



FR02 Series

0.2mm Pitch Board-to-FPC Connector

Connector Training Module

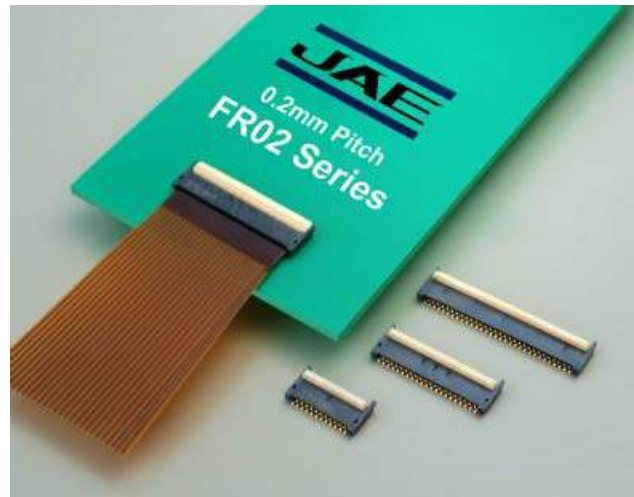
Application Examples

- Mobile phone
 - Tablet PC
 - Laptop PC
- Other portable devices



FR02 Series Overview

The FR02 series is a .0.2mm pitch, top and bottom surface connection type FPC connector. It is ideal for portable devices which require components with minimal mounting space and a low height. It is a LIF (Low Insertion Force) type connector with a robust actuator located opposite the FPC insertion side. (rear flip)



FR02 Series Features

Space-saving FPC Connector

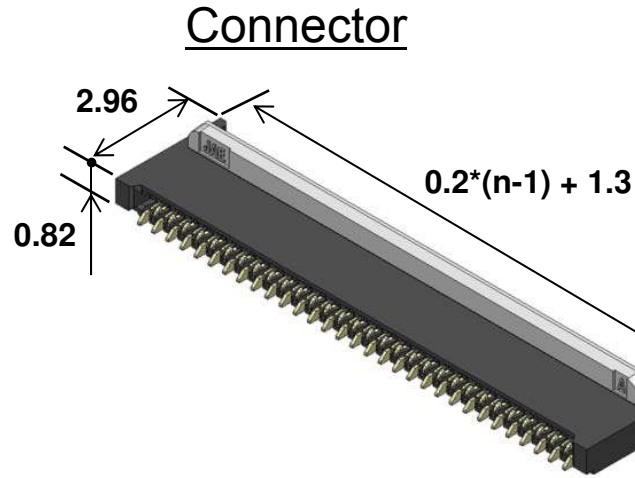
- 0.2mm pitch; Smallest top & bottom contact FPC connector in the market
- LIF (Low Insertion Force) horizontal insertion structure with secure retention force
- Tapered guides in the insertion area for improved FPC insertion guidance
- PCB traces can be routed in the area under the connector body (excluding the terminal area)
- Contacts are designed to prevent the actuator from detaching during operation
- Rigid and robust actuator design prevents half mating when only the side of actuator is pushed by the operator
- Pb and Halogen free
- Ni barrier prevents solder wicking

General Specifications

Number of Positions	23, 41, 51, 61
Connection Type	Top and bottom surface connection type
Pitch	0.2mm (contact area), 0.4mm (terminal/SMT area)
Mated Height	0.82mm
Applicable FPC Thickness	0.2mm ± 0.03mm
Contact resistance (top and bottom connection)	Odd Number Pin Count: initial 120mΩ max., 140mΩ max. after test Even Number Pins Count: initial 100mΩ max., 120mΩ max. after test
Dielectric Withstanding Voltage	AC 250Vr.m.s (for 1 minute)
Operating Temperature Range	-40 to +85°C
Current Rating	0.25A per pin
Voltage Rating	50VAC DC per pin
Mating Durability	20 cycles

