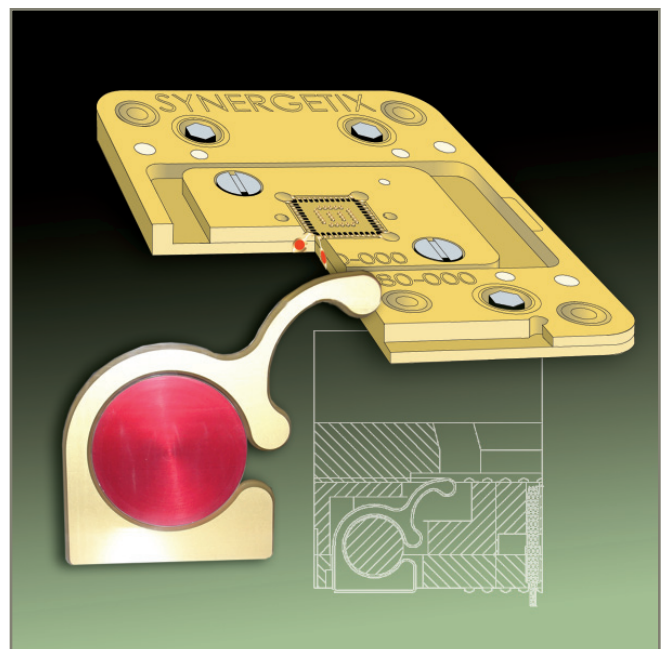


Dyno™ Test Sockets for QFN Devices





INTERCONNECT DEVICES, INC.

Revolutionizing the Test of Leadless Devices

The patent pending Dyno™ Test Socket employs an innovative contact design that moves significantly across the surface of the device lead during compression. This ensures low and consistent contact resistance and high first pass yields in even the harshest and most demanding applications.

Designed for Efficiency

The Dyno contact is a monolithic element which derives compliance to the load board from a simple elastomeric rod and device compliance from a painstakingly crafted contact bending effect. The Dyno is capable of hundreds of thousands of compressions without fatigue.

Because the contact tip scrubs across the device lead with each compression, contaminants and tin oxides are wiped from both the lead and the contact surface, ensuring a low and consistent resistance and high yields throughout the contact's life. Minimal cleaning is required, and the user may expect the contact to deliver cycle after cycle with little attention.

RP Dyno

The standard Dyno has a wide, stable base which provides optimal contact to the load board and creates a strong leverage base for the powerful dynamic action of the contact. However, it creates a board footprint which is incompatible with many competitive solutions.

The Reduced Pad (RP) Dyno contact will allow for successful matching to most existing test board footprints. Alterations have been made to the base of the Dyno design to replicate the board contact point most commonly seen in the field.

Designed to be a transitional product allowing usage of existing load boards, the RP Dyno exhibits much the same performance and reliability as the standard Dyno product.

The Endura Advantage

The Dyno contact is a shaped metal, beryllium copper contact featuring IDI's Endura plating. This proprietary plating provides a contact surface that is more resistant to debris build up in lead free device testing.

A Long-Lasting Test Socket

The Dyno Test Socket requires minimal cleaning and has a mechanical life of over 500,000 cycles. Its unique design provides a slight wiping action on the device to penetrate contaminants and oxides on the hard, lead-free surfaces. Because compliance to the load board is derived from the elastomer and isolated from the movement of the contact tip, board scrub is minimized and board pad life should be relatively infinite.

Easy Contact Replacement

With a cycle life well in excess of 500,000 insertions, the Dyno contact and silicone elastomer do not require frequent refurbishment. However, should the need arise both items are field replaceable with relative ease. The Dyno contacts can be individually replaced.

Dyno Contacts and Probes in a Single Socket

The Dyno contact is designed to be compatible with the Synergetix flagship, the 3-piece probe. The peripheral leads on the QFN can be tested with the Dyno contact and the ground pad in the center of the device can utilize our 101267 probe.

Fast Delivery Time

IDI designs its Synergetix® test sockets in one week and generally ships within three weeks after the design is approved.

Higher First Pass Yields Lower Cost of Test

Discover how you can get an innovative solution to testing lead free devices with Dyno Test Sockets. Call us today at 913-342-5544.

The Dyno Difference

Only IDI has the Dyno contact – a revolutionary breakthrough in high-performance QFN testing.

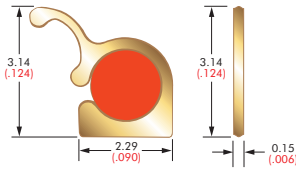
- Patent-pending design
- Resistance < 20 mΩ against a matte-tin device
- Bandwidths > 10GHz @ -1 dB on 0.40mm pitch and 0.50mm pitch
- Mechanical life > 500,000 cycles
- Endura plating resists solder build-up
- Wiping action ensures good device contact with minimal board side wipe
- Requires minimal cleaning

Advantages of Dyno QFN Test Sockets

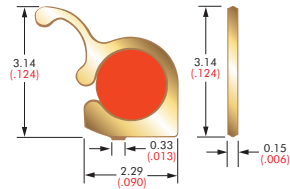
With IDI's Dyno Test Sockets for QFN testing, you get significant advantages over any competitive technology.

