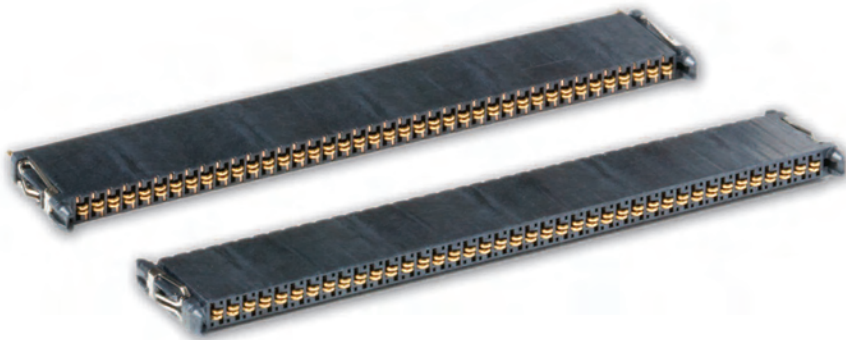
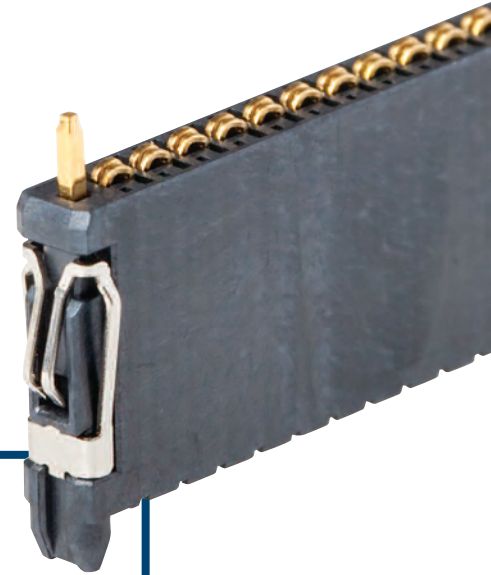




ITT

Interconnect Solutions

Cannon MBF Series PCB Connectors

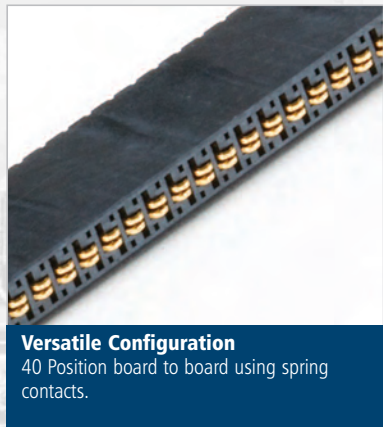
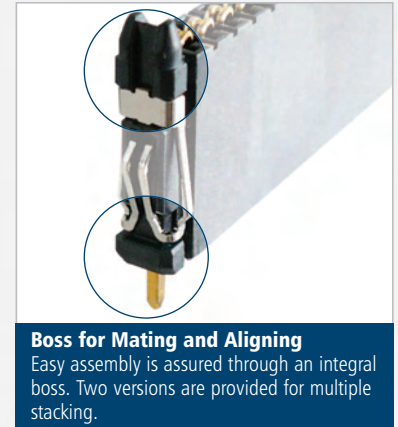


Engineered for life

MBF Series Connectors

The Challenge

Recognizing our innovative and historical participation in the free world's Space Missions, a major space customer approached ITT Interconnect Solutions requesting a novel approach to solving their board to board interconnect requirements. This customer challenged ITT ICS to develop a unique PCB connector meeting the stringent requirements of reduced footprint, high contact reliability, ease of mating, and capability to hold 2 or more PCB frames stacked together.

