

SFP Series**STI-WDM-0220A****1.25Gbps SFP Bi-Directional Transceiver, 20km Reach****1550nm TX / 1310nm RX****Features**

- Dual data-rate of 1.25Gbps/1.063Gbps operation
- 1550nm DFB laser and PIN photodetector for 20km transmission
- Compliant with SFP MSA and SFF-8472 with simplex LC or SC receptacle
- Digital Diagnostic Internal Calibration or External Calibration
- Compatible with SONET OC-24-LR-1
- Compatible with RoHS
- +3.3V single power supply
- Operating case temperature range of 0°C to +70°C (Commercial) or -40°C to +85°C (Industrial)



Monitoring:

Description

The SFP-BIDI transceivers are high performance, cost effective modules supporting dual data-rate of 1.25Gbps/1.063Gbps and 20km transmission distance with SMF.

The transceiver consists of three sections: a DFB laser transmitter, a PIN photodiode integrated with a trans-impedance preamplifier (TIA) and MCU control unit. All modules satisfy class I laser safety requirements.

The transceivers are compatible with SFP Multi-Source Agreement (MSA) and SFF-8472. For further information, please refer to SFP MSA.



Optical and Electrical Characteristics

Parameter		Symbol	Min	Typical	Max	Unit	Notes
Transmitter							
Centre Wavelength		λ_c	1530	1550	1570	nm	
Spectral Width (-20dB)		$\Delta\lambda$			1	nm	
Side Mode Suppression Ratio		SMSR	30			dB	
Average Output Power		P _{out}	-9		-3	dBm	1
Extinction Ratio		ER	9		13	dB	
Optical Rise/Fall Time (20%~80%)		t _r /t _f			0.26	ns	
Data Input Swing Differential		V _{IN}	400		1800	mV	2
Input Differential Impedance		Z _{IN}	90	100	110	Ω	
TX Disable	Disable		2.0		V _{cc}	V	
	Enable		0		0.8	V	
TX Fault	Fault		2.0		V _{cc}	V	
	Normal		0		0.8	V	
Receiver							
Centre Wavelength		λ_c	1260		1360	nm	
Receiver Sensitivity					-22	dBm	3
Receiver Overload			-3			dBm	3
LOS De-Assert		LOS _D			-24	dBm	
LOS Assert		LOS _A	-35			dBm	
LOS Hysteresis			1		4	dB	
Data Output Swing Differential		V _{out}	400		1800	mV	4
LOS	High		2.0		V _{cc}	V	
	Low				0.8	V	

Notes:

1. The optical power is launched into SMF.
2. PECL input, internally AC-coupled and terminated.
3. Measured with a PRBS 2⁷-1 test pattern @ 1250Mbps, BER ≤ 1 × 10⁻¹².
4. Internally AC-coupled.



Regulatory Compliance

Feature	Standard	Performance
Electrostatic Discharge (ESD) to the Electrical Pins	MIL-STD-883E Method 3015.7	Class 1(>500 V) Isolation with the case
Electromagnetic Interference (EMI)	FCC Part 15 Class B	Compatible with standards
Laser Eye Safety	FDA 21CFR 1040.10 and 1040.11 EN60950, EN (IEC) 60825-1,2	Compatible with Class I laser product. Compatible with TÜV standards
Component Recognition	UL and CUL	UL file E317337
Green Products	2002/95/EC 2005/618/EC	RoHS6