- Self-cleaning contact design
- Compatible with existing offset load boards
- Unmatched reliability
- Fast delivery time

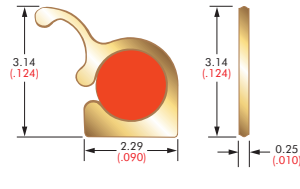




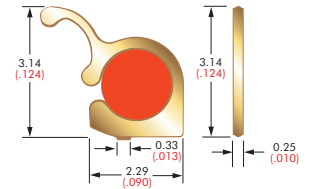
0.4mm Dyno



0.4mm RP Dyno



0.5mm Dyno



0.5mm RP Dyno

MECHANICAL SPECIFICATIONS

Minimum Device Pitch: 0.40 (.016)
 Signal Path Length: 2.92 (.115)
 Force per Contact: 40g (1.5 oz.) @ 0.38 (.015) travel
 Device Compliance: 0.23 (.009)
 DUT Board Compliance: 0.15 (.006)
 Operating Temperature: -55°C to 150°C
 Insertions: >500,000

MATERIALS

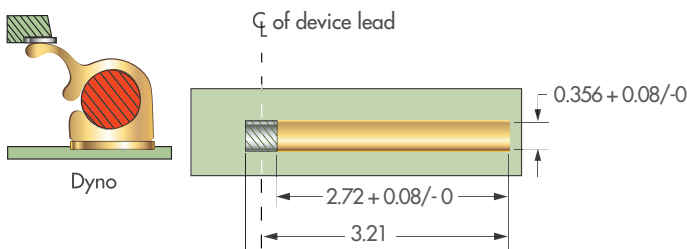
Contact: Beryllium copper, Endura plated
 Insulator: Silicone

ELECTRICAL SPECIFICATIONS

Typical Resistance: < 20 mΩ
 Current Carrying Capacity: 5 amps continuous
 (Current DC carry capability @ 80° C steady state)
 Pattern 2a: **R S R** (at 0.4mm pitch)
 Characteristic Impedance: 34Ω
 Time Delay: 37 pSec
 Loop Inductance: 1.51 nH
 Signal Pin to Return Capacitance: 0.90 pF
 1dB Insertion Loss Bandwidth: >10 GHz

TEST BOARD LAYOUTS

DYNO



MECHANICAL SPECIFICATIONS

Minimum Device Pitch: 0.50 (.020)
 Signal Path Length: 2.92 (.115)
 Force per Contact: 85g (3.0 oz.) @ 0.38 (.015) travel
 Device Compliance: 0.23 (.009)
 DUT Board Compliance: 0.15 (.006)
 Operating Temperature: -55°C to 150°C
 Insertions: >500,000

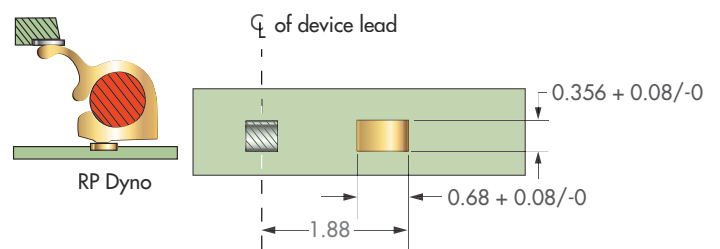
MATERIALS

Contact: Full-hard beryllium copper, Endura plated
 Insulator: Silicone

ELECTRICAL SPECIFICATIONS

Typical Resistance: < 20 mΩ
 Current Carrying Capacity: 5 amps continuous
 (Current DC carry capability @ 80° C steady state)
 Pattern 2a: **R S R** (at 0.5mm pitch)
 Characteristic Impedance: 34Ω
 Time Delay: 48 pSec
 Loop Inductance: 1.74 nH
 Signal Pin to Return Capacitance: 1.34 pF
 1dB Insertion Loss Bandwidth: >10 GHz

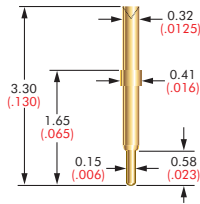
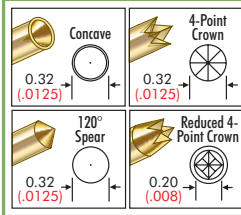
RP DYNO





101267 GROUND PROBE

DEVICE SIDE TIPS



PROBE SPECIFICATIONS

Minimum Device Pitch: 0.50 (.020)
 Signal Path Length: 2.92 (.115)
 Force per Contact: 24g (0.86 oz.),
 27g (0.94 oz), 32g (1.10 oz.), or
 37g (1.30 oz.) @ 0.38 (.015) travel
 Device Compliance: 0.23 (.009)
 DUT Board Compliance: 0.15 (.006)
 Operating Temperature:
 -55°C to 150°C for stainless steel
 -55°C to 85°C for music wire
 Insertions: >500,000

MATERIALS

Barrel: Full-hard beryllium copper, Endura plating
 Spring:
 Stainless steel, gold plated – 24g & 27g spring
 Music wire, gold plated – 32g & 37g spring
 Plunger: Full-hard beryllium copper, gold plated

ELECTRICAL SPECIFICATIONS

Typical Resistance: <40 mΩ
 Current Carrying Capacity: 5 amps continuous
 (Individual probe in free air @ ambient temperature)

HOW TO ORDER

Part No.	Device Side Tips				Spring Force			
	120° Spear Point	Concave	4-Point Crown	Reduced 4-Point Crown	24 gram	27 gram	32 gram	37 gram
101267-200		X			X			
101267-202			X		X			
101267-203	X				X			
101267-206			X				X	
101267-208				X				X
101267-209				X		X		