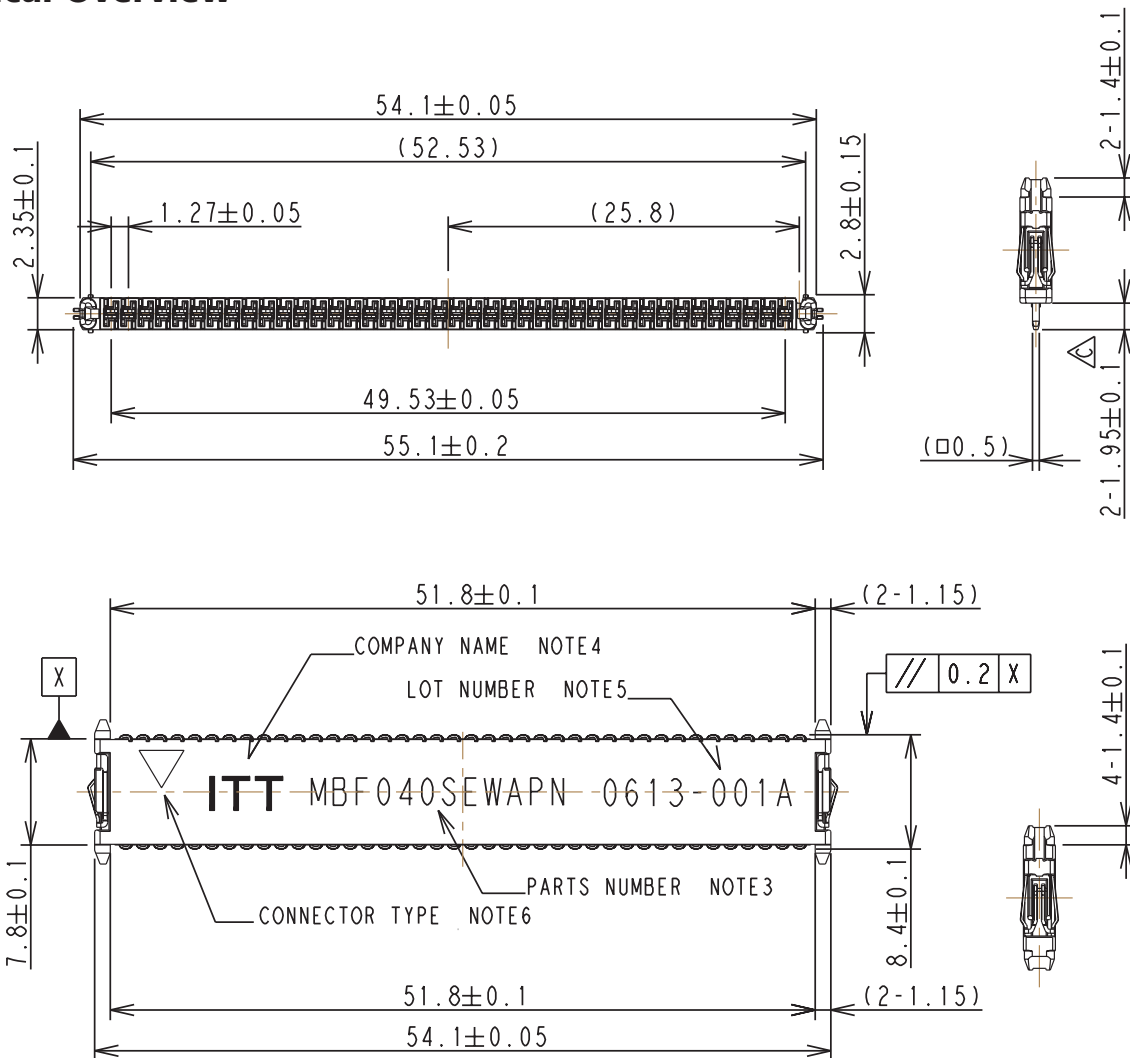


The ITT Solution ...

Having pioneered Space Applications since the early 1960's, ICS drew upon their considerable experience to design an innovative Micro Bus Floating {MBF} connector. This new interconnect replaces traditional elastomeric connectors, typically used in PCB applications, and offers greater life cycles than these other products. The unique double contact design enhances the contact reliability and provides an extremely small 1.27mm pitch. The entire assembly benefits from a floating metal spring on the housing, providing a cushioning effect on the connector, while a molded boss in two configurations provides ease of assembly in mounting and aligning for either singular or multi-stack assemblies.

