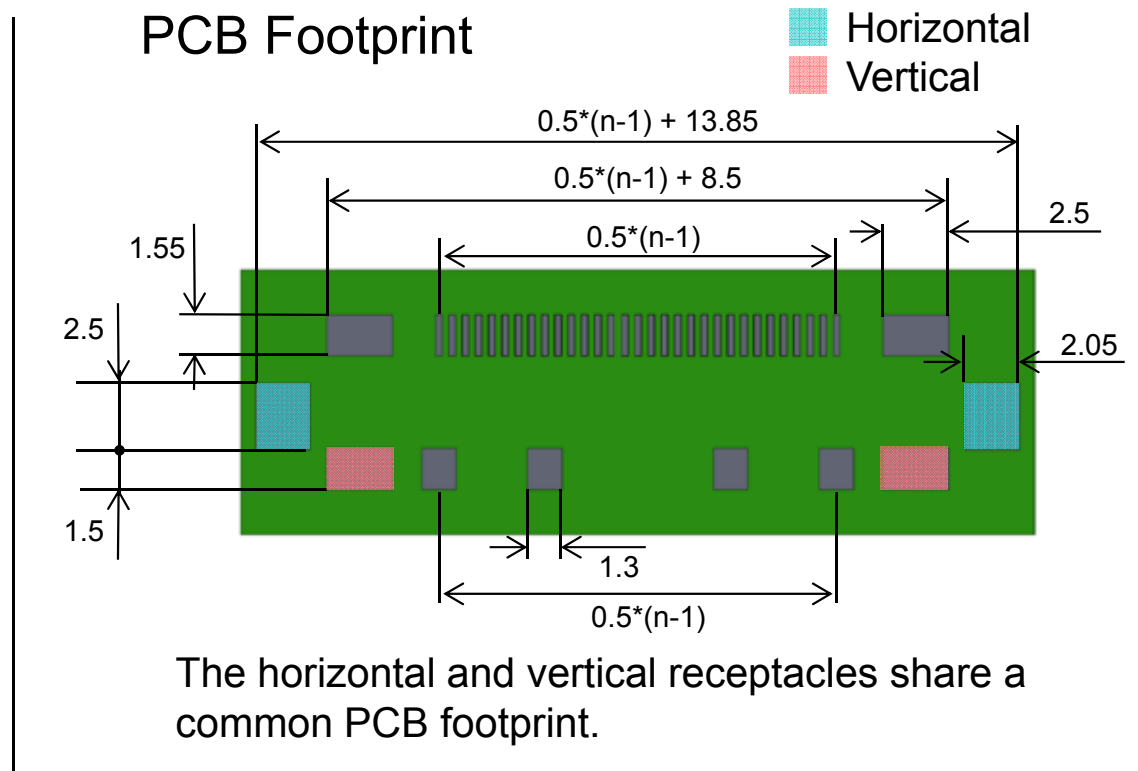
	Description	Part Number
	Horizontal receptacle, with shell	FI-RE##S-HF
	Vertical receptacle, with shell	FI-RE##S-VF
	Horizontal receptacle, without shell (41 and 51 pos only)	FI-R##S-HF

