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Data Sheet

August 13, 2026

KEITHLEY

Keithley 707B " Six-slot Semiconductor Switch Mainframe

Keithley 707B Six Slot Semiconductor Switch Matrix Mainframe The 707B is the six-slot successor to the 707/707A semiconductor switch matrix mainframe. It hosts up to six 8×12 cards (576 crosspoints) with faster command-to-connect than 707A, TSP scripting, TSP-Link, LXI web control, USB TMC, GPIB, and 707A DDC command emulation. Compatible cards include 7174A, 7072, 7072-HV, and 7173-50. Fourteen bits of digital I/O and nonvolatile pattern storage support lab and fab parametric switching. Wafer-level I-V and C-V routing with 4200-SCS or 2600B SMUs; ACS/S530 integrated testers; mixed DC and RF (to 200 MHz with 7173-50); expanding 8×12 cards via backplane or coax row cables. The 707B is the six-slot successor to the 707/707A semiconductor switch matrix mainframe. It hosts up to six 8×12 cards (576 crosspoints) with faster command-to-connect than 707A, TSP scripting, TSP-Link, LXI web control, USB TMC, GPIB, and 707A DDC command emulation. Compatible cards include 7174A, 7072, 7072-HV, and 7173-50. Fourteen bits of digital I/O and nonvolatile pattern storage support lab and fab parametric switching. Wafer-level I-V and C-V routing with 4200-SCS or 2600B SMUs; ACS/S530 integrated testers; mixed DC and RF (to 200 MHz with 7173-50); expanding 8×12 cards via backplane or coax row cables.



MODEL

Keithley 707B

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

707B

LISTING

<https://aumictechlabs.com/products/707b-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Keithley 707B is a six-slot semiconductor switch mainframe engineered for high-speed switching and matrix routing in production and laboratory semiconductor test environments. It accommodates up to six 8×12 matrix cards, delivering 576 crosspoints per mainframe with command-to-connect speed significantly faster than earlier Series 700 mainframes. The 707B stores hundreds of switching configurations in non-volatile memory, includes 14 bits of digital I/O, and provides four independent remote programming interfaces for flexible system integration.

Technical Specifications

Architecture & Switching Six-slot mainframe supporting up to 576 crosspoints per unit Maximum relay drive: 30W per slot (6V @ 5.0A), 162W total (6V @ 27.0A) Non-volatile memory stores hundreds of switching configurations and channel patterns Digital I/O: 14 bits with 25-pin female D connector Electrical Power supply: 100V to 240V AC, 50–60 Hz Maximum consumption: 210VA (707B) Digital I/O input voltage range: -0.25V to 5.25V absolute Maximum logic low: 0.7V @ 850μA; maximum logic high: 2.1V @ 570μA Maximum source current: 960μA per bit Maximum sink current: -11mA absolute; -5.0mA at 0.7V logic low 5V supply pin: 600mA with solid-state fuse protection Free-running timer: 47-bit counter with 1MHz clock (4-year rollover) Physical Dimensions: 432mm W × 356mm H × 574mm D (17.0 in × 14.0 in × 22.6 in) With installed card: 432mm W × 356mm H × 612mm D (17.0 in × 14.0 in × 24.1 in) Key Features LXI Class C, USB 2.0 (USBTMC), GPIB (IEEE-488.1/.2), and Ethernet (10/100BaseT) interfaces TSP-Link technology for high-speed inter-unit communication Front-panel manual programming with navigation knob and keypad Device Dependent Command (DDC) compatibility with 707A/708A models for simplified migration Typical Applications High-volume semiconductor device testing and characterization Parametric and functional test sequences with reduced cycle time Multi-channel relay matrix switching for low-current measurement systems Production and engineering lab environments requiring flexible configuration management Compatibility & Integration The 707B maintains command-level compatibility with 707A and 708A predecessors, supporting direct migration of existing test programs without full revalidation.

Features & description

From manufacturer datasheet

Features

- 707A command emulation for drop-in GPIB code

707B Characteristics / Specifications

PARAMETER	VALUE
Model	707B
Manufacturer	Keithley / Tektronix
Instrument Type	Six slot semiconductor switch matrix mainframe
Alias	707B
Slots	6
Matrix per card class	8 rows × 12 columns
Maximum crosspoints one chassis	576 (six 8×12 cards)
Supported card 70	8×12, 200 V, 1 A
Supported card 7072 HV	8×12, 1300 V, 0.1 A
Supported card 7173	4×12 two pole, 200 MHz class
Supported card 7174A	8×12 low current high speed, 3-lug triax
Close time 7174A Ethernet	1.9 ms (channel.close including settle)
Close time 7072 Ethernet	15.9 ms
Trigger rate 7174A	≥815 setups/s
Trigger rate 70	≥65 setups/s
Digital I/O bits	14 open drain
Digital I/O connector	25-pin femaleD Absolute max input voltage DIO: 5.25 V
Five volt DIO pin	600 mA solid-state fuse
Ethernet	RJ-45 10/100BaseT Auto-MDIX, LXI version 1.2
USB	USB 2.0 device rear TypeBUSBTMC
GPIB	IEEE-488.1 / IEEE-488.2 common commands
Power	100 V to 240 VAC, 50 to 60 Hz, 210 VA max
Relay drive per slot	30 W (6 V at 5.0 A) max
Relay drive all slots	162 W (6 V at 27 A) max
Dimensions	356 mm × 432 mm × 574 mm (with card 612 mm deep)

PARAMETER	VALUE
Weight	14.5 kg; shipping 27.2 kg
Operating	0 C to 50 C, 80% RH to 35 C
Emulation	707A/708A DDC with documented differences Notes Specs from Keithley 707B and 708B semiconductor switch matrix mainframes data sheet. Confirm installed cards; 7071/7071-4 compatibility notes differ from 7174A/7072. Enable DDC 70XA mode when driving from 4200A-SCS KCon.
Connect rules	break-before-make, make-before-break, or none

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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Maximum crosspoints one chassis	576 (six 8×12 cards)
Supported card 7072	8×12, 200 V, 1 A
Supported card 7072 HV	8×12, 1300 V, 0.1 A
Specifications	
PARAMETER	VALUE
Supported card 7173 50	4×12 two pole, 200 MHz class
Supported card 7174A	8×12 low current high speed, 3-lug triax
Close time 7174A Ethernet	1.9 ms (channel.close including settle)
Specifications	
PARAMETER	VALUE
Close time 7072 Ethernet	15.9 ms
Trigger rate 7174A	≥815 setups/s
Trigger rate 7072	≥65 setups/s

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Digital I/O connector	25-pin femaleD Absolute max input voltage DIO: 5.25 V
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USB	USB 2.0 device rear TypeBUSBTMC
GPiB	IEEE-488.1 / IEEE-488.2 common commands

Specifications

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Notes

Specs from Keithley 707B and 708B semiconductor switch matrix mainframes data sheet. Confirm installed cards; 7071/7071-4 compatibility notes differ from 7174A/7072. Enable DDC 70XA mode when driving from 4200A-SCS KCon.

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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Generated August 13, 2026

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