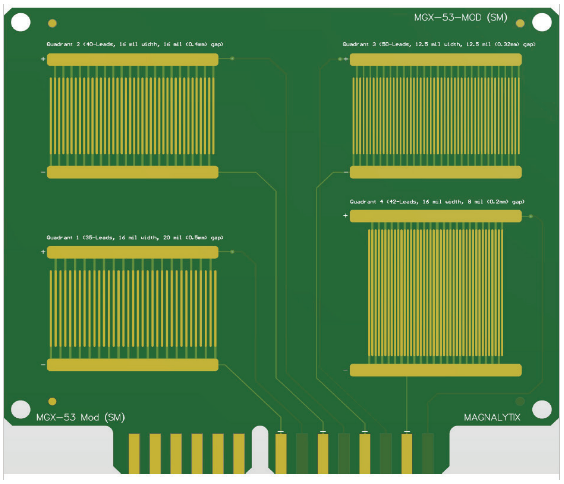
MAGNALYTIX®

MGX B-53 Type II SIR Test Board

Practical Uses

The Magnalytix B-53 Type II test board – similar in design to the B-24 test board - incorporates finer pitch SIR comb patterns in Channels C & D. The finer pitch comb patterns are used to test increased packaging densities, and in many cases higher voltages.



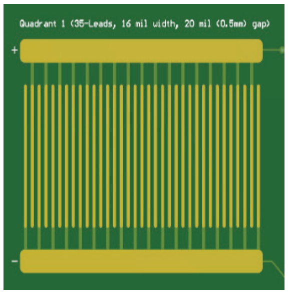
- The solder mask is added as a dielectric material. The SM tests provides a comparison to the non-solder mask version.
- Surface Insulation Resistance (SIR) identifies
  - Measurement of leakage currents across tighter spaces
  - Circuit reliability
  - Characterize and qualify soldering materials
- The MGX B-53 Test board patterns exposes soldering materials to:
  - Accelerated test environments of temperature and humidity under bias
  - SIR is measured between the two metal electrodes on an insulated surface
  - The SIR value is dependent on
    - Test Voltage (Field Strength)
    - Test pattern (Overlap and spacing)
    - Test environment (Temperature and Humidity)

Test Card Comparison

	MGX B-53 Type II SIR Test Board	IPC B-52 SIR Test Board
Quadrant 1	0.4 mm lines - 0.5 mm spaces	Included
Quadrant 2	0.4 mm lines - 0.5 mm spaces	Included
Quadrant 3	3.2 mm lines - 3.2 mm spaces	Not Included
Quadrant 4	0.4 mm lines - 0.2 mm spaces	Included

MGX B-53 Type II SIR Test Board

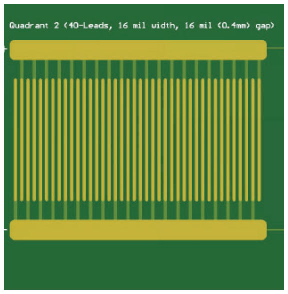
SIR Test Parameters



QUADRANT 1

IPC-B-24 (0.4 mm lines, 0.5 mm Spaces)

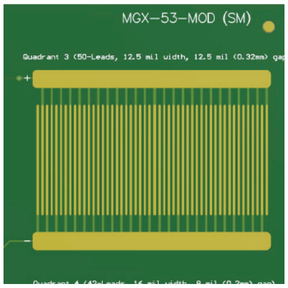
(16 mil line and 20 mil space)



QUADRANT 2

IPC-B-51 (0.4 mm lines, 0.4 mm space)

(16 mil line and 16 mil space)

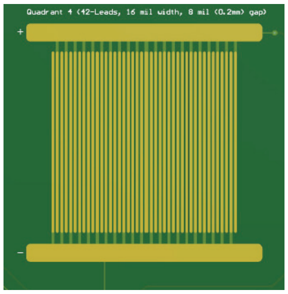


QUADRANT 3

IPC-B-25A, pattern D

(.32 mm line/space)

(12.5 mil lines/spaces)



QUADRANT 4

NPL Test Pattern (400 micron lines, 200 micron spaces)

(16 mil line and 8 mil space)

Component Descriptions

The Magnlaytix B-53 Type II SIR test board finds use in Materials Characterization and Process Control.

- The B-24 test pattern may be used for characterizing fluxes for IPC-J-STD-004.
- B-25A test pattern may be used for characterizing fluxes per JIS standard (Z 3197) as well as Bellcore (Telcordia) specifications.
- The NPL test pattern may be used for characterizing fluxes to IEC-61189-5-502

MGX B-53 Type II SIR Test Board

Each Magnalytix Test Set includes the substrates and components to build complete assemblies needed for 1 standard testing cycle and provide the objective evidence needed to meet IPC J-STD-001G-Am1.

10 Each – MGX B-52 Legacy 2 PCB **|** Reel of 40 – MGX QFN48 **|** Reel of 10 – MGX BGA244
Reel of 10 – MGX QFP160 **|** Reel of 100 – 10pF 0201 **|** Reel of 100 – 10pF 0402 **|** Reel of 100 – 10pF 0603
Reel of 100 – 10pF 0805