



Applied Test Resources

PM2000 High Voltage Power Source

The PM2000 is a high voltage power source capable of supplying up to 2000 V and sourcing 10mA to a load. The high potential at 2 kV fulfills coverage for mostly all semiconductor devices where leakage and breakdown measurements are involved. The module has been incorporated with interlock feature to ensure safety.

The PM2000 operates with an onboard controller, which relieves the system CPU of performing many functions necessary for module operation. The result is higher efficiency of CPU and faster execution of the module commands. All measurements use the "Zero Time Average" (ZTA) circuit (patent pending) that allows for a measurement time of less than 250 us to the full 16-bit resolution. ZTA enables the PM2000 to obtain the repeatability of using 20 to 50 measurements and averaging the results, with a single measurement.

The PM2000 implements a calibration method called Hardware Error Correction (HEC) (patent pending). This method performs a full calibration, correcting errors for every code, as opposed to the more traditional two-point calibration of offset and gain correction. This method uses no CPU time, which accelerates the forcing and measurement functions.

SPECIFICATIONS

Force Mode Specifications*		Measure Mode Specifications*	
Maximum Output Voltage	2000 V	Maximum Voltage	2000 V
Maximum Output Current	10 mA	Maximum Current	10 mA
Programming Resolution	14 Bits	Measure Resolution	16 Bits
50 Volt Range	$\pm 0.05\%$	Current Ranges	1 μ A, $\pm 0.2\%$
100 Volt Range	$\pm 0.05\%$		10 μ A, $\pm 0.2\%$
500 Volt Range	$\pm 0.05\%$		100 μ A, $\pm 0.2\%$
1000 Volt Range	$\pm 0.05\%$		1 mA, $\pm 0.2\%$
2000 Volt Range	$\pm 0.05\%$		10 mA, $\pm 0.2\%$
		Voltage Ranges	50 V, $\pm 0.2\%$
			100 V, $\pm 0.2\%$
			500V, $\pm 0.2\%$
			1000V, $\pm 0.2\%$

*All specifications are subject to change without notice.
Publishing Date: May 26, 2004