



OC-3/STM-1 SFP Transceiver Bi-Directional 1550nm Tx/1310nm Rx 20km P/N AI12P0x-5531



Description

Menara Networks' AI12P0x-5531 bi-directional transceivers are designed for use in links of 20km over a single strand of single mode fiber. The SFP module supports SONET/SDH OC-3 and STM-1 applications along with IEEE 802.3 100M Ethernet.

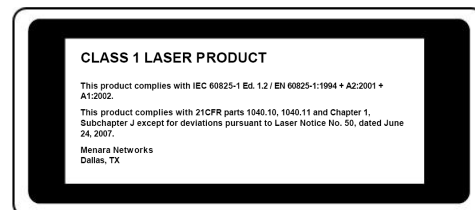
Digital Optical Monitoring interfaces are provided via the SFP SFF-8472 standards compliant I2C interface. The receiver features differential ac-coupled data outputs and LVTTTL for LOS (Loss of Signal) output. Circuit ground is internally isolated from frame ground.

Applications

- 20km OC-3/STM-1 bi-directional single fiber transport
- 20km 100M Ethernet bi-directional single fiber transport

Features

- Hot-pluggable SFP footprint
- RoHS compliant
- Bi-directional optical data links over a single strand of single mode fiber
- Compliant with SFP MSA
- Digital diagnostic SFF-8472 compliant
- 1550nm FP transmitter
- 1310nm wavelength specific receiver
- Very low jitter
- Metal package for lower EMI
- Single power supply voltage : +3.3V
- Low power dissipation
- LC diplexer connector
- Laser Class 1 IEC/CDRH compliant
- Distances of 20km



Transmitter E-O Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Support data rate	-	100	155	155	Mb/s	
Center Wavelength	λ	1500	1550	1600	nm	
Spectral Width (RMS)	$\Delta\lambda$			4.0	nm	
Side Mode Suppression Ratio	SMSR	30			dB	
Average Optical Output Power	P _o	-14		-8	dBm	1
Extinction Ratio	E _r	9			dB	
Optical Rise/Fall Time (20%~80%)	tr/tf			1.3	ns	
Output Eye Diagram	Compliant with Eye Mask Defined in GR-253 standard					
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	

1. The optical power is launched into SMF.
2. PECL input, internally AC-coupled and terminated

Receiver O-E Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Support data rate	-	100	155	155	Mb/s	
Operating Wavelength	λ	1260	1310	1360	nm	
Receiver sensitivity	S _{en}			-32	dBm	3
Saturation	P _{sat}	-3			dBm	3
Receiver Optical Return Loss	-			-27	dB	
LOS Assert	LOS _A	-45			dBm	
LOS Deassert	LOS _D			-32	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		0.8	V	

3. Measured with a PRBS 2²³-1 test pattern @ 155Mbps, BER $\leq 1 \times 10^{-10}$
4. Internally AC-coupled

Ordering Information

Part Number	ROHS Compliant	Operating Case Temperature
AI12P0x-5531 AI12P2x-5531	ROHS-6	0°C ~ +70°C -40°C ~ +85°C

x = J for Juniper
x = C for Cisco
x = A for Alcatel
x = O for Cisco ONS



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