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Data Sheet

August 15, 2026

AGILENT / KEYSIGHT

Agilent/Keysight E5270A

Keysight / Agilent E5270A 8-Slot Precision Measurement Mainframe The Keysight/Agilent E5270A is an 8-slot precision measurement mainframe for modular parametric / precision DC source-measure modules used in semiconductor device characterization. OEM parametric test literature positions the E5270A as the host chassis for E528x/E529x-class SMU modules with shared triggering, force/sense cabling architecture, and workstation control. Semiconductor parametric characterization, precision IV measurements, and multi-channel SMU-based device testing. The Keysight/Agilent E5270A is an 8-slot precision measurement mainframe for modular parametric / precision DC source-measure modules used in semiconductor device characterization. OEM parametric test literature positions the E5270A as the host chassis for E528x/E529x-class SMU modules with shared triggering, force/sense cabling architecture, and workstation control. Semiconductor parametric characterization, precision IV measurements, and multi-channel SMU-based device testing. Precision force sense measurement architecture



MODEL

**Agilent / Keysight
E5270A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

E5270A

LISTING

<https://aumictechlabs.com/products/e5270a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight E5270A is an 8-slot mainframe for high-speed DC parametric measurements and device characterization. This fully configurable platform integrates multiple Source/Monitor Unit (SMU) modules to deliver flexible IV characterization, pulsed measurements, and material analysis across research, development, and production environments. The mainframe

architecture combines a high-resolution ADC shared across all installed modules with dedicated high-speed ADCs on each SMU, enabling accelerated testing with measurement resolution as low as 0.5 μ V and 0.1 fA depending on measurement range.

Technical Specifications Mainframe Architecture 8-slot modular design supports up to eight single-slot or four dual-slot modules, or combinations thereof

High-resolution and high-speed ADC architecture for precision measurements

16 general-purpose digital I/Os

Enhanced program memory for accelerated test sequences

Self-test, self-calibration, and diagnostics capabilities

Power and Ground AC input: 90 V to 264 V, 47 Hz to 63 Hz

Maximum module power consumption: 80 W total

Maximum output power: 80 W

Maximum common-to-ground voltage: ≤ 42 V

Integrated Ground Unit (GNDU): 0 V ± 100 mV output, 4 A maximum sink current (Triaxial/Kelvin connection)

Pulsed Measurement Range Pulse width: 500 μ s to 2 s

Pulse period: 5 ms to 5 s

Pulse resolution: 100 μ s

Key Features

Dual-tier ADC topology - shared high-resolution converter plus module-integrated high-speed measurement

Modular SMU architecture supports High Power (2 mV–200 V, 10 fA–1 A), Medium Power (2 mV–100 V, 10 fA–200 mA), and High Resolution configurations

Front-panel interface for spot measurements alongside programmed test automation

Typical Applications Semiconductor device characterization and parametric testing

Material property measurement and research

Production-level IV curve acquisition

Pulsed-bias device analysis

Compatibility & Integration

Supported modules include the E5280A High Power SMU (2-slot), E5281A Medium Power SMU (1-slot), High Resolution SMU (HRSMU), and Atto Sense/Switch Unit (ASU). User-selectable module combinations enable tailored solutions for specific measurement requirements.

E5270A Characteristics / Specifications

PARAMETER	VALUE
Model	E5270A
Instrument Type	Precision measurement mainframe
Slot Count	8
Platform Family	E5270 parametric / precision measurement
Module Family Class	E528x / E529x SMU modules
Measurement Role	Host chassis for precision IV source-measure
Channel Expansion	Up to eight module slots populated
Control Architecture	Workstation / GPIB class parametric control
Kelvin Force Sense Support	Kelvin force/sense cabling class
Triggering	Shared mainframe trigger architecture
Installed Options	Determine final calibrated configuration
Safety Class	Observe published maximum ratings
Chassis Form	Benchtop/rack precision mainframe
Brand Lineage	Keysight / Agilent
Related Modules	E5281A and sibling SMU plug-ins
Power Architecture	Mainframe AC powered module bus
Operating Temperature Spec Class	Follow E5270 system sheet
Documentation Scope	OEM E5270 Series parametric documentation
Installed Modules	Determine voltage/current ranges and resolution
Warmup Spec Class	Follow module and mainframe warm-up requirements
Remote Interfaces	GPIB/LAN class host control path
Safety Interlock Class	Parametric SMU interlock architecture
Firmware Class	E5270 mainframe firmware revision dependent
Operating temperature	Spec Class: Follow E5270 system sheet

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
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Firmware Class	E5270 mainframe firmware revision dependent Notes From Keysight/Agilent E5270 Series precision measurement mainframe documentation. Numeric IV ranges belong to installed SMU modules (for example E5281A), not the empty mainframe.

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.

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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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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.