= number of contacts

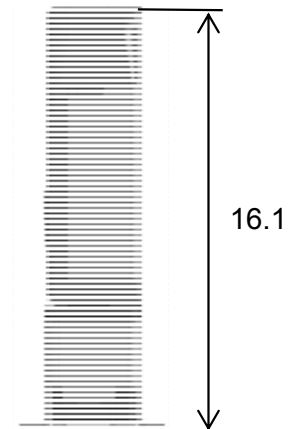
Basic Dimensions



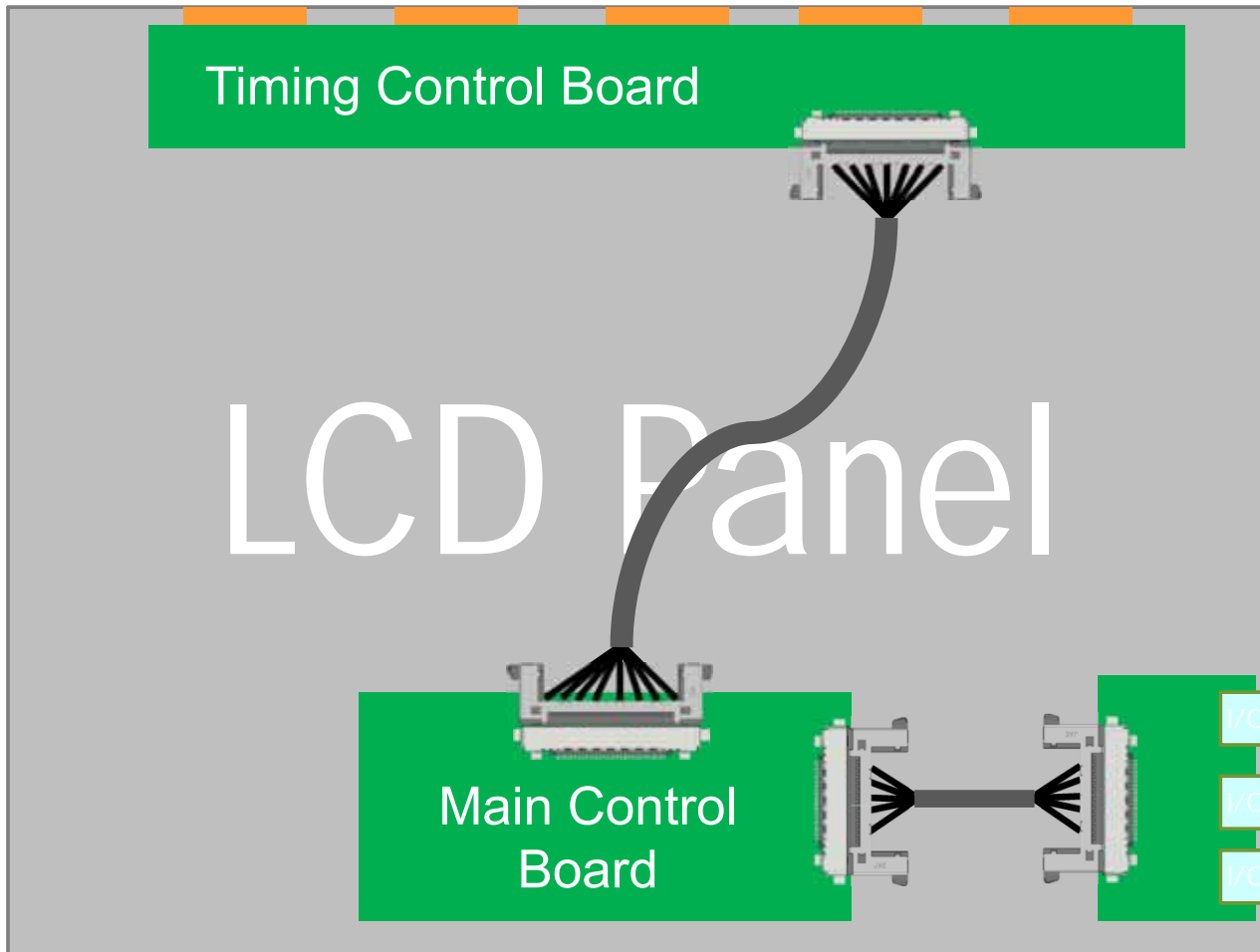
*All units in mm



Mated Condition (FI-RE**HL)



Applications



Typical applications include high speed internal video transmission in TV's, monitors, digital signage, etc. The FI-R series can also be used for non-display related applications which also require good signal integrity and EMI shielding, such as medical imaging/scanning devices, set top boxes, base stations, copy and fax machines, servers, etc.

❖ Simple diagram of a possible usage of an FI-R connector inside a display.

Summary

- 0.5mm terminal pitch, 3.8mm connector height, compact design with 21, 31, 41, and 51 positions.
- Receptacle options include with and without shell, and angle and straight types, all with common footprint.
- Applications for the FI-R series is in displays where high-speed differential signals such as LVDS are used.
- The PCB footprint for the vertical and horizontal mating receptacles are the same.



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