

KEYSIGHT TECHNOLOGIES (AGILENT HP)

41501B

The Keysight (formerly Agilent / HP) 41501B is an SMU and Pulse Generator Expander designed to extend the measurement capabilities of the 4155 and 4156 series Semiconductor Parameter Analyzers. It provides additional expansion slots to configure High-Power SMUs (HPSMU), Medium-Power SMUs (MPSMU), Pulse Generator Units (PGU), and includes a Ground Unit (GNDU) as standard.

SPECIFICATIONS

General

Interfaces	Dedicated host interface connector for 4155/4156 connection
Display	None (controlled via host parameter analyzer)

System and Configuration

Supported Module Types	High-Power SMU (HPSMU), Medium-Power SMU (MPSMU), Pulse Generator Unit (PGU)
Ground Unit (GNDU) Integration	Included as standard
Maximum Configurable HPSMU Channels	1 (occupies 2 slots)
Maximum Configurable MPSMU Channels	2

Pulse Generator Unit (PGU) Performance

PGU Output Channels per Module	2 channels
PGU Output Impedance	50 ohms (nominal)
PGU Output Voltage Range (Open Circuit)	-40 V to +40 V
PGU Output Voltage Range (Into 50 Ohm)	-20 V to +20 V
PGU Base Voltage Level Range (Open Circuit)	-40 V to +40 V
PGU Base Voltage Level Range (Into 50 Ohm)	-20 V to +20 V

Source Monitor Unit (SMU) Capabilities

Medium-Power SMU (MPSMU) Support	Yes (via optional MPSMU modules)
HPSMU Maximum Voltage Output	±200 V
HPSMU Maximum Current Output	±1 A
MPSMU Maximum Voltage Output	±100 V
MPSMU Maximum Current Output	±100 mA
HPSMU Minimum Voltage Resolution	2 μ V
HPSMU Minimum Current Resolution	10 fA
MPSMU Minimum Voltage Resolution	2 μ V
MPSMU Minimum Current Resolution	10 fA

Ground Unit (GNDU) Specifications

GNDU Maximum Sink Current	1.6 A
GNDU Terminal Connection Type	Triaxial

SMU Specifications

HPSMU Maximum Output Power	20 W
MPSMU Maximum Output Power	2 W

TECHNOLOGY

Semiconductor Parametric Test

APPLICATIONS

Semiconductor Device Characterization and Pulsed Testing

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