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Data Sheet

August 14, 2026

ADVANTEST

Advantest Q82227 900nm-1650nm Optical Sensor

Advantest Q82227 High Power Optical Sensor The Advantest Q82227 is a high-power long-wavelength sensor for the Q8221 covering 900 to 1650 nm up to plus 27 dBm. OEM tables list minus 80 to plus 27 dBm, plus or minus 2.5 percent CW accuracy at 1550 nm, 0.05 dB p-p polarization dependence, and 60 dB return loss with APC. High-power EDFA and transmitter optical power on the Q8221 mainframe. Sensor Element: high power long wavelength The Advantest Q82227 is a high-power long-wavelength sensor for the Q8221 covering 900 to 1650 nm up to plus 27 dBm. OEM tables list minus 80 to plus 27 dBm, plus or minus 2.5 percent CW accuracy at 1550 nm, 0.05 dB p-p polarization dependence, and 60 dB return loss with APC. High-power EDFA and transmitter optical power on the Q8221 mainframe. Sensor Element: high power long wavelength Calibration Wavelength: 1550 nm 1 mW 0 to 40 C



MODEL

Advantest Q82227

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

Q82227

LISTING

<https://aumictechlabs.com/products/q82227-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Advantest Q82227 is a high-power optical sensor head for precision light measurement across the 900 nm to 1650 nm wavelength range. Built with a cooled InGaAs sensor element, it delivers wide dynamic range performance from -80 dBm to +27 dBm, making it ideal for

telecommunications, fiber-optic component testing, and optical power monitoring in laboratory and manufacturing environments. The Q82227 measures output from optical-fiber amplifiers, pump light sources, and high-output laser diodes with measurement accuracy of $\pm 4.5\%$ in CW mode and $\pm 5.5\%$ in CHOP mode.

Technical Specifications

Wavelength Range: 900 nm to 1650 nm

Power Range: -80 dBm to +27 dBm

Minimum Power (CW): 20 nW

Minimum Power (CHOP): 200 pW

Measurement Modes: CW (Continuous Optical Measurement Mode); CHOP (Chopped Light Measurement Mode, 270 Hz)

Measurement Accuracy: CW $\pm 4.5\%$; CHOP $\pm 5.5\%$

Sensor Element: InGaAs, Cooled Optical Input: Core Diameter $\leq 0.19 \mu\text{m}$; Numerical Aperture ≤ 0.19

Connectors: PC and Slanted Rubbed

Operating Temperature: 0 to 40°C

Calibration: NIST Traceable

Key Features

Noise floor of -80 dBm enables detection of low-level optical signals

Dual measurement modes address both continuous and modulated light sources

Compact, portable design supports on-site measurements

Maximum optical power handling of +27 dBm accommodates high-output applications

Typical Applications

Optical power monitoring in telecommunications systems

Laser power measurement for fiber-coupled sources

Fiber-optic amplifier characterization

Optical CATV laser diode testing

Compatibility & Integration

The Q82227 operates as a plug-in sensor head unit, interfacing with main units such as the Q8221 system for integrated optical measurement.

Features & description

From manufacturer datasheet

Polarization Dependence: 0.05 dB p-p or less at 1550 nm

Return Loss Apc: 60 dB or more Cw Max Min: 2000 mW / 20 nW Chop Max Min: 2000 mW / 2000 nW
Fiber Input: core 10 um NA 0.19 PC and slanted connectors Mainframe: Q8221 Q82202 or Q82203 not
required Dimensions: approx 60 W x 43 H x 135 D mm Mass: 500 g or less Standard Adaptor: A08340
FC Operating Temperature: 0 to 40 C Display Resolution Via Mainframe: 0.001 dB Measurement Modes:
CW and 270 Hz chop High Return Loss Adaptors: not used on this head Jack Type: possible Notes
From Advantest Q8221 optical sensor specification tables (Q82227 high-power column). Maximum
input plus 27 dBm (2000 mW CW).

Q82227 Characteristics / Specifications

PARAMETER	VALUE
Wavelength Range	900 to 1650 nm
Power Range	minus 80 to plus 27 dBm
Sensor Element	high power long wavelength
Calibration Wavelength	1550 nm 1 mW 0 to 40 C
Cw Accuracy At Cal	plus or minus 2.5 percent
Chop Accuracy At Cal	plus or minus 3.5 percent
Wideband Accuracy	plus or minus 4.5 percent CW 950 to 1630 nm 1 mW 0 to 40 C
Linearity 1 s Avg	plus or minus 0.5 percent plus 10 pW 58 to 27 dBm 0 to 40 C
Noise Level Slow	minus 80 dBm
Polarization Dependence	0.05 dB p-p or less at 1550 nm
Return Loss Apc	60 dB or more
Cw Max Min	2000 mW / 20 nW
Chop Max Min	2000 mW / 2000 nW
Fiber Input	core 10 um NA 0.19 PC and slanted connectors
Mainframe	Q8221 Q82202 or Q82203 not required
Dimensions	approx 60 W x 43 H x 135 D mm
Mass	500 g or less
Standard Adaptor	A08340 FC
Operating Temperature	0 to 40 C
Display Resolution Via Mainframe	0.001 dB
Measurement Modes	CW and 270 Hz chop
High Return Loss Adaptors	not used on this head
Jack Type	possible
Return loss	Apc: 60 dB or more

Q82227 Specifications

PARAMETER	VALUE
Advantest Q82227 High Power Optical Sensor	Overview
Applications	High-power EDFA and transmitter optical power on the Q8221 mainframe.
Key Features	Plus 27 dBm maximum
Technical Specifications	Wavelength Range: 900 to 1650 nm
Notes	From Advantest Q8221 optical sensor specification tables (Q82227 high-power column). Maximum input plus 27 dBm (2000 mW CW).

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	0 to 40 C
Operating Temperature	0 to 40 C
Display Resolution Via Mainframe	0.001 dB
Measurement Modes	CW and 270 Hz chop
High Return Loss Adaptors	not used on this head
Jack Type	possible Notes From Advantest Q8221 optical sensor specification tables (Q82227 high-power column). Maximum input plus 27 dBm (2000 mW CW).

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	
Specifications	
PARAMETER	VALUE
Wavelength Range	900 to 1650 nm
Power Range	minus 80 to plus 27 dBm
Sensor Element	high power long wavelength
Calibration Wavelength	1550 nm 1 mW 0 to 40 C
Cw Accuracy At Cal	plus or minus 2.5 percent
Chop Accuracy At Cal	plus or minus 3.5 percent
Wideband Accuracy	plus or minus 4.5 percent CW 950 to 1630 nm 1 mW 0 to 40 C
Linearity 1 s Avg	plus or minus 0.5 percent plus 10 pW 58 to 27 dBm 0 to 40 C
Noise Level Slow	minus 80 dBm
Polarization Dependence	0.05 dB p-p or less at 1550 nm
Return Loss Apc	60 dB or more
Cw Max Min	2000 mW / 20 nW
Chop Max Min	2000 mW / 2000 nW
Fiber Input	core 10 um NA 0.19 PC and slanted connectors
Mainframe	Q8221 Q82202 or Q82203 not required
Dimensions	approx 60 W x 43 H x 135 D mm
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Operating Temperature	0 to 40 C
Display Resolution Via Mainframe	0.001 dB
Measurement Modes	CW and 270 Hz chop
High Return Loss Adaptors	not used on this head
Jack Type	possible
Notes	
From Advantest Q8221 optical sensor specification tables (Q82227 high-power column). Maximum input plus 27 dBm (2000 mW CW).	

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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NIST-traceable calibration · SAM registered ·
30-day returns
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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.