Applied Test Resources

PM0825

Multiple (8) High Power Four Quadrant Power Source

The PM0825 consists of 8 fully independent four-quadrant power sources capable of supplying up to ±20V. Two of the sources are capable of up to 500mA each, four more are capable of performing at low levels with ranges of 1uA and 100uA; the remaining two are mid range with current ranges of 1mA and 100mA. The PM0825 is designed to cover a wide range of requirements within on resource. All the modules are of continuous type, however, they are thermally protected and will go into a shutdown mode if the temperature on the output transistors gets to dangerous levels.

The measurement function has a patent pending circuit called the "Zero Time Average" (ZTA) circuit that allows for a measure time of less than 250 us to the full 16 bit resolution. ZTA enables the PM0825 to obtain the repeatability of using 20 to 50 measurements and averaging the results, with a single measurement.

The patent pending calibration method implemented on the PM0825 corrects for errors in a way that uses no CPU time, speeding up the forcing and measurement functions. This method also implements a full calibration, correcting the errors for every code, not just the more traditional 2-point calibration of offset and gain correction.

SPECIFICATIONS

Force Mode Specifications*		**Measure Mode Specifications***	
Maximum Output Voltage	±20 V	Maximum Voltage	±20 V
Maximum Output Current	Two sources ±500mA, Two sources ±100uA, Four sources ±100mA	Maximum Current	±500 mA
Programming Resolution	14 Bits	Measure Resolution	16 Bits
Current Ranges		Current Ranges	1 mA
PMA & PMB	500mA & 50mA	PMA & PMB	500mA & 50mA
PMC, PMD	100mA & 1mA	PMC, PMD	100mA & 1mA
PME, PMF, PMG & PMH	100uA & 1uA	PME, PMF, PMG & PMH	100uA & 1uA
Voltage Ranges	2 V	Voltage Ranges	2 V
	20 V		20 V
		Input Impedance	1 Meg. Minimum
Accuracy		**Accuracy**	
Current	±(1% of Range + 50nA) for 1mA Range and lower ±(0.1% of Range + 300nA) for 100mA Range and higher	Current	±(1% of Range + 50nA) for 1mA Range and lower ±(0.1% of Range + 300nA) for 100mA Range
Voltage	±(0.05% of Range + 100uV)	Voltage	±(0.05% of Range + 100uV)
Settling Time	<1 ms	Acquisition Time	250 us
Range Change Time	5 ms	Range Change Time	5 ms
Programming Time	20 us	Programming Time	20 us
Connect Time	5 ms	Connect Time	5 ms

*All specifications are subject to change without notice.
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