LO-SP-10G-2S3-10 / LO-SP-10G-3S2-10

10Gb/s SFP+ BiDi 1270/1330nm

Transceiver

Product Features

- SFP+ package with LC connector
- 1270nm/1330nm DFB Laser and 1330nm/1270nm PIN-TIA photodetector
- Up to 20Km transmission on SMF
- Up to 11.3Gbps Data Links
- Support dual CDR in TX and RX channel (optional)
- +3.3V single power supply
- Power dissipation < 1.5W
- 2-wire interface with integrated Digital Diagnostic monitoring
- Low EMI and excellent ESD protection
- Laser safety standard IEC-60825 compliant
- Compatible with RoHS
- Compliant with SFF-8472 SFP+ MSA
- Compliant to SFP+ SFF-8431 and SFF-8432

Applications

- Ethernet
- Telecom

Ordering information

Part Number	Product Description
LO-SP-10G-2S3-10	SFP+ BIDI SM 1270nm/1330nm LC 10km 10Gb (DFB+PIN)
LO-SP-10G-3S2-10	SFP+ BIDI SM 1330nm/1270nm LC 10km 10Gb (DFB+PIN)

Absolute Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Units
Storage Temperature	Tst	-40	85	℃
Supply Voltage	Vcc	-0.3	4	V
Operating Relative Humidity	**RH**	5	95	**%**

Recommended Operating Conditions

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating Case Temperature	T_C	-5	-	70	℃
Supply Voltage	V_{CC}	3.15	3.3	3.45	V
Data Rate PER Channel	-	-	10.3125	-	Gb/s

Transceiver Electrical Characteristics

Transmitter							
Parameter		**Symbol**	**Minimum**	**Typical**	**Maximum**	**Unit**	**Notes**
Input Differential Impedance		Z_{IN}	90	100	110	**Ω**	-
Differential Data Input Swing		V_{IN}	180	-	700	mV	-
TX_FAULT	Transmitter Fault	V_{OH}	2.4	-	V_{CCHOST}	V	-
	Normal Operation	V_{OL}	-0.3	-	0.8	V	-
TX_DISABLE	Transmitter Disable	V_{IH}	2.0	-	V_{CCHOST}	V	-
	Transmitter Enable	V_{IL}	-0.3	-	0.8	V	-
Receiver							
Parameter		**Symbol**	**Minimum**	**Typical**	**Maximum**	**Unit**	**Notes**
Output Differential Impedance		Z_O	80	100	120	**Ω**	-
Differential Data Output Swing		V_{OUT}	300	-	850	mV	-
RX_LOS	Loss of signal (LOS)	V_{OH}	2.0	-	V_{CCHOST}	V	-
	Normal Operation	V_{OL}	-0.3	-	0.4	V	-

Transmitter Optical Characteristics

Parameter		Symbol	Minimum	Typical	Maximum	Unit	Notes
Center Wavelength Range	Tx 1270	λc	1260	1270	1280	nm	-
Center Wavelength Range	Tx 1330		1320	1330	1340		-
Spectral Width (-20dB)		Δλ	-	-	1	nm	-
Extinction Ratio		ER	3.5	-	-	dB	-
Average Output Power		Po	-2	-	3	dBm	-
Side-Mode Suppression Ratio		SMSR	35	-	-	dB	-
Total jitter			IEEE 802.3z and ANSI Fibre Channel Compatible				

Receiver Optical Characteristics

Parameter		Symbol	Minimum	Typical	Maximum	Unit	Notes
Center Wavelength	Rx 1330	λc	1320	1330	1340	nm	-
Center Wavelength	Rx 1270		1260	1270	1280		-
Receiver Sensitivity		Rsen	-	-	-13	dBm	-
Receiver Overload		Rov	-3	-	-	dBm	-
Optical Return Loss		ORL	12	-	-	dB	-
LOS De-Assert		LOS_D	-	-	-18	dBm	-
LOS Assert		LOS_A	-22	-	-	dBm	-
LOS Hysteresis		-	0.5	-	4	-	-

Mechanical specifications