

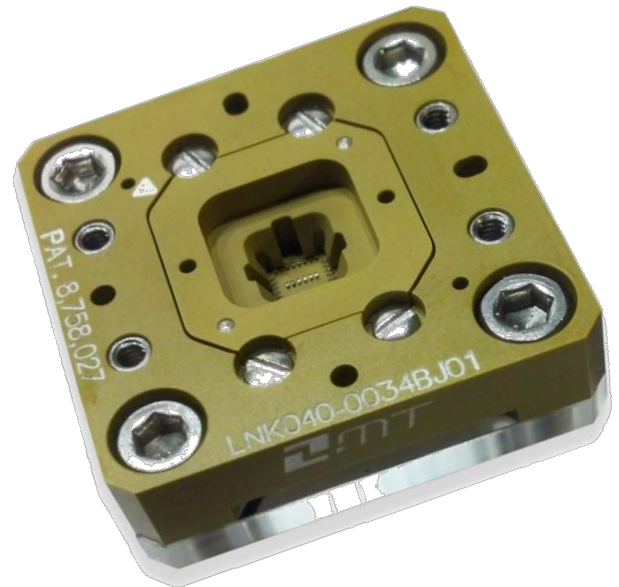
MacroLink Contactor



Footprint-Compatible Solution for Analog, Mixed-Signal, and RF Test

Features:

- contact motion decoupled from the test board
- homogeneous material
- high frequency > 55 GHz @ -1 dB
- for low-noise precision analog, mixed-signal, and RF/wireless measurements
- QFN, DFN, and other pad devices
- SO, SOJ, and QFP leaded devices
- pitches down to 0.35 mm



- long uninterrupted test runs
- site-to-site consistency on a global scale
- scrubs through surface oxides
- short signal path for comparable to solder-to-board performance
- self-cleaning contact tip
- easy field maintenance



RF / Analog



Digital



Power / Sensor



Wafer Level Test



MacroLink Contactor



Footprint-Compatible Solution for Analog, Mixed-Signal, and RF Test

1. Packages and Application

- 1.1 Packages
 - leaded packages: SO, SOJ, and QFP
 - pad packages: QFN and DFN
 - pitch down to 0.35 mm

2. Environmental

- 2.1 Temperature Range
 - -40° C +155° C

3. Reliability*

- 3.1 Component Life
 - contact pins
 - ~800,000 Matte Tin
 - ~300,000 NiPdAu
 - elastomers
 - ~250,000 – 400,000
 - housing life
 - ~5 M insertions/touches
 - load board pad life
 - ~5 M insertions/touches
 - cleaning cycle
 - MTBC ~ 30,000 Matte Tin

4. Electrical

- 4.1 Bandwidth @ -1 dB Insertion Loss
 - 0.4 mm pitch: 55 GHz
 - 0.5 mm pitch: 55 GHz
- 4.2 Return Loss
 - 0.4 mm pitch: 60 GHz @ -10 dB
 - 0.5 mm pitch: 60 GHz @ -10 dB
- 4.3 Isolation between adjacent Links
 - 0.4 mm pitch: -20 dB @ 3.4 GHz
 - 0.4 mm pitch: -10 dB @ 17.5 GHz
 - 0.5 mm pitch: -20 dB @ 3.4 GHz
 - 0.5 mm pitch: -10 dB @ 17.5 GHz
- 4.4 Signal Path Length
 - 2.09 mm
- 4.5 Contact Resistance**
 - 50 mΩ
- 4.6 Current Carrying Capacity
 - 4.5 A with no damage to contactor
- 4.7 Loop Inductance
 - 0.4 mm pitch: 0.55 nH
 - 0.5 mm pitch: 0.7 nH

5. Mechanical

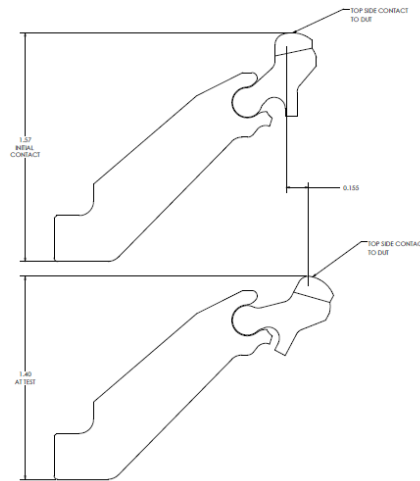
- 5.1 Contact Pitches Supported
 - 0.35 mm – 0.80 mm
- 5.2 Contact Travel and Height
 - contact pin free height: 1.57 mm
 - test height: 1.4 mm
 - contact compression travel: 170 μm
- 5.3 Contact Force at Test Height
 - 0.2 N – 0.3 N (20 g – 30 g)

6. Materials

- 6.1 Housing Material
 - Torlon 4203
- 6.2 Force Bias Material
 - high-compression silicon rubber or Viton
- 6.3 Contact Materials
 - homogeneous alloy

7. Configurations / Interface Options

- 7.1 Automated Test
 - handler-specific design/configuration
 - singulated package
- 7.2 Manual Test
 - manual actuators available



specifications are subject to change without notification and are for reference only. use contactor drawing to design interface hardware.

*cleaning frequency and life specifications are estimates based on customer feedback. actual values are dependent on the application (DUT materials, handler kit, maintenance, etc.)

** typical resistance measured between Au plated sheets

All performance figures such as MTBF, MTBA, Uptime, Yield, Jam Rate, Life Span, Cleaning Cycles etc. can vary with specific package type, test program and / or specific application environment. They assume that only original Multitest spare and consumable parts are used, recommended maintenance intervals and procedures are respected, operators/maintenance technicians have successfully participated in formal equipment training by Multitest to the appropriate level, and only Multitest approved software is used on the systems. Multitest assumes no warranty or liability if any of these requirements is not met. All listed data are for information only. For binding specification please contact your sales person

