

KEYSIGHT TECHNOLOGIES (AGILENT HP)

E5250A

The Keysight E5250A (formerly Agilent E5250A) is a Low Leakage Switch Mainframe designed for automated parametric testing and semiconductor device characterization. It accommodates up to four plug-in cards, supporting expansive matrix configurations with extremely low leakage currents to ensure precise CV and IV measurements.

SPECIFICATIONS

General

Interfaces	GPIB (IEEE-488)
Display	20-character x 2-line Vacuum Fluorescent Display (VFD)
Warm-up Time	30 minutes
Cooling System	Internal cooling fan

Physical

Power Supply	90 V to 264 V AC, 47 Hz to 63 Hz, 75 VA maximum
Operating Temperature	5 °C to 40 °C °C
Dimensions (W×H×D)	426 mm × 132.5 mm × 448 mm mm
Weight	9 kg kg

System Architecture & Capacity

Number of Module Slots	4 slots
Compatible Card Modules	E5252A Matrix Card, E5255A Multiplexer Card
Analog Bus Configuration	6 internal analog paths
Maximum E5252A Matrix Size	6 inputs x 40 outputs (using 4 cards)
Maximum E5255A Multiplexer Channels	96 channels (using 4 cards)

Backplane Electrical Specifications

Maximum Voltage	200 V
Maximum Current	1 A
E5252A Port Leakage Current	< 10 fA (port-to-port, at 100 V with E5252A installed)

Triggering & Synchronization

Trigger Input	BNC (female)
Trigger Output	BNC (female)

Control & Connectivity

Command Set Support	SCPI, FLEX
GPIB Interface	IEEE-488.2
External Interlock Input	6-pin Interlock

Power Specifications

Power Supply Input Voltage	90 V to 264 V AC
Power Supply Frequency	47 Hz to 63 Hz
Maximum Power Consumption	75 VA

Physical Characteristics

Form Factor (Rack Units)	3 U
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Environmental & Compliance

Storage Temperature Range	-20 °C to +60 °C
Operating Humidity Range	5% to 80% RH (non-condensing)

Rear Panel Connections

Bias Input Connector	Triaxial female
Trigger Input Connector	BNC female
Trigger Output Connector	BNC female
Interlock Connector Type	6-pin
Ground Terminal	Binding post (frame ground)

Compliance & Safety

Safety Standards	IEC 61010-1, EN 61010-1, CAN/CSA C22.2 No. 1010.1
EMC Standards	EN 55011, EN 61326-1

Environmental

Operating Altitude	0 to 2,000 m
Storage Altitude	0 to 4,600 m
Operating Vibration	0.25 G at 5 Hz to 500 Hz
Non-operating Vibration	2.0 G at 5 Hz to 500 Hz
Non-operating Shock	40 G

Connectivity

GPIO Capability Code	SH1, AH1, T6, L4, SR1, RL1, PP0, DC1, DT1, C0, E1
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Inputs & Outputs

Trigger Input Signal Level	TTL level, negative transition
Trigger Input Minimum Pulse Width	10 µs
Trigger Output Signal Level	TTL level, negative pulse
Trigger Output Pulse Width	10 µs

Performance

Internal Memory Capacity	Up to 500 connection configurations
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E5252A Card Performance

E5252A Card Bandwidth	10 MHz (-3 dB, 50 Ω load)
E5252A Card Max Switching Current	0.1 A
E5252A Card Max Carry Current	0.2 A
E5252A Card Max Switching Power	10 W
E5252A Card Channel Isolation	≥ 10 ¹² Ω

E5255A Card Performance

E5255A Card Max Voltage	100 V
E5255A Card Max Carry Current	0.1 A
E5255A Card Max Switching Current	10 mA
E5255A Card Offset Current	< 5 pA (at 100 V)

TECHNOLOGY

Relay Matrix Switch

APPLICATIONS

Parametric Test and Semiconductor Device Characterization

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