

SFP-EZX-160

1000BASE, SFP, EZX, SMF TRANSCEIVER
1550nm, 160km REACH, DUPLEX LC CONNECTOR

SFP-EZX-160

1000Base SFP EZX 1550nm SMF 160km Transceiver

Product Features

- Up to 1.25Gb/s data links
- 1550nm DFB laser transmitter and APD photodetector
- Up to 160km on 9/125um SMF
- Hot-pluggable SFP footprint
- Duplex LC/UPC type pluggable optical interface.
- Low power dissipation
- RoHS-10 compliant and lead-free
- Support Digital Monitoring interface.
- Single +3.3V power supply
- Compliant with SFF-8472
- Metal enclosure, for lower EMI
- Meet ESD requirements, resist 8KV direct contact voltage.
- Available operating temperature ranges:
 - Commercial: 0°C to 70°C
 - Industrial: -40°C to 85°C



Product Applications

- 1000BASE-EZX Ethernet
- FC
- Other optical links

I. Maximum Ratings

Exceeding the limits below may damage the transceiver module permanently.

Parameter	Symbol	Min.	Typ.	Max.	Units
Storage Temperature	TS	-40		+85	°C
Power Supply Voltage	Vcc	-0.5		3.6	V
Relative Humidity	RH	5		95	%
Damage Threshold	THd	0			dBm

II. Operating / Environment Specifications

Parameter		Symbol	Min.	Typ.	Max.	Units
Case Operating Temperature	Commercial	TC	0		+70	°C
	Industrial		-40		+85	°C
Supply Voltage		VCC	3.135		3.465	V
Data Rate			1.25			Gb/s
Control Input Voltage High			2		Vcc	V
Control Input Voltage Low			0		0.8	V
Link Distance (SMF)		D			160	km

III. Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter						
Center Wavelength	λ_c	1530	1550	1570	nm	
Spectrum Bandwidth (RMS)	σ			1	nm	
Side Mode Suppression Ratio	SMSR	30			dB	
Average Optical Power	Pavg	1		6	dBm	1
Extinction Ratio	ER	9			dB	
Transmitter OFF Output Power	Poff			-45	dBm	
Output Eye Mask	Compliant with 802.3z(class 1 laser safety)					2
Receiver						
Center Wavelength	λ_c	1270		1610	nm	
Sensitivity (Average Power)	Pol			-33	dBm	3
Input Saturation Power (overload)	Sen	-10			dBm	
RX_LOS Assert	LOS A	-41			dBm	4
RX_LOS De-assert	LOS D			-34	dBm	4
RX_LOS Hysteresis	LOS H	0.5			dB	

Notes:

1. Measure at 2⁷-1 NRZ PRBS pattern
2. Transmitter eye mask definition.
3. Measured with Light source 1550nm, ER=9dB; BER≤1E-12 @PRBS=2⁷-1 NRZ
4. When LOS de-asserted, the RX data+/- output is High-level (fixed).

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IV. Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Power Consumption	P			0.95	W	commercial
				1.00		Industrial
Supply Current	I _{cc}			280	mA	commercial
				300		Industrial
Transmitter						
Single-ended Input Voltage Tolerance	V _{cc}	-0.3		4.0	V	
Differential Input Voltage Swing	V _{in,pp}	200		2400	mV _{pp}	
Differential Input Impedance	Z _{in}	90	100	110	Ohm	
Transmit Disable Assert Time				5	us	
Transmit Disable Voltage	V _{dis}	V _{cc} -1.3		V _{cc}	V	
Transmit Enable Voltage	V _{en}	V _{ee} -0.3		0.8	V	
Receiver						
Differential Output Voltage Swing	V _{out,pp}	500		900	mV _{pp}	
Differential Output Impedance	Z _{out}	90	100	110	Ohm	
Data output rise/fall time	T _r /T _f				ps	20% - 80%
LOS Assert Voltage	V _{losH}	V _{cc} -1.3		V _{cc}	V	
LOS De-Assert Voltage	V _{losL}	V _{ee} -0.3		0.8	V	

Warranty

All transceivers feature a limited lifetime warranty.

Disclaimer

External physical characteristics are subject to variation. This may include, but is not limited to, external case designs, pull tab colors and/or shapes, removal latch styles or colors, and label sizes and placement. These variations do not affect the function or characteristics of the transceivers.