KEITHLEY

2520

The Keithley 2520 Pulsed Laser Diode Test System is an integrated, high-speed test solution designed for production testing and LIV characterization of laser diodes. It combines high-accuracy pulsed current sourcing with three synchronized measurement channels for voltage and optical power.

SPECIFICATIONS

General

Interfaces	GPIB (IEEE-488), RS-232, Trigger Link, Digital I/O
Display	Vacuum Fluorescent Display (VFD), 2 lines x 20 characters
Buffer Storage Capacity	1000 points per channel
Cooling Method	Internal fan
Warm-up Time	1 hour

Physical

Power Supply	100 V to 240 V AC, 50 Hz to 60 Hz, 120 VA max
Operating Temperature	0 °C to 50 °C °C
Dimensions (W×H×D)	213 mm x 89 mm x 370 mm mm
Weight	4.7 kg kg
Rackmount Height	2U (half-rack width)

Source Channel

Laser Diode Drive Current Ranges	500 mA, 5 A
Maximum Drive Current	5.0 A
Source Voltage Compliance	10 V
Pulse Width Range	500 ns to 10 ms
Pulse Period Range	20 µs to 200 ms
Pulse Duty Cycle	Up to 4.0%
Drive Current Resolution (500 mA Range)	10 µA
Drive Current Resolution (5 A Range)	100 µA
Drive Current Accuracy (500 mA Range)	±(0.3% + 500 µA)
Drive Current Accuracy (5 A Range)	±(0.3% + 5 mA)
Pulse Rise/Fall Time	< 60 ns into 1 Ω load (typical)
Pulse Width Programming Resolution	10 ns
Pulse Period Programming Resolution	10 µs

Voltage Measurement Channel

Voltage Measurement Ranges	5 V, 10 V
Voltage Resolution (5 V Range)	150 µV
Voltage Resolution (10 V Range)	300 µV
Voltage Measurement Accuracy (5 V Range)	±(0.3% + 3 mV)
Voltage Measurement Accuracy (10 V Range)	±(0.3% + 6 mV)

Photodiode Measurement Channels

Photodiode Current Ranges	10 mA, 20 mA, 50 mA, 100 mA
PD Current Accuracy (10 mA Range)	±(0.3% + 30 µA)
PD Current Accuracy (20 mA Range)	±(0.3% + 60 µA)
PD Current Accuracy (50 mA Range)	±(0.3% + 150 µA)
PD Current Accuracy (100 mA Range)	±(0.3% + 300 µA)

Triggering and Synchronization

Trigger Link Port	8-pin micro-DIN
Digital I/O Port	4-bit output, 1-bit input

Analog Outputs

Laser Diode Current Monitor (IMON)	0 to 5 V output
Laser Diode Voltage Monitor (VMON)	0 to 5 V output
Photodiode 1 Current Monitor (PD1MON)	0 to 5 V output
Photodiode 2 Current Monitor (PD2MON)	0 to 5 V output

Environmental

Operating Humidity	Up to 70% R.H. non-condensing (at 35 °C)
Storage Temperature Range	-25 °C to 65 °C
Maximum Operating Altitude	2000 m

Photodiode Current Measurement

PD Current Resolution (10 mA Range)	100 nA
PD Current Resolution (20 mA Range)	200 nA
PD Current Resolution (50 mA Range)	500 nA
PD Current Resolution (100 mA Range)	1 µA

Pulse Characteristics

Pulse Width Programming Accuracy	±(1% of program + 20 ns)
Pulse Period Programming Accuracy	±(1% of program + 200 ns)
Pulse Jitter	< 2 ns (typical, sample-to-sample)
Pulse Overshoot / Undershoot	< 5% (< 10% on 5 A range) typical

Voltage Measurement

Voltage Measurement Input Impedance	> 10 GΩ

Monitor Outputs

Analog Monitor Output Impedance	50 Ω

Triggering

Trigger Input to Pulse Output Delay	400 ns (typical)
Trigger Output Pulse Width	2 µs (typical)

Photodiode Bias Sources

Photodiode Bias Voltage Range	0 to 20 V (reverse bias)
Photodiode Bias Voltage Resolution	10 mV
Photodiode Bias Voltage Accuracy	±(0.5% of setting + 10 mV)
Photodiode Bias Voltage Maximum Current	100 mA

A/D Converters & Sampling

Number of A/D Converters	3 (14-bit)
Maximum Sampling Rate	10 MHz (100 ns sample interval)
Measurement Sample Interval Resolution	100 ns

Analog Monitor Outputs

Analog Monitor Output Voltage Range	0 to 5 V (into 50 Ω load)
Analog Monitor Output Channels	4 (IMON, VMON, PD1MON, PD2MON)

Protection & Interlocks

External Hardware Shutdown Response Time	< 1 µs
External Hardware Shutdown Input	TTL (active low)

Interfaces & Connectivity

Remote Test Head Cable Length	2 m (6.6 ft)

TECHNOLOGY

Pulsed Laser Diode Testing

APPLICATIONS

LIV characterization, production testing of laser diodes, and high-speed optical power measurement

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.