
IXSFP-S-LR-LC-1550-80-DDM

SFP+ Duplex 10Gb/s 80km Transceiver with DDMI

Hot Pluggable, 1550nm TX / 1550nm RX with LC Receptacle

- **Features:**

- Data-rate of 10.3Gbps operation
- Cooled EML Laser Transmitter and APD Receiver
- SFP+ Multi-source Package Duplex LC Connector
- Up to 80km on 9/125um SMF
- Hot-Pluggable Capability with SFP+ form factor
- Single +3.3V Power Supply
- Operating Case Temperature: 0°C~+70°C
- Compliant with Specifications for IEEE802.3ae 10GBASE-LR and 10GBASE-LW
- Eye Safety Designed to Meet Laser Class1
- Compliant with SFP+ MSA Specification SFF-8431
- Compliant with SFF-8472

- **Applications:**

- CPRI standard
- 10G Ethernet
- Other optical links

IXSFP-S-LR-LC-1550-80-DDM transceiver is small form factor pluggable module for serial optical data communications. It's compatible with SFF-8431 Rev4.1 Multi- Sourcing Agreement (MSA). It's RoHS compliant and lead-free per Directive 2002/95/EC. The digital diagnostics functions are compliant with SFF-8472, which are available via the 2-wire serial bus specified in the SFP+ MSA.

- **Order Information:**

Part No.	Bit Rate (Gbps)	Wavelength(nm)	Distance [note2]	DDMI	Connector	Temp [note1]
IXSFP-1550-80-DDM	10.3125	TRX1550nm	80km	YES	LC	0°C~+70°C

Notes:

1. Case Temperature.
 2. Maximum Supported Distances.
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● **Absolute Maximum Ratings:**

Parameter	Symbol	Min.	Typ	Max.	Unit
Maximum Supply Voltage	V _{cc}	-0.5	-	3.8	V
Storage Temperature	T _S	-40	-	85	°C
Operating Humidity	-	0	-	85	%

● **Recommended Operating Environment:**

Parameter	Symbol	Min.	Typ	Max.	Unit
Power Supply Voltage	V _{cc}	3.13	3.30	3.47	V
Power Supply Current	I _{cc}	-	420	610	mA
Surge current	I _{surge}	-	-	30	mA
Case Operating Temperature	T _{op}	-5		70	°C
Data Rate	DR	-	10.3125	-	Gbps

● **Transmitter Electrical Characteristics:**

Parameter	Symbol	Min.	Typ	Max.	Unit
CML Inputs(Differential)	V _{in}	150		1200	mV _{pp}
Input AC Common Mode Voltage		0		25	mV
Input Impedance(Differential)	Z _{in}	85	100	115	ohm
Differential Input S-parameter	S _{DD11}	-	-	-10	dB
Differential to Common Mode Conversion	S _{CD11}	-	-	-10	dB
TX Disable Input Voltage High		2		3.45	V
TX Disable Input Voltage Low		0		0.8	V
TX Fault Output Voltage High		2		V _{cc} +0.3	V
TX Disable Input Voltage High		0		0.5	V

● **Receiver Electrical Characteristics:**

Parameter	Symbol	Min.	Typ	Max.	Unit
CML Outputs(Differential)	V _{out}	350		700	mV _{pp}
Output AC Common Mode Voltage		0		15	mV
Output Impedance(Differential)	Z _{out}	90	100	110	ohm
Differential Output S-parameter	S _{D22}	-	-	-10	dB
RX LOS Output Voltage High		2		V _{cc} +0.3	V
RX LOS Output Voltage Low		0		0.8	V
MOD_DEF(0:2) Voltage High	VoH	2.5			V
MOD_DEF(0:2) Voltage High	VoL	0		0.5	V

● **Transmitter Optical Characteristics:**

Parameter	Symbol	Min.	Typ	Max.	Unit
Center Wavelength	λ_c	1530	1550	1565	nm
Spectral Width (-20dB)	σ	-	-	0.3	nm
Side Mode Suppression Ratio	SMSR	30	-	-	dB
Average Output Power	P _o	0	-	+4	dBm
Extinction Ratio	ER	8.2	-	-	dB
Average Launch power of OFF TX	P _{off}	-	-	-30	dBm
Transmitter Dispersion Penalty	TDP	-	-	3.2	dB

● **Receiver Optical Characteristics:**

Parameter	Symbol	Min.	Typ	Max.	Unit
Operating Wavelength	λ_c	1260	-	1620	nm
Receive Sensitivity(Note 1)	P _{min}	-	-	-22	dBm
Maximum Input Power(Note 1)	P _{MAX}	-5	-	-	dBm
LOS Assert	LOSA	-34	-	-	dBm
LOS De-assert	LOSD	-	-	-24	dBm
LOS Hysteresis	-	0.5	-	-	dB

Note:

1. Measured with a PRBS $2^{31}-1$ test pattern @10.3125Gbps, $BER \leq 1 \times 10^{-12}$.