

MICROTCA™ CARD EDGE CONNECTORS

DESCRIPTION

MicroTCA™ (μTCA™) vertical card-edge connectors provide 170 contacts on 0.75mm pitch and enable AdvancedMC™ (AMC™) modules to be plugged directly to a backplane. Both press-fit and surface-mount (SMT) termination options are available. FCI connectors are in full compliance with the MicroTCA standard. The press-fit version accommodates speeds up to 10 Gb/s, and the SMT version supports speeds of 10 Gb/s and beyond.

FCI's MicroTCA connectors are designed for low manufacturing cost through the use of proven connector manufacturing processes, low-cost materials and a minimal number of components. Capability for connector installation using standard press-fit or SMT assembly processes, combined with connector designs that require no costly hardware, secondary mechanical retention or compensating board stiffeners, results in low total applied cost. Metal retention clips on the SMT connectors provide additional mechanical strength after soldering.

The MicroTCA standard, developed within PICMG®, creates a physically small but very powerful system in 4U height and 300mm depth. The MicroTCA system architecture reduces size and cost by eliminating the ATCA® carrier board and providing a chassis that accepts AMC™ modules directly. MicroTCA shelves will also support hot-pluggable modules, which will increase availability by allowing individual modules to be serviced or upgraded without taking the shelf offline. The MicroTCA form factor is expected to be ideal for communications equipment, such as core routers and IP-gateways, radio base stations and switching centers and customer premises equipment, where small physical size and cost are key design constraints.



FEATURES & BENEFITS

- 170 position card edge interface with 0.75mm contact pitch
- Options for press-fit or surface-mount (SMT) termination
- Metal retention clips at ends of SMT connector provide additional mechanical strength after soldering
- Very low loss and crosstalk for low-voltage differential signaling at data rates up to 12.5 Gb/s per lane
- SMT footprint allows for increased flexibility in routing PCB traces
- Telcordia UE compliant
- Lead-free and RoHS-compatible

TARGET MARKETS / APPLICATIONS

- Telecommunications
 - Radio Base Stations
 - RF antenna units
 - IP gateways
- Datacommunications
 - Enterprise switches
 - Customer premises equipment (CPE)



MATERIALS

- Housing: high-temperature thermoplastic, UL94V-0
- Contact base metal: copper alloy
- Contact area finish: gold over nickel
- Solder area finish: matte pure tin over nickel

ELECTRICAL PERFORMANCE

- Contact resistance: 25 milliohms maximum initially with 10 milliohms maximum change after environmental exposure
- Current rating: 1.0A/contact maximum
- Insertion loss: > -1dB at 6 GHz
- Return loss: < -20 dB at 5 GHz
- Near-end Crosstalk: < 0.5% at 30ps risetime
- Far-end Crosstalk: < 0.5% at 30ps risetime

MECHANICAL PERFORMANCE

- Durability rating: 200 cycles minimum
- PCB insertion force: 100N maximum per connector
- PCB extraction force: 65N minimum per connector

PART NUMBERS

| Termination Type | Drawing Number* |
|---------------------|-----------------|
| Surface-mount (SMT) | 10058835 |
| Press-fit | 10058831 |

*Reference the product drawings at www.fciconnect.com for complete FCI part numbers.

ENVIRONMENTAL

- Per Telcordia Uncontrolled Environment (UE) requirements

SPECIFICATIONS

- Product Specification: GS-12-362

PACKAGING

- Trays
- Packaging specification: GS-14-1047

ADDITIONAL SUPPORT MATERIALS

- Product drawings, specifications, SPICE models, and 3D models, can be found at www.fciconnect.com. Contact FCI or your local sales representative for availability of test backplanes.