technical datasheet

Fx Fibre - SFP Optical Transceivers

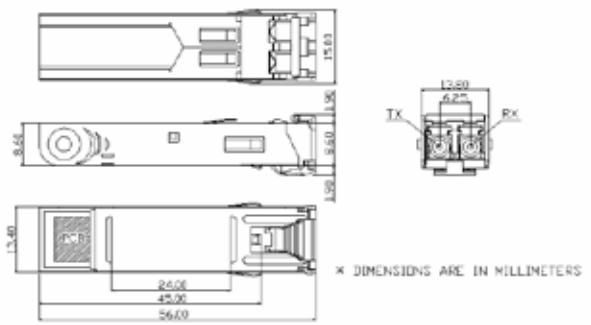
- SFP 155Mbps fibre transceivers with LC style connectors
- Pluggable for quick and easy installation - saves you time
- Industry standard Small Form Factor (MSA compliant) - saves you space
- Multimode and singlemode models available
- Industrial rated for -40 to 85°C operation
- Vibration resistance latching mechanism
- Fully compliant with IEEE 802.3u Fast Ethernet (100Base) standard plus STM-1, OC-3 and SONET/SDH

OVERVIEW

The MTL-SFP range of optical transceivers offer maximum flexibility to operators of Gigabit Ethernet networking equipment. The pluggable architecture allows the module to be installed into any suitable MTL Gigabit switch SFP port at any time – even with the host equipment operating and online. This facilitates rapid configuration of the equipment to precisely the user's needs – reducing inventory costs and network downtime.

The MTL-SFP can be installed in or removed from any MSA-compliant Pluggable Small Form Factor port regardless of whether the host equipment is operating or not. The module is simply inserted, electrical-interface first, under finger-pressure. Controlled hot-plugging is ensured by a 3-stage pin sequence at the electrical interface. As the module is inserted, first contact is made by the housing ground shield, discharging any potentially component-damaging static electricity. Ground pins engage next and are followed by Tx and Rx power supplies. Finally, signal lines are connected.

MECHANICAL



RECOMMENDED OPERATING CONDITIONS

PARAMETER	MIN.	TYP.	MAX	UNIT	NOTE
Operating Temperature	-40	-	85	^{0}C	-
Storage Temperature	-40	-	85	^{0}C	-
Humidity	5	-	95	%	non-condensing
Power Supply Voltage	3.1	3.3	3.5	V	-
Total Current (transmiter + receiver)	-	-	300 250	mA	For MM fiber For SM fiber
Maximum Data Rate	-	155	-	Mbit/s	-

SPECIFICATION

TRANSMITTER OPTICAL CHARACTERISTICS:						
PARAMETER	***RATING****	***MIN.***	***TYP.***	***MAX.***	***UNIT***	***NOTE***
Output Optical Power From Multimode Fibre	2km	-20	-	-14	dBm	For MM fibre
Output Optical Power From Single Mode Fibre	30km 60km	-9 -5	- -	-3 0	dBm	For SM fibre
Extinction Ratio	2km 30km, 60km	10 9	- -	- -	dB	For MM fibre For SM fibre
Output Center Wavelength	2km 30km, 60km	1270 1270	1310 1310	1380 1355	nm	For MM fibre For SM fibre For SM fibre
Spectral Width (FWHM)	2km	-	135	160	nm	For MM fibre
Spectral Width (RMS	30km, 60km	- -	- -	2.5	nm	For SM fibre
Rise/Fall time (20%-80%)	2km	-	-	3.0	ns	For MM fibre
Rise/Fall time (10%-90%)	30km, 60km	-	-	2.0	ns	For SM fibre
Relative Intensity Noise	2km 30km, 60km	- -	- -	-120 -120	dB/Hz	For MM fibre For SM fibre
Output Eye	Compliant with ITU-T G.957					For all fibre
Max P out TX-DISABLE Asserted	2km 30km, 60km	- -	- -	-45 -45	dBm	For MM fibre For SM fibre
RECEIVER OPTICAL CHARACTERISTICS:						
Optical Input Power	-	-3	-	-	dBm	For all fibre
Sensitivity	2km 30km 60km	- - -	- - -	-32 -34 -35	dBm	For MM fibre For SM fibre For SM fibre
Operating Wavelength	For all	1260	-	1610	nm	For all fibre
Optical Return Loss	For all	12	-	-	dB	For all fibre
Loss of Signal - Deasserted	2km 30km 60km	- - -	- - -	-32 -34 -35	dBm	For all fibre
Loss of Signal - Asserted	For all	-45	-	-	dBm	For all fibre
Loss of Signal - Hysteresis	2km 30km, 60km	1.0 0.5	- -	- 6	dB	For MM fibre For SM fibre

* Note: The distance rating is for reference only. For more accurate distance estimations the power budget method should be used.

ORDERING INFORMATION

Part Number	***Description***	***Availability***	***Mode***	***Data Rate (Mbps)***	***Light Source***	***TX (dBm) Min.***	***TX (dBm) Max.***	***RX (dBm) Sen***	***Connector Type***	***Nominal * Max. Distance***
AXFE-1314-05N3	SPF-FX5	standard	Multimode	155	1310 FP	-20	-14	-32	LC	4km
AXFE-1314-0553	SPF-LX	standard	Singlemode	155	1310 FP	-9	-3	-34	LC	30km
AXFE-1314-05D3	SPF-EX	standard	Singlemode	155	1310 FP	-5	0	-35	LC	60km

* Note: The nominal distance is for reference only. For more accurate distance estimations the power budget method should be used.