Part Type: SFP+-10GBase-ZR
SFP+-10GBase-ZR-IND

Quick Spec:

Form Factor:	SFP+
TX Wavelength:	1550nm
Reach:	80km
Cable Type:	SMF
Rate Category:	10GBase
Interface Type:	ZR
DDM:	Yes
Connector Type:	Dual-LC
Power Budget:	24.dB
TX Power Min/Max:	0.00 to 3.00
RX Power Min/Max:	-24.00 to -7.00

Features

- Data rate selectable ≤4.25Gbps or 9.95Gbps to 10.3Gbps bit rates
- Cooled EML transmitter and APD receiver
- Low Power Dissipation 2W Maximum
- Operating Case Temperature
    - Standard 0°C to +70°C
    - Industrial -40°C to +85°C
- Single 3.3V power supply
- Voltages, laser bias current, transmit optical power, receive optical power (DDM)

Applications

- 10GBASE-ZR at 10.3125Gbps
- 10GBASE-ZW at 9.953Gbps
- Other Optical Links

Electrical Characteristics (Condition: Ta=TOP)

Parameter	Symbol	Min.	Typ	Max.	Unit	Notes
CML Inputs(Differential)	Vin	150		1200	mV p-p	AC coupled inputs
Supply Current	ICC		400	600	mA	
Input Impedance (Differential)	Zin	85	100	115	ohm	Rin > 100 kohm @ DC
Tx_Disable Input Voltage – Low	VIL	0		0.8	V	
Tx_Disable Input Voltage – High	VIH	2.0		3.45	V	
Tx_Fault Output Voltage – Low	VOL	0		0.5	V	
Tx_Fault Output Voltage – High	VOH	2.0		Vcc+0.3	V	
CML Outputs (Differential)	Vout	350		700	mV pp	AC coupled outputs
Output Impedance (Differential)	Zout	85	100	115	ohms	
Rx_LOS Output Voltage- Low	VOL	0		0.5	V	
Rx_LOS Output Voltage- High	VOH	2.5			V	

Optical Characteristics (Condition: Ta=TOP)

TX						
Parameter		**Symbol**	**Min**	**Typ**	**Max**	**Unit**
Data Rate			-	10.3	-	Gb/s
9μm Core Diameter SMF				10		Km
Centre wavelength		λc	1530	1550	1565	nm
Output Spectral Width(-20dB)		Δλ	-	-	1	nm
Average Output Power		P_{out}	0	-	+3	dBm
Extinction Ratio		ER	6	-	-	dB
Average Power of OFF Transmitter					-30	dBm
Side Mode Suppression Ratio		SMSR	30			dB
Input Differential Impedance		Zin	90	100	110	Ω
TX Disable	Disable		2.0		Vcc+0.3	V
	Enable		0		0.8	
TX Fault	Fault		2.0		Vcc+0.3	V
	Normal		0		0.8	
TX Disable Assert Time		t_off			10	us

RX						
Parameter		**Symbol**	**Min**	**Typ**	**Max**	**Unit**
Center Wavelength		λc	1530		1565	nm
Receive Sensitivity		P_{in}	-	-	-24	dBm
Maximum Input Power		P_{MAX}	-7.0		-	dBm
Signal Detect Threshold-Assertion:		SD_{HIGH}	-	-	-25	dBm
Signal Detect Threshold-Deassertion:		SD_{LOW}	-30	-	-	dBm
Output Differential Impedance		Pin	90	100	110	Ω
Receiver Overload		Pmax	0.5			dBm
Optical Return Loss		ORL			-27	dB
LOS	High	2.0			Vcc+0.3	V
	Low	0			0.8	

Absolute Maximum Ratings (T_C=25℃)

Parameter	**Symbol**	**Min**	**Max**	**Unit**
Storage Temperature	T_{ST}	-40	+85	℃
Operating Temperature (Standard)	T_{IP}	0	+70	℃
Operating Temperature (Industrial)	T_{IP}	-40	+85	℃
Input Voltage	T_{CC}	0	5	V

Recommend Operation Environment

Parameter	**Symbol**	**Min**	**Typ**	**Max**	**Unit**
Supply Voltage	V_{CC}	+3.15	3.3	+3.45	V
Operating Temperature (Standard)	T_{OP}	0	-	+70	℃
Operating Temperature (Industrial)	T_{OP}	-40		+85	℃