

KEYSIGHT TECHNOLOGIES (AGILENT HP)

83430A

The Keysight Agilent 83430A is a modulatable DFB laser source designed to convert digital input signals into a preset, SDH/SONET-compliant optical output. It is engineered to evaluate the performance of high-speed TDM and WDM optical receivers and systems from SDH/SONET OC-1 (51.84 Mb/s) through STM-16/OC-48 (2.488 Gb/s) standards.

SPECIFICATIONS

General

Interfaces	3× Modulation Inputs (Digital AC Coupled, Digital DC Coupled, Analog AC Coupled via SMA female connectors); Optical Output (Diamond HMS-10 with universal interface adapter)
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Physical

Power Supply	90 to 132 V AC / 198 to 264 V AC, 47 to 66 Hz, 150 VA maximum
Operating Temperature	0 to 55 °C °C
Dimensions (W×H×D)	213 mm × 133 mm × 495 mm mm
Weight	9 kg kg

Wavelength Characteristics

Laser Type	DFB (Distributed Feedback) laser source
Standard Center Wavelength	1550 nm
Wavelength Option 130	1310 ±20 nm
Wavelength Option 350	1535 ±1 nm
Wavelength Option 390	1539 ±1 nm
Wavelength Option 430	1543 ±1 nm
Wavelength Option 462	1546.2 ±1 nm
Wavelength Option 155	1550 ±1 nm
Wavelength Option 534	1553.4 ±1 nm
Wavelength Option 570	1557 ±1 nm
Wavelength Option 605	1560.5 ±1 nm
Wavelength Tuning Control	Front panel temperature control
Wavelength Adjustment Range	±1.25 nm
Wavelength Adjustment Range (Typical)	±1.8 nm
Spectral Width (-3 dB)	0.3 nm maximum
Spectral Width (-20 dB)	1 nm maximum

Optical Power Characteristics

Extinction Ratio	10 dB ±1 dB
Extinction Ratio Adjustment Range	From less than 8.2 dB to greater than 13 dB
Peak Coupled Power (Digital Mode)	1.3 mW minimum (+1 dBm)
Average Coupled Power (Analog Mode)	0.63 mW minimum (-2.0 dBm)
Relative Intensity Noise (RIN)	-145 dB/Hz @ 1 GHz
Side-Mode Suppression Ratio	33 dB minimum

Polarization & Fiber Specifications

Output Fiber Type	9/125 μm, single-mode
Optical Interface	Diamond HMS-10 with universal interface adapter
Standard Connector Interface	FC/PC standard

Modulation & Sweep Capabilities

Digital AC Coupled - Maximum Input Level	2 Vp-p
Digital AC Coupled - Bit Rate	50 to 2500 Mb/s
Digital AC Coupled - Pulse Pattern	40 to 60% ones density
Digital AC Coupled - Polarity	Non-inverting
Digital AC Coupled - Input Level	0.7 to 1.5 Vp-p
Digital AC Coupled - Digital Threshold Adjustment Range	N/A (applies to Digital DC Coupled)
Digital AC Coupled - Impedance	50 Ω
Digital AC Coupled - Input Return Loss (0.1 to 1 GHz)	12 dB
Digital AC Coupled - Input Return Loss (1 to 2 GHz)	8.5 dB
Digital AC Coupled - Input Return Loss (2 to 2.5 GHz)	6 dB
Digital DC Coupled - Maximum Input Level	-4.5 to 0 V
Digital DC Coupled - Bit Rate	DC to 2500 Mb/s
Digital DC Coupled - Pulse Pattern	0 to 100% ones density
Digital DC Coupled - Polarity	Non-inverting
Digital DC Coupled - Input Level	-1.7 V low, -0.9 V high (ECL levels)
Digital DC Coupled - Digital Threshold Adjustment Range	± 0.2 V
Digital DC Coupled - Impedance	50 Ω to -2 Vdc
Digital DC Coupled - Input Return Loss (0.1 to 1 GHz)	12 dB
Digital DC Coupled - Input Return Loss (1 to 2 GHz)	8.5 dB
Digital DC Coupled - Input Return Loss (2 to 2.5 GHz)	6 dB
Analog AC Coupled - Maximum Input Level	2 Vp-p
Analog AC Coupled - Bit Rate	0.1 to 2500 MHz
Analog AC Coupled - Input Level	2 Vp-p maximum
Analog AC Coupled - Impedance	50 Ω
Analog AC Coupled - Input Return Loss (0.1 to 1 GHz)	12 dB
Analog AC Coupled - Input Return Loss (2 to 2.5 GHz)	6 dB

Performance

Supported SDH/SONET Rates	52, 155, 622, and 2488 Mb/s
Dispersion Power Penalty	< 2.0 dB
Jitter Generation (Peak-to-Peak)	0.07 maximum UI p-p
Jitter Generation (RMS)	0.01 maximum UI rms
Eye Mask Compliance	Conforms to Bellcore GR-253 and ITU-T G.957 at OC-1, STM-1/OC-3, STM-4/OC-12, STM-16/OC-48

Inputs & Outputs

Data Input Connector	SMA (female)
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TECHNOLOGY

DFB Laser

APPLICATIONS

Optical receiver and system testing

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