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Data Sheet

August 13, 2026

AGILENT / HP / KEYSIGHT

Agilent HP Keysight E5250A Low-leakage Switch Mainframe

Keysight E5250A Low Leakage Switch Mainframe The Keysight/Agilent E5250A low-leakage switch mainframe expands a parametric measurement station (B1500A, E5270B, 4155C/4156C) into an automated system. Four slots accept E5252A 10×12 matrix cards or E5255A multiplexers for up to 48 triaxial outputs (matrix) or hundreds of reliability stress channels (MUX). The Keysight/Agilent E5250A low-leakage switch mainframe expands a parametric measurement station (B1500A, E5270B, 4155C/4156C) into an automated system. Four slots accept E5252A 10×12 matrix cards or E5255A multiplexers for up to 48 triaxial outputs (matrix) or hundreds of reliability stress channels (MUX).

**MODEL****Agilent / HP /
Keysight E5250A****CALIBRATION****Available on
request****CONDITION****Used****STATUS****In stock****RFQ / SKU****E5250A****LISTING**[https://aumictechlabs.c
om/products/e5250a-2/](https://aumictechlabs.com/products/e5250a-2/)

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NAICS 423690 • 811210 • 541380

This unit

The Agilent HP Keysight E5250A is a modular low-leakage switch mainframe engineered for semiconductor parametric test systems requiring minimal signal leakage and high measurement precision. It expands measurement station capacity through configurable switching architectures - either as a cross-point matrix or multiplexer - supporting automated device characterization, long-term reliability testing, and parallel production screening. The mainframe accepts plug-in card modules to establish signal routing topologies tailored to specific measurement

requirements. Technical Specifications Matrix Configuration (E5252A cards): 10 × 12 matrix, expandable to 10 × 48 per frame Two low-leakage I-V inputs; four standard I-V inputs Two C-V paths with capacitance compensation Two auxiliary inputs for pulsed and differential measurements Kelvin and non-Kelvin switching modes supported Six triaxial (low-current) inputs; four coaxial (general-purpose) inputs Triaxial inputs 1–4: dedicated internal paths Triaxial inputs 5–6 and coaxial inputs: 3:1 multiplexed, sharing two internal paths Multiplexer Configuration (E5255A cards): 24-channel per card (8 × 3), expandable to 96 channels per frame Up to 384 channels with four ganged E5250A frames Six triaxial inputs and three DC-bias coaxial inputs per card Measurement Performance: Measurement resolution: 20 fA through switch Transient current settling: < 3.5 s to < 450 fA after 10 V step Bandwidth: 10 MHz (–3 dB) with E5252A cards Channel isolation: 10 TΩ (triaxial paths) Offset current: < 0.1 pA (low-leakage I-V port); < 1000 pA (general I-V port) Offset voltage: < 80 μV (low-leakage I-V port); < 110 μV (general I-V and C-V HF ports at 5 min) Channel crosstalk capacitance: 10⁸ cycles (dry switching) Environmental: Operating temperature: 5 °C to 40 °C Storage temperature: –40 °C (upper limit) Key Features Femtoampere-level measurement capability enabling ultra-sensitive device parametrics Triaxial/coaxial input architecture with dedicated and multiplexed path options Configurable relay matrix for cross-point switching or channel multiplexing Low offset voltage and current specifications minimize measurement error High relay endurance suitable for high-cycle test environments Ganging capability scales channel count to 384 across four frames Typical Applications Semiconductor device characterization (I-V, C-V) Long-term reliability and stress testing Parallel production test with cost-effective power supplies Pulsed and differential voltage measurements High-precision leakage current measurement Compatibility & Integration Works with Keysight B1500A, 4155C, and 4156C parametric measurement instruments.

Features & description

From manufacturer datasheet

Features

- Four plug-in module slots
- E5252A 10×12 matrix switch cards
- E5255A 24 (8×3) channel multiplexers
- Maximum 10-input 48-output matrix with four E5252A
- Maximum 2-input x96-output MUX with four E5255A
- 384 channel class capability in MUX configurations
- Computer controlled switching for automated systems

Applications

- Automated IV-CV parametric switching for semiconductor test
- 10×12 matrix configurations up to 10×48 outputs
- Long-term reliability multiplexing with low-cost stress supplies
- Low-leakage switching for picoamp-class measurements

E5250A Characteristics / Specifications

PARAMETER	VALUE
Model	E5250A
Manufacturer	Keysight / Agilent / HP
Instrument Type	Low Leakage Switch Mainframe
Alias	E5250A; Keysight E5250A
Module slots	4
Matrix card	E5252A 10×12 Matrix Switch
Multiplexer card	E5255A 24 (8×3) Channel Multiplexer
Max matrix configuration	10 input x 48 output with four E5252A
Max multiplexer configuration	2 input x 96 output with four E5255A
MUX blocks per E5255A	three 2×8 multiplexers
E5255A configurable as	2×8 / 2×16 / 2×24 multiplexer
Channel capability class	up to 384 channels reliability configurations
Compatible analyzers	B1500A, E5270B, 4155C, 4156C
Switching style matrix	cross-point matrix for parametric IV-CV
Switching style MUX	multiplexer for long-term reliability
Leakage class	low leakage for semiconductor DC measurements
Output connector class	triaxial outputs on matrix configurations
Control	computer controlled GPIB class
Stress source use	low-cost supplies for consistent stressing
Application matrix	general parametric measurements
Application MUX	parallel reliability testing of many DUTs
Related matrix module	E5252A
Related MUX module	E5255A
Form factor	mainframe with four card slots
Manual part class	E5250-90006 user guide family

PARAMETER	VALUE
Product family	E5250 low leakage switch Notes Specs from Keysight E5250A datasheet 5964-2378EN and E5250A user guide. Confirm installed E5252A vs E5255A card population and cable set.

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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Instrument Type	Low Leakage Switch Mainframe
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Application MUX	parallel reliability testing of many DUTs
Related matrix module	E5252A
Related MUX module	E5255A
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Manual part class	E5250-90006 user guide family
Product family	E5250 low leakage switch

Notes

Specs from Keysight E5250A datasheet 5964-2378EN and E5250A user guide. Confirm installed E5252A vs E5255A card population and cable set.

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

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