MBF Series Connectors

Technical Overview



Series MBF Performance

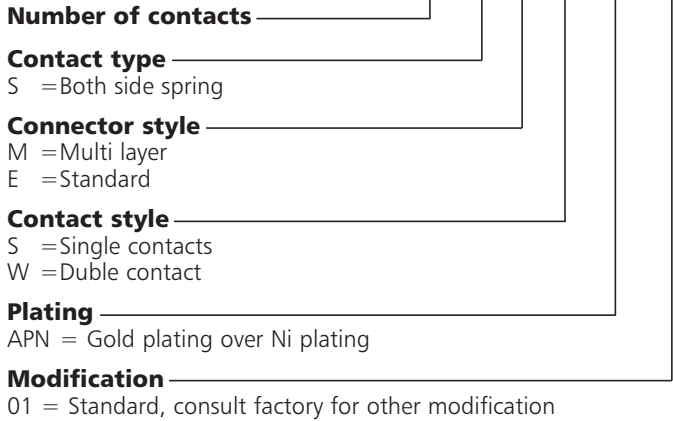
Contact Type	Board to Board, Spring Contact
Contact Material	gold over nickel plating
Current Rating	1A x 2 contact/Line
Voltage Rating	not applicable, only dielectric withstanding voltage in the specification
Insulation Resistance	Min. 1000M
Operating Temperature	-55 degrees C to +125 degrees C
Contact Resistance	60m Max.
Vibration	28.4rms G min in Accordance MIL-STD-1344 Method 2005, Condition V
Durability	1000 cycles
Shock	1000G, in accordance with MIL-STD-1344 Method 2004, Condition C
EMI Shielding Effectiveness	not applicable
Coupling	not applicable
Coding	Yes
Housing Material	LCP
Layouts	40-way
Out Gas as	TML 1% max, CVCM 0.1% max, in accordance with ASTM E595
Usage	Satellite computer, High-end computer, Medical equipment, Commercial and Military avionics

MBF Series Connectors

Ordering information

Similar to other ITT ICS, the MBF interconnect represents a family of products which may be specified to the user's specific needs.

MBF - 040 - S - X - X - APN - 01



Example

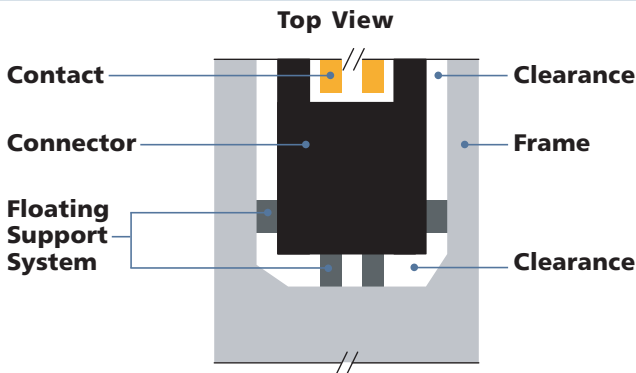
A MBF Series Connector with 40 double contacts, multi layer is:

MBF-040-S-M-W-APN

Unique and Innovative PCB to Frame Assembly

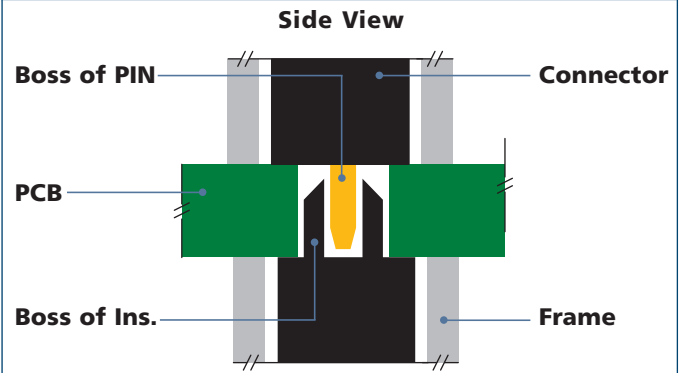
The MBF interconnect provides an innovative solution for connecting one or more PCB's for space applications. The innovative design utilizes an integral boss system to provide singular or multi-stacking configurations with ease in assembly and mating. The diagrams below identify the benefits of both the floating end and side supports as well as the unique, integral boss system.

