



**Flex Interconnect Technologies (FIT)** is a leader in providing complete end-to-end flexible circuit and rigid flex solutions, from design and manufacturing to final assembly. FIT manufactures both quick-turn prototypes and production quantities with certified quality.

FIT is separated from its competition by its ability to offer in-depth technical expertise, support and advice, complemented by quick response, high reliability and on-time delivery. We act in true partnership with our customers. Our proven engineering expertise and

“can-do” attitude can support all your needs - from product development to full-scale production.

FIT is ISO9001:2000, AS9100B and FDA’s QSR 21 CFR 820 “B” certified, as well as ITAR registered. Products are built to both Mil-P-50884 and IPC Class 3 specifications. At FIT, we are committed to excellence in total customer satisfaction. We continually seek ways to assist in solving our customers’ product challenges. No job is too small for us and no challenge too big. With a top-notch reputation in the industry, FIT is committed to be your trusted solutions provider.

**DESIGN:**

Application Support  
PCB Layout: Allegro, PADS, ACAD  
Impedance Control / Signal Integrity  
DFM / DFT Analysis

**FAB:**

Flexible Circuits  
Rigid-flex  
HDI Flex  
Rigid PCB

**ASSEMBLY:**

Turnkey or Consign  
Fine Pitch, BGA & CSP  
ACF & Hot Bar bond  
ICT Testing



Visit us at: [www.FIT4FLEX.COM](http://www.FIT4FLEX.COM)

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## FLEX DESIGN GUIDELINES

CHECKLIST	DESCRIPTION
Trace Geometry	Curved traces or min. 45 degree angles – no acute angles
Trace Routing	Stagger traces – avoid “I-beam” effect
Grain Direction	Perpendicular to tightest bend line – specify in fab drawing
Via Pad Layout	Staggered instead of “in a row”, none in the flex region
Pad Geometry	Tear drops and tie-downs
Strain Reliefs	Proper use of stiffeners, epoxy beads, adhesives, etc.
Tear Reliefs	Radiused corners, Drilled hole at the end of slits, etc.
Ground Plane	45 degree cross-hatch patterns – avoid solid ground planes
Mask Openings	Capture SMT and unsupported pads, gang openings for fine pitch SMTs – min. coverfilm web to be 10 mils
Inside Corners	Wide radius – avoid sharp corners to prevent tear
Edge to Feature	Min. 10 mil preferred
Stiffener Opening	Min. 15 to 20 mil larger than finished hole size
Bend Radius	Min. 10 to 12 times the overall thickness, min. 24X is required for dynamic application
Pad Size for Selective Plating	Min. 20 to 25 mils larger than finished hole size

### MANUFACTURING CAPABILITIES

- 1 to 24 Layers – 22 inches long maximum
- 3 mil Lines and Spacing standard (2 mils lines and spacing also available)
- 2 mil Microvias, 4 mil Mechanical drill, Blind and Buried Vias
- Finishes - HASL, ENIG, Wire-bondable Gold, Immersion Silver, OSP
- Controlled Impedance
- AOI inspection after assembly
- Fine Pitch ICs, Hot Bar Bond, BGA, uBGA and CSP Assembly
- Boundary Scan, Flying Probe test and Functional test after Assembly
- RoHS and REACH compliant
- Quick Turnaround - 24 hours to 2 weeks
- UL-94V0, Mil-P-50884, IPC-6013 class 3, and ITAR Registered
- Offshore Fabrication and Assembly for Medium to High Volume



[www.FIT4FLEX.com](http://www.FIT4FLEX.com)

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