

M4871 Pick-and-Place Handler

New handler allows a single-source supply of integrated test cells for SoC devices



Achieving the most economical, productive and flexible test solutions for advanced system-on-chip (SoC) devices – including power-management ICs, application processors and microprocessor units – requires an integrated test cell, combining a high-performance test platform with a compatible, versatile handling system to achieve maximum throughput at the lowest possible cost of test. ADVANTEST, the world leader in semiconductor test equipment, offers this solution with its M4871 pick-and-place handler.

Industry-leading capabilities

The M4871 handler features a variety of capabilities for improving test yields and reducing cycle times. An advanced visual-alignment function enables positioning accuracy of below 0.3 mm ball/pad pitch for handling fine-pitch semiconductors and devices with both top- and bottom-side contacts. This precise alignment capability also helps to speed up set-up and calibration times for greater test-cell productivity.

Through its highly efficient operation, the handler can provide users with 20 or more additional hours of productive testing time per day, achieving greater overall equipment effectiveness (OEE) and reducing the cost per device. For instance, downtime from potential jams is minimized by the system's thermal technology dual-fluid design, which can save an hour or more in temperature ramping compared to chamber-based handlers.

Active thermal control

Using ADVANTEST's Tri-Temp technology, the M4871 handler can operate over a broad range of temperatures. It can run at -10° C for up to 14 days without defrosting, reducing the need for this scheduled maintenance step to approximately twice a month compared to 10 or more times per month for handlers that use liquid nitrogen. In addition, the defrosting cycle can be completed in less than 10 minutes whereas other systems can require two hours or more.



Designed for maximum productivity

In its basic configuration, the M4871 can handle eight DUTs in parallel for a total throughput of up to 8,000 devices per hour. The field-upgradeable design enables quick and easy enhancements to increase parallelism as high as 32X, handle higher-pin-count devices, achieve greater power efficiency in temperature control, reduce the cost of change-over kits and make other improvements over the life of the handler.

In addition, a handler data visualization framework allows real-time monitoring of the entire test cell's production status from any internet connection.

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