



SFP1G-LX10 / SFP1G-LX10-I

1Gbps SFP optical Transceiver,
Single-mode / 10KM, 1310nm

Highlights

- Compliant with IEEE802.3z Gigabit Ethernet Standard
- Compliant with Fiber Channel 100-SM-LC-L standard
- Differential LVPECL inputs and outputs
- Single power supply 3.3VDC
- TTL signal detect indicator



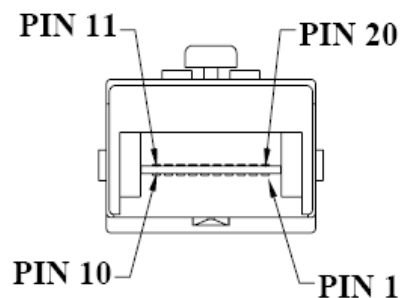
Features

- 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

Application

- Distributed multi-processing
- Switch to switch interface
- High speed I/O for file server
- Bus extension application
- Channel extender, data storage

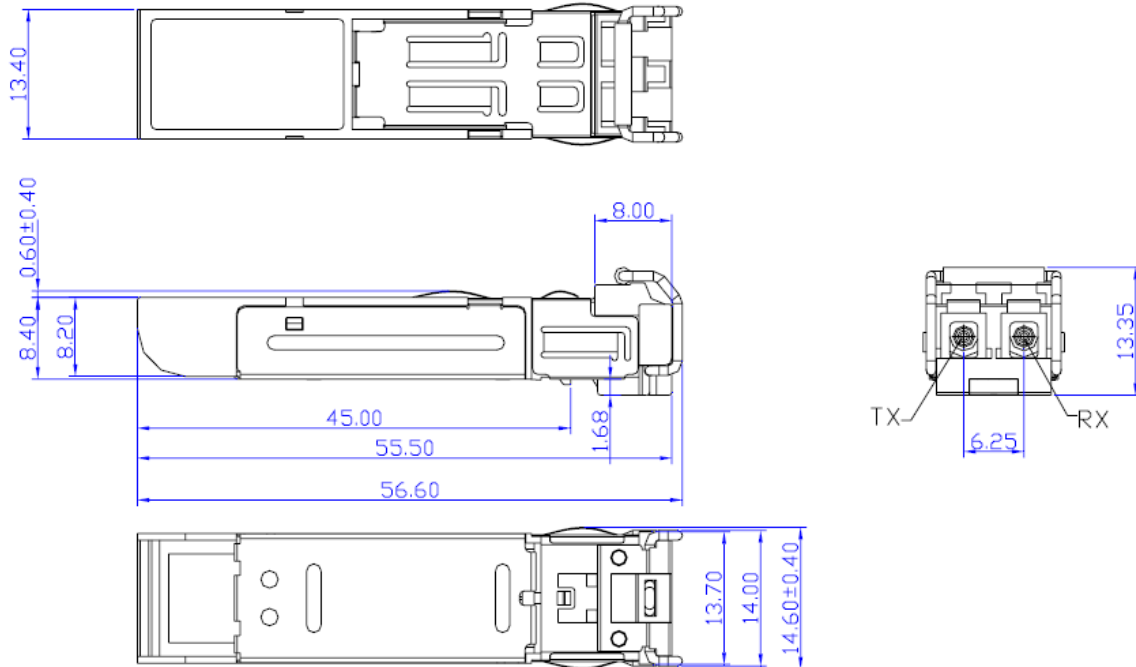
Pin-Assignment



Pin	Signal Name	Description
1	T _{GND}	Transmit Ground
2	TX_FAULT	Transmit Fault
3	TX_DISABLE	Transmit disable
4	MOD_DEF (2)	SDA Serial Data Signal
5	MOD_DEF (1)	SCL Serial Clock Signal
6	MOD_DEF (0)	TTL Low
7	RATE SELECT	Open Circuit
8	RX_LOS	Receiver Loss of Signal, TTL High, open collector
9	R _{GND}	Receiver Ground
10	R _{GND}	Receiver Ground
11	R _{GND}	Receiver Ground
12	RX-	Receiver Data Bar, Differential PECL, ac coupled
13	RX+	Receiver Data, Differential PECL, ac coupled
14	R _{GND}	Receiver Ground
15	V _{CCR}	Receiver Power Supply
16	V _{CCT}	Transmitter Power Supply
17	T _{GND}	Transmit Ground
18	TX+	Transmit Data, Differential PECL, ac coupled
19	TX-	Transmit Data Bar, Differential PECL, ac coupled
20	T _{GND}	Transmit Ground

Dimension

Unit = mm



Specifications

ABSOLUTE MAXIMUM RATINGS :						
Parameter	Symbol	Min	Max	Units		
Storage Temperature	T _s	-40	85	°C		
Supply Voltage	V _{CC}	-0.5	4.0	V		
Input Voltage	V _{IN}	-0.5	V _{CC}	V		
Output Current	I _O	-	50	mA		
Operating Current	I _{OP}	-	400	mA		
RECOMMENDED OPERATING CONDITIONS :						
Parameter	Symbol	Min	Max	Units		
Case Operating Temperature	T _C	SFP1G-LX10 = 0 SFP1G-LX10-I = -40	SFP1G-LX10 = 70 SFP1G-LX10-I = 85	°C		
Supply Voltage	V _{CC}	3.1	3.5	V		
Supply Current	I _{TX} + I _{RX}	-	250	mA		
TRANSMITTER ELECTRO-OPTICAL CHARACTERISTICS : V _{CC} = 3.1V to 3.5V, T _C = 0°C to 70°C (-40°C to 85°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)	Δλ	-	-	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} = 3.1V to 3.5V, T _C = 0°C to 70°C (-40°C to 85°C)						
Parameter	Symbol	Min	Typ.	Max	Units	Note
Optical Input Power-maximum	P _{IN}	-3	-	-	dBm	BER < 10 ⁻¹²
Optical Input Power-minimum (Sensitivity)	P _{IN}	-	-	-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	
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	

Ordering Information

SFP1G-LX**AA**-**B**

Code Definition	Transceiver Distance	Additional Port Type
Option	- 10: 10 KM	-I: Industrial extended model for -40 ~ 85°C * Regular model : 0 ~ 70°C

Available Model	Model Name	Description	Operating Temperature
	SFP1G-LX10	1Gbps SFP optical Transceiver, Single-mode / 10KM, 1310nm,	0 ~ 70°C
	SFP1G-LX10-I	1Gbps SFP optical Transceiver, Single-mode / 10KM, 1310nm,	-40 ~ 85°C