Floating Metal



Integral to the MBF interconnect is a floating support system. The floating support systems ensures accuracy in alignment between the interconnect and the contact frame.

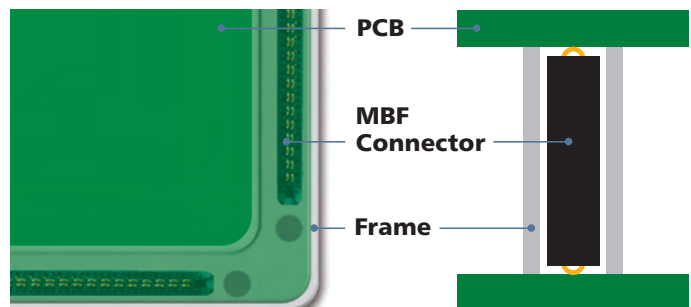
Boss for mating



An integrated boss system maximizes ease of assembly. The connector may be configured for standard or multilayer usage. The multilayer usage example may be noted above. This system incorporates a boss on both the top and bottom of the interconnect to aid in assembly and alignment.

Example of use

The pictorial to the right provides a schematic representation of the stack-up and usage of the MBF interconnect. Application of the MBF connectors occurs around the periphery of the frame. The PCB may then be pressed into place along the top or bottom of the frame. In some cases, users may elect to stack multiple layers using the MBF's multilayer boss system.



Color shading provided to show detail underneath the PCB.



MBF Series Connectors

The MBF connector represents an innovative design engineered to meet the critical needs of space systems and high-end avionics applications. Designed using robust materials and a unique, side by side contact arrangement, the MBF excels by providing an extremely small and lightweight solution for PCB applications. Designed to provide single or multilayer configuration support, the MBF incorporates specifically designed features to ensure ease in alignment and assembly, excelling over prior, elastomer based solutions. The innovative MBF design represents a unique approach to solving weight and size constraints in multiple high-end electronic applications which require multiple PCB's.

Product Features

- High contact reliability
 - 2 contacts per signal
- Ease of alignment and assembly
 - Floating support system
 - Integral boss for mating
 - Single or multiple layer configurations
- Very small size and light weight
 - 1.27mm pitch
 - Width of only 2.35mm
 - 1.8g per piece
 - 8mm height
- Durable and reliable
- Accommodates configurations from 2 PCB's to 12 PCB frames, stacked as multiple layers
- 40 positions board to board with spring contacts
- Up to 1000 matting cycles
- BeCu contact material, gold over nickel plating

Applications

- Satellite Systems
- Space Systems
- Advanced Avionics
- High End Computer Systems
- Medical & Diagnostic Equipment
- Military Electronic Equipment



Photo Courtesy of NASA



ITT

Customer Support Locations

CHINA

Tuopandun Industrial Area, Jinda Cheng,
Xiner Village, Shajing Town,
Baoan District, Shenzhen City,
Guangdong, China 518125
phone: +86.755.2726.7238
fax: +86.755.2726.7515

GERMANY

Cannonstrasse 1
Weinstadt, 71384
phone: +49.7151.699.0
fax: +49.7151.699.217

FRANCE

15, Boulevard Robert Thiboust
Serris, France 77700
phone: +33.1.60.04.93.93
fax: +33.1.60.04.93.90

HONG KONG

Units 2405-6, 24/F, ING Tower
308 Des Voeux Road
Central Hong Kong
phone: +852.2732.2720
fax: +852.2732.2919

ITALY

Corso Europa 41/43
Lainate (MI), Italy 20020
phone: +39.02938721
fax: +39.0293872300

JAPAN

11-3, 5 Chome, Hibarigaoka, Zama-shi
Kanagawa, Japan 228-0003
phone: +81.462.57.2010
fax: +81.462.57.1680

UK

Jays Close, Viabes Estate
Basingstoke, RG22 4BA
phone: +44.1256.311200
fax: +44.1256.323356

USA

666 East Dyer Road
Santa Ana, CA 92705
toll free: 1.800.854.3028
phone: +1.714.557.4700
fax: +1.714.628.2142