

KEITHLEY

237

The Keithley 237 is a high-voltage Source-Measure Unit (SMU) designed for simultaneous sourcing and measuring of voltage or current. Acting as four instruments in one, it offers four-quadrant operation with voltage capability up to 1100V and current up to 100mA, alongside advanced sweeping, pulsing, and 4-terminal measurement capabilities.

SPECIFICATIONS

General

Interfaces	IEEE-488
Warm-up Time	1 hour (to rated accuracy)

Physical

Operating Temperature	0 to 50 °C
Cooling	Forced air (internal fan)

Voltage Sourcing Specifications

Voltage Source Ranges	$\pm 1.1\text{ V}$, $\pm 11\text{ V}$, $\pm 110\text{ V}$, $\pm 1100\text{ V}$
Maximum Voltage Source	1100 V
Minimum Voltage Source	100 μV
Load Capacitance Stability	20,000 pF (typical)

Current Sourcing Specifications

Current Source Ranges	$\pm 1\text{ nA}$, $\pm 10\text{ nA}$, $\pm 100\text{ nA}$, $\pm 1\text{ }\mu\text{A}$, $\pm 10\text{ }\mu\text{A}$, $\pm 100\text{ }\mu\text{A}$, $\pm 1\text{ mA}$, $\pm 10\text{ mA}$, $\pm 100\text{ mA}$
Maximum Current Source	100 mA (10 mA maximum in higher voltage ranges)
Minimum Current Source	100 fA

Voltage Measurement Specifications

Measurement Sensitivity (Voltage)	10 μV
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Current Measurement Specifications

Measurement Sensitivity (Current)	10 fA
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Sweep and Pulse Characteristics

Source Operation	Four Quadrant
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System Speeds and Timing

Maximum Source/Measure Rate	1000 / second
Minimum Source-Delay-Measure Cycle Time	1 ms
Maximum Reading Rate (to Internal Buffer)	1 ms per point
Memory Buffer Size (Readings)	1000

Connectivity and Interfaces

Output Floating Range	Up to ±200 V from ground
Maximum Common Mode Voltage	200 V

Performance

Maximum Output Power	11 W
Best Voltage Measurement Resolution	10 µV (on 1.1 V range)
Best Current Measurement Resolution	10 fA (on 1 nA range)
Best Voltage Source Resolution	100 µV (on 1.1 V range)
Best Current Source Resolution	100 fA (on 1 nA range)
Input Impedance	>10 ¹⁴ Ω

Control & Triggering

Trigger Sources	Front panel, IEEE-488 bus, External (BNC)
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Measurement

Measurement Sensing	Selectable 2-wire (local) or 4-wire (remote)
Guard Output	Driven guard

Safety & Protection

Safety Interlock	Required for 1100V high-voltage operation
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Inputs & Outputs

External Trigger Connections	BNC (Trigger In / Trigger Out)
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Environmental

Storage Temperature	-25°C to +65°C
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TECHNOLOGY

Source-Measure Unit (SMU)

APPLICATIONS

Semiconductor and Component Characterization

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.