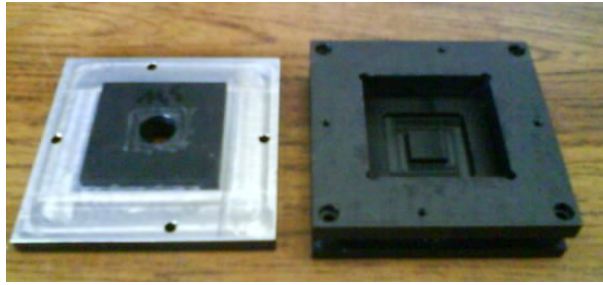


WINSLOW ADAPTICS

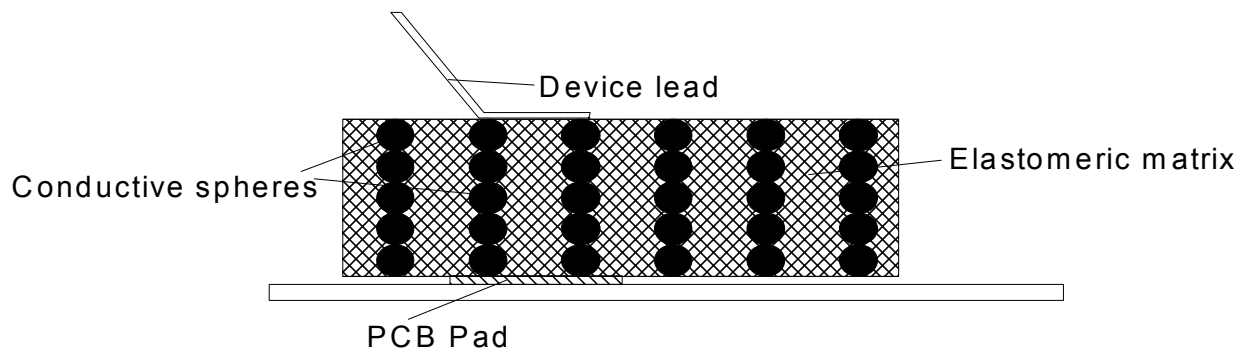


Introduction

The Winslow Adaptics range of Elastomeric test sockets have been specifically developed to provide an interface between leaded, non leaded, small count BGA or custom packages where a standard test and burn in socket is not generally available in the market place. The sockets use an anisotropic membrane to provide a low ohmic and highly reliable connection between the device under test and the test adapter.

Anisotropic Membrane

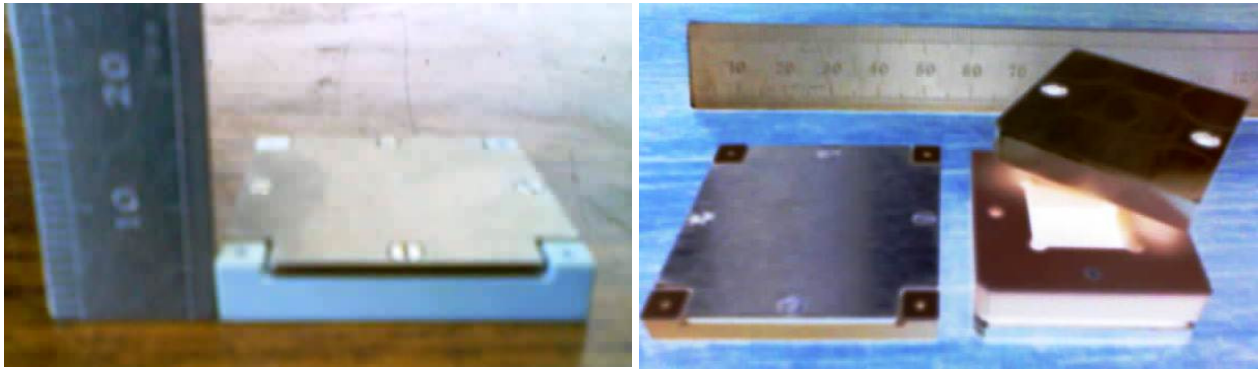
The heart of the test socket is the anisotropic membrane. This comprises of highly organised conductive columns of spherical particles supported in an elastomeric matrix. These columns provide a compliant interconnect between the pads and or leads on the device under test and the adapter printed circuit board. (See figure 1)



The use of spheres within the elastomeric matrix, as opposed to wires, which can be found in a number of other products, means that the interconnect does not take a "Set", even under short term overloading conditions. This results in highly repeatable interconnections and very high cycle life of the product. The material is however only approx. 0.010" thick and with a compression ratio of 10% this gives a very low deflection. This makes the interconnect especially suitable for the flat pads and leads but not for large pin count BGA devices especially where the coplanarity of the balls can be as large as +/- 0.004". In these instances interposers have to be introduced between the device and the membrane to ensure consistent connectivity.

Temperature cycle tests (-40C to +130C) have been conducted with the material with no degradation of resistivity similarly tests have also been conducted to frequencies up to 40Mhz where to losses measured were approx. 1dB.

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Sockets

The sockets produced generally fall into three categories; open top, screw top and clam shell depending on the customer application.

Open Top

These are used with robotic test and or programming where the robotic arm holds the device in the socket during the test phase.

Screw Top

The simplest of the closed sockets, these are primarily used where customers are not taking the device in and out of the socket at a high repetition rate. These are especially suitable where access is required to the top of the device under test or where specific consideration has to be taken as to how the device is held onto the elastomer (i.e. the test of salvage or old devices where the lead co-planarity is suspect.)

Clam Shell

Used where the insertion rate into the socket is high.

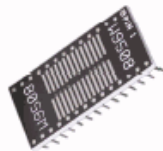
The customer interface with the socket adapter can be in almost any methodology, topography and configuration.

Suitable Devices

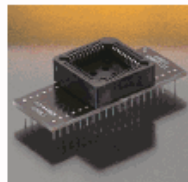
All types of surface mount devices have been successfully socketed using the elastomeric technology. Only in the case of high ball count BGAs, where co-planarity of the balls presents a problem have difficulties been encountered and these have been overcome with the use of interposers.



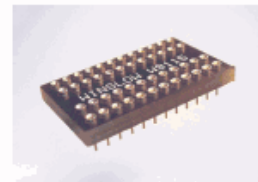
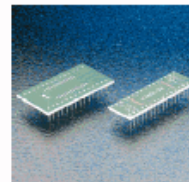
Custom Upgrades



Package



Conversion



Pitch Change

Also available from Winslow Adaptics are cost effective, time saving solutions to test, obsolescence, supply problems and upgrades. OEMs can upgrade equipment with custom Adaptics utilising additional logic, often saving considerable cost and time on re-design. If lead-time becomes an issue contact us for a suitable package converter. We specialise in conversion of all package lead-frames.