

## Top Load Socket Cuts Tooling Costs and Delivery Times Dramatically



Aries Electronics now offers a revolutionary, [top load burn-in socket](#) [1] that saves significant time and money (over conventional top-load sockets) for new IC pin-out designs. With delivery in only four weeks and tooling costs of only two-hundred dollars, Aries' new top load socket enables designers to dramatically reduce development and production costs that used to take up to three months and run over \$30,000.

Based on a modular design, the new socket can easily be configured to accommodate devices on 0.3 mm pitch and higher, and can be employed virtually any SMT device including BGA,  $\mu$ BGA, QFN, LGA and bare dies as well as a number of other devices like those used for MEMS testing with high acceleration rates.

In addition to the time and cost savings, the new top load socket helps reduce device damage for equipment under test (EUT) by minimizing several points of over-compression and errors in device insertion.

Devices are loaded and unloaded on the top of the socket without compressing the socket or holding it down. When engaged, the socket also avoids over-compression with pressure pads that cover a larger surface area to distribute force on the device. A built-in hard stop also reduces insertion force on the PCB.

The socket comes in a top load configuration, ready for device insertion, so no special tooling or push plates are required. The manual dual latches can be removed to allow the socket to open when the force is removed for efficient and quick testing of multiple devices. These sockets are easy to mount and remove from the test board thanks to two specifically located stainless steel alignment pins that are extremely precise. The sockets' relatively low cost and small overall size allow the maximum number of sockets per BIB (burn-in board) and BIBs per oven, while remaining operator friendly.

The compression spring probes leave minimal witness marks on the bottom surface

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Published on Wireless Design & Development (<http://www.wirelessdesignmag.com>)

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of the device pads for increased reliability. Compression spring probes are constructed of heat-treated beryllium-copper, and plated with a minimum of 30 micro inches (0.75 micro mm) gold per MIL-G-45204 over a minimum of 30 micro inches (0.75 micro mm) nickel per SAE-AMS-QQ-N-290.

Contact forces are 15 g per contact on a 0.30 mm to <0.40 mm pitch; 16 g per contact on a 0.40 mm to <0.50 mm pitch and 25 g per contact on pitches of 0.50 mm or larger. Estimated contact life is a minimum of 500,000 cycles and operating temperature is -55°C to +150°C (-67°F to +302°F).

[www.arieselec.com](http://www.arieselec.com) [2]

Posted by Sara Cohen, Editorial Intern

July 10, 2012

**Source URL (retrieved on 04/19/2014 - 9:58am):**

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**Links:**

[1] [http://www.arieselec.com/Web\\_Data\\_Sheets/23024/23024.htm](http://www.arieselec.com/Web_Data_Sheets/23024/23024.htm)

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