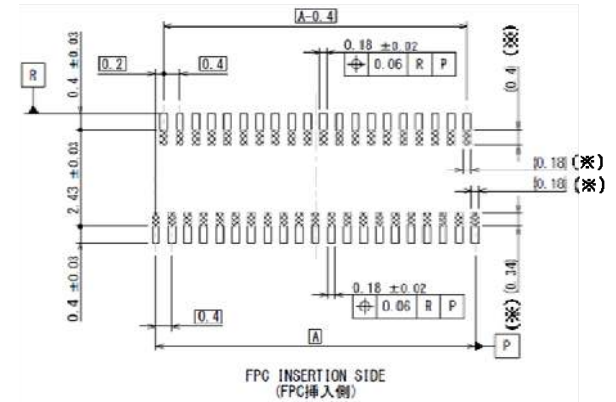
Basic Dimensions

Unit: mm

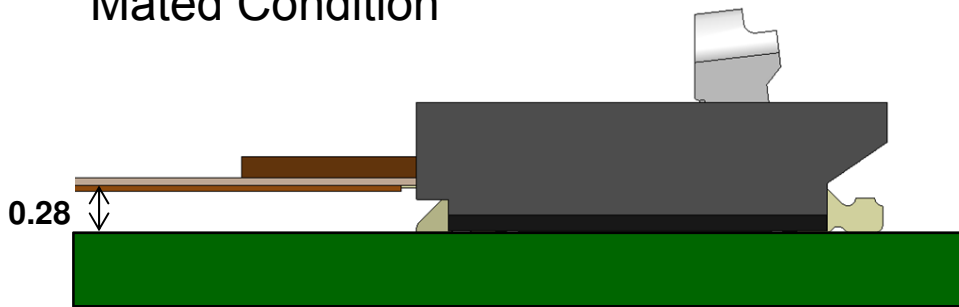


Pos.	Dimensions A
23	4.4
41	8.0
51	10.0
61	12.0

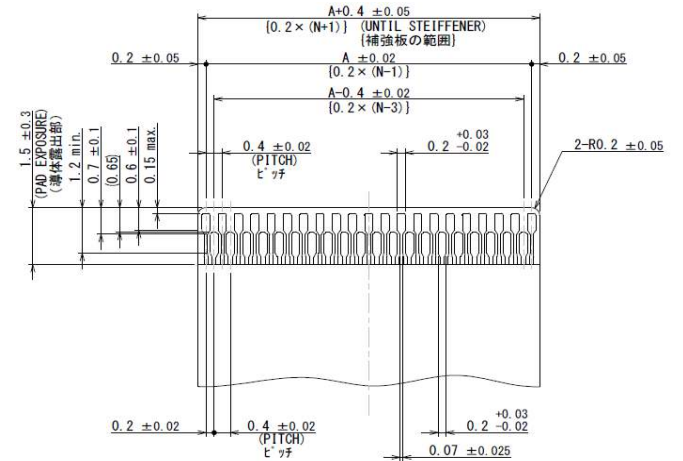
PCB Footprint



Mated Condition

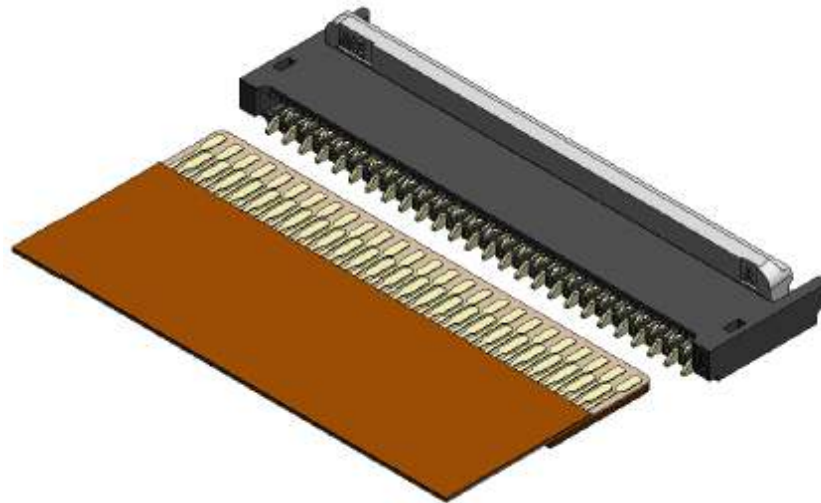


FPC



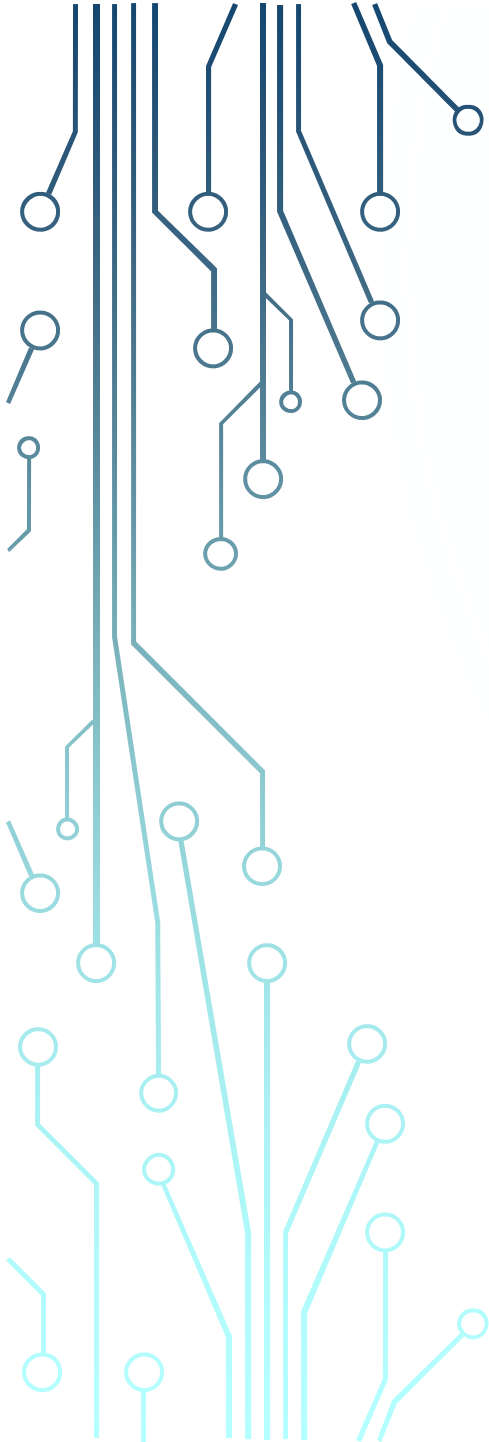
Materials and Finishes

Component	Material / Finish
Housing	Heat resistant plastic (Black, halogen-free)
Actuator	Heat resistant plastic (White, halogen-free)
Contact	Copper alloy / Partial Au over Ni plating, Au 0.1 μ m min.



Summary

- Board-to-FPC connector available in multiple pin counts
- 0.2mm pitch, 0.82mm height, and 3.0mm depth
- Applicable FPC thickness: 0.2mm \pm 0.3mm
- Top and bottom surface connection
- LIF (Low Insertion Force)
- Tapered guides for easy insertion
- Pb and Halogen free



Technology to Inspire Innovation

JAE