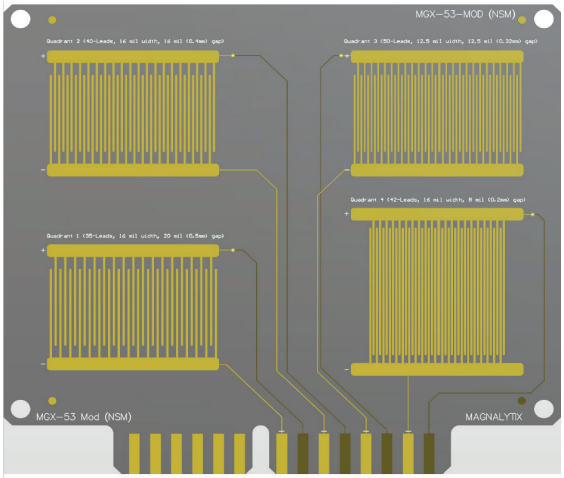
MAGNALYTIX®

MGX B-53 Type I SIR Test Board

Practical Uses



The Magnalytix MGX B-53 Type I test board – similar in design to the B-24 test board - incorporates finer pitch SIR comb patterns in Channels B, C, and D. The finer pitch comb patterns are used to test increased packaging densities, and in many cases higher voltages. Unlike the other B-53 types, B-53 Type I contains no solder mask.

- Surface Insulation Resistance (SIR) identifies
  - Measurement of leakage currents across tighter spaces
  - Circuit reliability
  - Characterize and qualify soldering materials
- The MGX B-53 Type I 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 I SIR Test Board	IPC B-52 SIR Test Board
Quadrant 1	0.4 mm lines - 0.5 mm spaces	Not Included
Quadrant 2	0.4 mm lines - 0.4 mm spaces	Not Included
Quadrant 3	0.4 mm lines - 0.32 mm spaces	Not Included
Quadrant 4	0.4 mm lines - 0.2 mm spaces	Not Included

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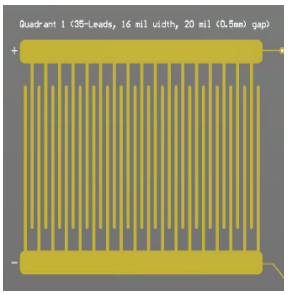
MGX B-53 Type I SIR Test Board

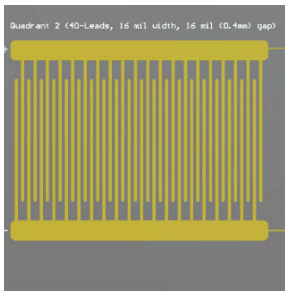
SIR Test Parameters



QUADRANT 1

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

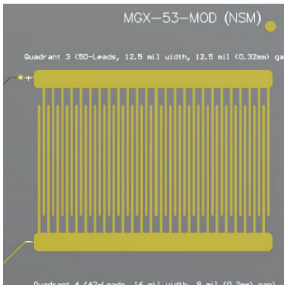
(16 mil line and 20 mil space)



QUADRANT 2

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

(16 mil line and 16 mil space)

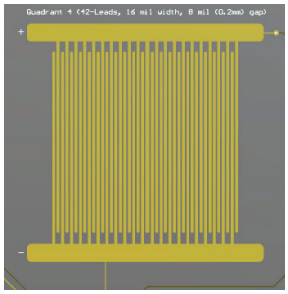


QUADRANT 3

IPC-B-25A, pattern D

(0.4 mm line and 0.32 mm spaces)

(12.5 mil lines/spaces)



QUADRANT 4

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

(0.4 mm line/0.2 mm space)

(16 mil line and 8 mil space)

Component Descriptions

The Magnalytix MGX B-53 Type I SIR test board finds use in Materials Characterization and Process Control.

- **The B-24** test pattern in Quadrant 1 may be used for characterizing fluxes for IPC-J-STD-004.
- The test pattern in Quadrant 2, 3, and 4 are designed to reduce the spacing between conductors to be more representative of today's miniaturized components.
- These patterns may be used for characterizing fluxes per JIS standard (Z 3197) as well as Bellcore (Telcordia) specifications.
- MGX also offers glass slides to be attached over the comb patterns to characterize the flux outgassing across low profile leadless and bottom terminated components.

MGX B-53 Type I SIR Test Board

Each Magnalytix Test Set includes sets of 10 test boards. We also offer glass substrates to cover the comb patterns for testing outgassing characteristics of your solder paste.

10 Each – MGX B-53 Board Only |
10 Each – MGX B-53 Test Boards + 20 glass slides to cover comb patterns

424 Harding Industrial Drive, Nashville, TN 37211, USA