SFP10S

1000Base-LX Single Mode Tranceiver - 10Km (-40 to 75 ºC)

Product Overview

The transceiver is small form factor pluggable module with standard duplex LC connector for fiber communications. This module is designed for single-mode-fiber (SMF) and operates at a nominal wavelength of 1310nm with cost effective and high performance.

Key Features

- Compliant with IEEE802.3z Gigabit Ethernet Standard
- Compliant with Fiber Channel 100-SM-LC-L standard
- Industry standard small form pluggable (SFP) package
- Duplex LC connector
- Differential LVPECL inputs and outputs
- Single power supply 3.3V
- TTL signal detect indicator
- Hot Pluggable
- Class 1 laser product complies with EN 60825-1

Performance Specifications

PARAMETER	SYMBOL	MIN	MAX	UNITS
Storage Temperature	*TS*	−40	75	°C
Supply Voltage	*Vcc*	−0.5	4.0	V
Input Voltage	*VIN*	−0.5	*Vcc*	V
Output Current	*Io*	---	50	mA
Operating Current	*IOP*	---	400	mA

Optical and Electrical Characteristics

Transmitter Electro-optical Characteristics

V_{CC} = 3.1 V to 3.5 V, T_C = -40 °C to 75 °C

PARAMETER	SYMBOL	MIN	TYP.	MAX	UNITS	NOTE
Output Optical Power 9/125 µm fiber	P_{out}	-9.5	---	-3	dBm	Average
Extinction Ratio	ER	9	---	---	dB	
Center Wavelength	λ_c	1270	1310	1355	nm	
Spectral Width (RMS)	$\Delta\lambda$	---	---	2.5	nm	
Rise/Fall Time, (20-80%)	$T_{r,f}$	---	---	260	ps	
Relative Intensity Noise	RIN	---	---	-120	dB/Hz	
Total Jitter	TJ	---	---	227	ps	
Output Eye		Compliant with IEEE802.3z				
Max. P_{out} TX-DISABLE Asserted	P_{off}	---	---	-45	dBm	
Differential Input Voltage	V_{diff}	0.4	---	2.0	V	

Receiver Electro-optical Characteristics

V_{CC} = 3.1 V to 3.5 V, T_C = -40 °C to 75 °C

PARAMETER	SYMBOL	MIN	TYP.	MAX	UNITS	NOTE
Optical Input Power-maximum	P_W	-3	---	---	dBm	BER < 10^{-12}
Optical Input Power-minimum (Sensitivity)	P_W	---	---	-20	dBm	BER < 10^{-12}
Operating Center Wavelength	λ_c	1260	---	1610	nm	
Optical Return Loss	ORL	12	- - -	---	dB	
Signal Detect-Asserted	P_a	---	---	-20	dBm	
Signal Detect-Deasserted	P_d	-35	---	---	dBm	
Stressed Receiver Sensitivity		---	---	-14.4	dBm	Note 1, 2
Differential Output Voltage	V_{diff}	0.5	---	1.2	V	
Data Output Rise, Fall Time (20-80%)	$t_{r,f}$	---	---	0.35	ns	
Receiver Loss of Signal Output Voltage-Low	RX_LOS_L	0	---	0.5	V	
Receiver Loss of Signal Output Voltage-High	RX_LOS_H	2.4	---	V_{cc}	V	

Note 1: Measured with conformance test signal at TP3 for BER = 10^{-12} at the eye center.
Note 2: Measured with a transmit signal having a 9 dB extinction ratio. If another extinction ratio is used, the Stressed receiver sensitivity should be corrected for the extinction ratio penalty.