Allied Telesis™

AT-SPFXBD

Small Form Pluggable (SFP) Modules

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

AT-SPFXBD-LC-15
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-1 standards, as well as the SFP Multisource Agreement (MSA).

The SFP uses the industry standard LC 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-amplifer 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.

Interoperability
Allied Telesis Small Form Pluggables (SFP) fully comply with industry standard networking regulations. This compliance allows Allied Telesis SFP modules to be used on any networking equipment which complies with industry standards.

Key Features

- Connect up to 15km

- Compact size

- Hot swappable

- Self-locking mechanism

- Support for ATM, SONET, OC-3/SDH, STM-1

- 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/1310Rx	155Gbps	0 to 70°C	15km

Ordering Information

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

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

Technical Specifications

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Storage temperature	T_S	-40		85	°C	
Storage ambient humidity	H_A	5		95	%	
Power supply voltage	V_{CC}	0		5	V	
Signal input voltage		-0.3		$V_{CC}+0.3$	V	
Optical input power (peak)				4	dBm	

Recommended Operating Conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Ambient operating temperature	T_S	0		70	°C	
Ambient humidity	H_A	5		85	%	Non-condensing
Power supply voltage	V_{CC}	3.13	3.3	3.47	V	
Power supply current	I_{CC}			250	mA	
Power supply noise rejection				100	mVp-p	100Hz to 1MHz
Data rate		10		155.52	Mbps	
Transmission distance				15	km	

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	P_{Off}			-45	dBm	P_{Off}			-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				

Connecting The (IP) World

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