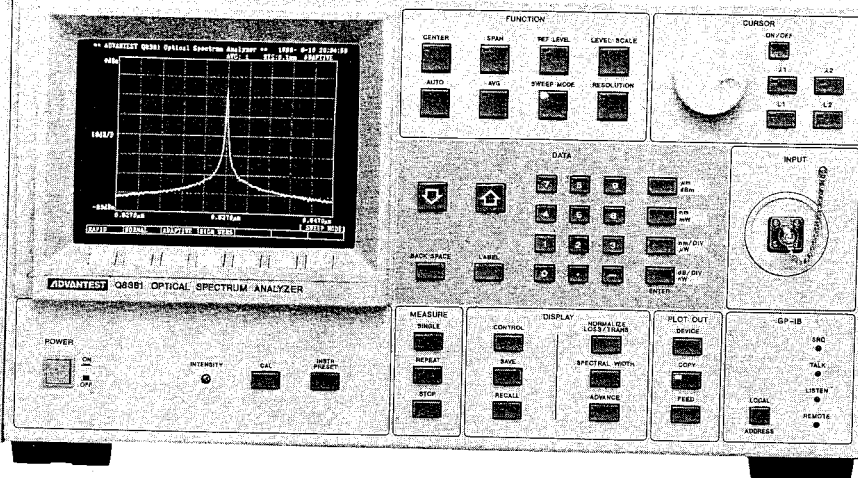


Optical/Applied Optics Measuring Instruments

Optical Spectrum Analysis of Wide Dynamic Range

Q8381/8382

- Wavelength Range: 0.6 to 1.75 μm
- 0.1 nm Resolution
- Wide Dynamic Range:
 - 60 dB (at ± 1.0 nm Away, Q8382)
 - 50 dB (at ± 5 nm Away, Q8381)
- High-Speed Measurement



Q8381/8382

Optical Spectrum Analyzers

The Q8381/8382 is the ideal optical spectrum analyzer for use in spectrum and side mode ratio analysis of DFB laser diodes. At 5 nm and 1 nm from the peak wavelength, these analyzers provide a dynamic range of 50 dB and 40 dB, respectively. By connecting a preselector (Q83811) to the Q8382, it is possible to achieve a dynamic range of 60 dB at 1 nm away and 50 dB at 0.5 nm away from the peak wavelength.

These analyzers cover from visible light at 0.6 μm to long wavelengths of 1.75 μm with 0.1 nm resolution and a measurement accuracy of 0.5 nm, making them suitable for wide-dynamic-range measurements of not only laser diode spectra, but of optical-fiber or optical component loss, when teamed with the TQ8111 White Light Source. An auto-function feature and a diverse range of cursor functions, automatic half-value width measurement functions, and normalization are provided to further improve operational simplicity and breadth of applications.

■ Wide Dynamic Range

By minimizing the ambient light level occurring in the optics, the Q8381 achieves a dynamic range of 50 dB. Connected to an optical preselector (Q83811), the Q8382 extends this even further to 60 dB of dynamic range. This level of performance is ideal for side mode ratio measurements on DFB laser diodes.

■ High-Speed Measurement

In addition to a linear scaled level axis, these analyzers provide logarithmic scaling, thereby enabling a measurement to be completed in less than one second. In measuring

the loss versus wavelength characteristics of optical fiber and components, the previously required long measurement times have been dramatically reduced, using the analyzer's high-speed sweep (adaptive) mode.

■ Uncluttered, Easy-to-Use Design

The number, size, and arrangement of keys have all been considered in designing these analyzers for easy operation, making them usable by virtually anyone. In the Q8382, the center wavelength, span and other parameters of the optical preselector are linked to the mainframe, and alignment of the optical axis is performed automatically, thereby enabling wide-dynamic-range measurements without the need for complex setup procedures.

■ Easy-to-Interpret Display Screen

For automatic peak search and side mode measurements, a 2nd-peak search function and dual-frame display which enable easy discrimination of differences between waveforms are provided. Minute differences can be clearly detected by overlapping waveforms using the superimpose function.

■ Wide Wavelength Range Measured with High Sensitivity

The Q8381/8382 features -70 dBm sensitivity over the wide wavelength range of 0.7 to 1.6 μm . This is ideal for loss versus wavelength measurements of optical fibers and for natural emissions measurements of DFB laser diodes (EL mode).