

AT-SPFXBD

Small Form Pluggable (SFP) Modules

AT-SPFXBD-LC-I3

15km, 100FX, BiDi SFP (1310/1550)

AT-SPFXBD-SC-I3

15km, 100FX, BiDi SFP (1310/1550)

AT-SPFXBD-LC-I5

15km, 100FX, BiDi SFP (1550/1310)

AT-SPFXBD-SC-I5

15km, 100FX, BiDi SFP (1550/1310)

Industry Standard

The AT-SPFXBD-xx offers the latest industry standard in Bi-Directional 100FX connectivity. These hot swappable, fiber interfaces simply plug into an SFP slot on an Allied Telesis 100FX SFP compatible product.

Description

The AT-SPFXBD-xx is a 3.3V SFP BiDi transceiver module designed for high-speed applications which require up to 155Mbit/sec transmission rates. It is compliant with Fast Ethernet (100mbps), ATM, SONET, OC-3/SDH, and STM-I standards, as well as the SFP Multisource Agreement (MSA).

The SFP uses the industry standard SC connector type. The transceiver includes a LOS (Loss Of Signal) circuit that provides a TTL logic-high output when an unusable optical signal level is detected. The module includes 1310nm un-cool FP laser; InGaAs PIN, Pre-amplifier and WDM filter in a high-integrated optical assembly for high density system application.

Using an SFP Bi-Directional transceiver can upgrade transmission capacity on a typical network without installing new fibers by utilizing a single fiber for both the send/receive signals.

Options

Allied Telesis offers a wide range of SFP modules. Available in multi-mode and single-mode, ranging in speed from Fast Ethernet to Gigabit and with distances of up to 80km, Allied Telesis offers options for your network.

Product Compatibility

The SPFX series SFPs are compatible with all the Allied Telesis range of products that support 100Mbps SFP uplink connections.

Key Features

- SC or LC connector
- Connect up to 15km
- Compact size
- Hot swappable
- Self-locking mechanism
- Support for ATM, SONET, OC-3/SDH, STM-I
- Two year warranty
- RoHS compliant
- SFF-8472 MSA compliant
- Industrial operating temperature
- China RoHS

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Specifications

| Model | Media Type | Wavelength | Transmit | | |
|--------------|------------|---------------|----------------|----------------|----------|
| | | | Max. Data Rate | Operating Temp | Distance |
| AT-SPFXBD-13 | SMF | 1310Tx/1550Rx | 155Gbps | 0 to 70°C | 15km |
| AT-SPFXBD-15 | SMF | 1550Tx/1550Rx | 155Gbps | 0 to 70°C | 15km |

Technical Specifications

Absolute Maximum Ratings

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Note |
|----------------------------|--------|------|------|---------|------|------|
| Storage Temperature | Ts | -40 | | 85 | °C | |
| Storage Ambient Humidity | Ha | 5 | | 95 | % | |
| Power Supply Voltage | Vcc | 0 | | 5 | V | |
| Signal Input Voltage | | -0.3 | | Vcc+0.3 | V | |
| Optical Input Power (Peak) | | | | 4 | dBm | |

Recommended Operating Conditions

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Note |
|-------------------------------|--------|------|------|--------|-------|----------------|
| Ambient Operating Temperature | Ts | 0 | | 70 | °C | |
| Ambient Humidity | Ha | 5 | | 85 | % | Non-condensing |
| Power Supply Voltage | Vcc | 3.13 | 3.3 | 3.47 | V | |
| Power Supply Current | Icc | | | 250 | mA | |
| Power Supply Noise Rejection | | | | 100 | mVp-p | 100Hz to 1MHz |
| Data Rate | | 10 | | 155.52 | Mbps | |
| Transmission Distance | | | | 15 | km | |

Ordering Information

AT-SPFXBD-LC-13
15km, 100FX, BiDi SFP (1310/1550)

AT-SPFXBD-SC-13
15km, 100FX, BiDi SFP (1310/1550)

AT-SPFXBD-LC-15
15km, 100FX, BiDi SFP (1550/1310)

AT-SPFXBD-SC-15
15km, 100FX, BiDi SFP (1550/1310)

Specification of Transmitter

| Parameter | AT-SPFXBD-13 | | | | | AT-SPFXBD-15 | | | | |
|-------------------------------|--|------|------|------|-------|--|------|------|------|-------|
| | Symbol | Min. | Typ. | Max. | Unit | Symbol | Min. | Typ. | Max. | Unit |
| Average Launched Power | Po | -14 | | -8 | dBm | Po | -14 | | -8 | dBm |
| Optical Extinction Ratio | ER | 10 | | | dB | ER | 10 | | | dB |
| Center Wavelength | λ_c | 1260 | 1310 | 1360 | nm | λ_c | 1480 | 1520 | 1580 | nm |
| Spectrum Width (RMS) | σ | | | 6 | nm | σ | | | 3 | nm |
| Transmitter OFF Output Power | Poff | | | -45 | dBm | Poff | | | -45 | dBm |
| Optical Rise/Fall Time | t_r/t_f | | | 1.3 | ns | t_r/t_f | | | 1.3 | ns |
| Total Jitter | TJ | | | 1 | ns | TJ | | | 1 | ns |
| Optical Return Loss Tolerance | ORLT | | | 14 | dB | ORLT | | | 14 | dB |
| Relative Intensity Noise | RIN | | | -116 | dB/Hz | RIN | | | -116 | dB/Hz |
| Dispersion Penalty | TDP | | | 1 | dB | TDP | | | 1 | dB |
| Output Eye Mask | Compliant with Bellcore TR-NWT-000253 and ITU recommendation G.957 | | | | | Compliant with Bellcore TR-NWT-000253 and ITU recommendation G.957 | | | | |

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