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Data Sheet

August 13, 2026

KEITHLEY

Keithley 2304A

Keithley 2304A High Speed Precision Readback Power Supply 20 V 5 A 100 W The 2304A is a 100 W high-speed precision readback DC supply optimized for battery-operated wireless devices that draw short, large load pulses. It sources 0 to 20 V at 5 A continuous in normal response (0 to 15 V in enhanced response), sinks up to 3 A, recovers from 1000% load steps in tens of microseconds, and measures pulse peak, average, and baseline current down to 100 nA class sensitivity. GPIB (SCPI) programming. Do not confuse with 2303 (45 W). The 2304A is a 100 W high-speed precision readback DC supply optimized for battery-operated wireless devices that draw short, large load pulses. It sources 0 to 20 V at 5 A continuous in normal response (0 to 15 V in enhanced response), sinks up to 3 A, recovers from 1000% load steps in tens of microseconds, and measures pulse peak, average, and baseline current down to 100 nA class sensitivity. GPIB (SCPI) programming. Do not confuse with 2303 (45 W). Cellular-handset and portable-device battery-rail simulation; charger and charger-control sink tests; pulse-current profiling of sleep and transmit bursts; ATE power with simultaneous DVM input.



MODEL

Keithley 2304A

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

2304A

LISTING

<https://aumictechlabs.com/products/2304a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Keithley 2304A is a 100 W precision power supply engineered for automated testing of battery-powered devices. It sources 0-20 V DC at 0-5 A while simultaneously sinking up to 3 A, making it ideal for simulating battery behavior and characterizing power consumption during

dynamic load transients. Fast transient response - recovery within 100 mV in 40 μ s or less - combined with 100 nA DC current measurement sensitivity and 0.2% basic accuracy enables comprehensive analysis of wireless communication devices and portable electronics experiencing rapid current fluctuations. The instrument measures current pulses from 60 μ s to 833 ms duration, capturing peak, average, and baseline values with 33.3 μ s resolution. Load regulation of 0.01% + 2 mV and line regulation of 0.5 mV ensure stable voltage delivery across test scenarios.

Technical Specifications
Power Output: 100 W Voltage Range: 0-20 V DC Current Source: 0-5 A Current Sink: Up to 3 A Basic Accuracy: 0.2% Load Regulation: 0.01% + 2 mV Line Regulation: 0.5 mV Voltage Stability: 0.01% + 0.5 mV Transient Recovery (Enhanced Mode): <40 μ s to 100 mV; <80 μ s to 20 mV Current Measurement Sensitivity: 100 nA DC Pulse Measurement Range: 60 μ s to 833 ms Integration Resolution: 33.3 μ s Dimensions: 89 × 213 × 360 mm

Key Features
Dual-sourcing and sinking capability for realistic battery simulation and charger testing Sub-microsecond transient response mimics battery behavior under intermittent high-power loads Precision low-current monitoring down to 100 nA for sleep-mode characterization Continuous pulse measurement integration capturing peak, average, and baseline current Programmable voltage and current sourcing via GPIB interface

Typical Applications
Battery charger development and validation Cellular phone and wireless device power consumption analysis Dynamic load simulation and transient response characterization Sleep-mode and intermittent-duty-cycle current profiling

Compatibility & Integration
GPIB interface for automated control and data logging Optional remote display/keypad with 9 ft cable

Features & description

From manufacturer datasheet

Features

- Ultra-fast transient response to 1000% load steps
- Pulse peak, average, and baseline current measurements
- Independent DVM input on the rear terminal block
- Sink mode to emulate a discharged rechargeable battery
- Five user-definable power-up states
- Relay-control jack for external switching

2304A Characteristics / Specifications

PARAMETER	VALUE
Model	2304A
Manufacturer	Keithley Instruments
Instrument Type	High speed precision readback DC power supply
Alias	2304A; Keithley 2304A
Output voltage normal	0 to +20 V DC
Output voltage enhanced	0 to +15 V DC
Output current continuous	5 A
Maximum power	100 W
Voltage output accuracy	$\pm(0.05\% + 10 \text{ mV})$
Voltage programming resolution	5 mV
Voltage readback accuracy	$\pm(0.05\% + 10 \text{ mV})$
Voltage readback resolution	1 mV
Voltage settling time	5 ms to within stated accuracy
Load regulation voltage	0.01% + 2 mV
Line regulation voltage	0.5 mV
Voltage stability	0.01% + 0.5 mV
Transient recovery normal	less than 50 μs to within 100 mV of previous level (1000% load change)
Transient recovery enhanced	less than 40 μs to within 100 mV of previous level
Current source compliance accuracy	$\pm(0.16\% + 5 \text{ mA})$
Current programming resolution	1.25 mA
Current readback 5 A range	$\pm(0.2\% + 1 \text{ mA})$, 100 μA resolution
Current readback 5 mA range	$\pm(0.2\% + 1 \text{ }\mu\text{A})$, 0.1 μA resolution
Current sink capacity	3 A max (normal); 1 A (enhanced)
DVM input range	0 to +20 V DC
DVM reading accuracy	$\pm(0.05\% + 10 \text{ mV})$

PARAMETER	VALUE
DVM reading resolution	1 mV
DVM input impedance	10e10 ohm typical
DVM max vs output low	-3 V, +22 V
AC input	100 V to 240 V AC, 50 or 60 Hz auto detected
Power consumption	200 VA max
Isolation low to earth	22 V DC max
Relay control	2 channel, sink 150 mA max, 15 V max
Rear connector	8-position quick disconnect (output 4, sense 2, DVM 2)
Programming	IEEE-488.2 SCPI
Related model	2303 (45 W, 15 V / 3 A or 9 V / 5 A)

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications	
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Notes

Specs from Keithley 2303 / 2304A High Speed Power Supplies data sheet at 23 C ±5 C, 2 years. Confirm normal versus enhanced output-response mode on the unit.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

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NIST-traceable calibration · SAM registered ·
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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.