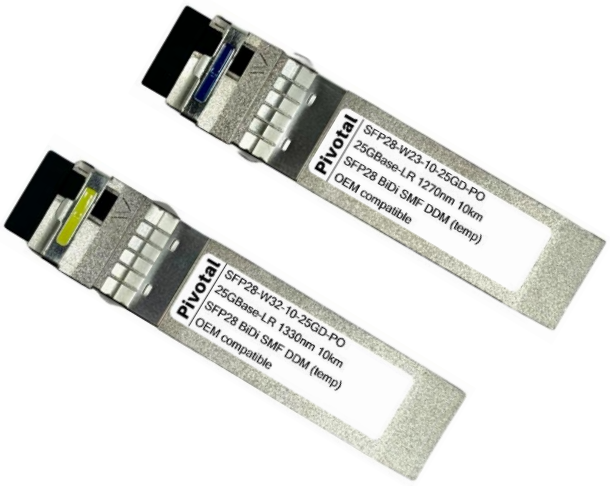
SFP28-W23/W32-10-25GD

25GBASE, SFP28, LR, BiDi, SMF (BXU)1270/1330nm, (BXD)1330/1270nm, 10km REACH, SIMPLEX LC CONNECTOR

Product Features

- Up to 25.78Gbp/s Data Links
- Up to 10km transmission on SMF
- 1270nm/1330nm DFB Laser & PIN receiver
- 1330nm/1270nm DFB Laser & PIN receiver
- Support Digital Monitoring interface
- BIDI LC optical connector
- Single +3.3V power supply
- RoHS-10 compliant and lead-free
- Compliant with SFF+MSA and SFF-8472
- Maximum power consumption 1.5W
- Metal enclosure, for lower EMI
- Meet ESD requirements,
- Available operating temperature ranges:
  - Commercial: 0°C to 70°C
  - Industrial: -40°C to 85°C



Product Applications

- 25GBASE-LR
- OTN / CPRI

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 (non-condensation)	RH	5		95	%
Damage Threshold	THd	3			dBm

II. Operating Specifications

Parameter	Symbol	Min.	Typ.	Max.	Units	Notes
Case Operating Temperature	TC	0		+70	℃	Commercial
		-40		+85	℃	Industrial
Power Supply Voltage	VCC	3.1	3.3	3.47	V	
Data Rate	BR		25.78		Gbps	
Control Input Voltage High		2		Vcc	V	
Control Input Voltage Low		0		0.8	V	
Link Distance	D			10	km	9/125um

III. Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Power Consumption	P			0.86	W	
Supply Current	Icc			260	mA	
Transmitter						
Single-ended Input Voltage Tolerance	Vcc	-0.3		4.0	V	
Common Mode Voltage Tolerance		15			mV	
Differential Input Voltage Swing	Vin,pp	180		700	mVpp	
Differential Input Impedance	Zin	90	100	110	Ohm	1
Transmit Disable Assert Time				10	us	
Transmit Disable Voltage	Vdis	Vcc-1.3		Vcc	V	
Transmit Enable Voltage	Ven	Vee		Vee+0.8	V	2
Receiver						
Single-ended Input Voltage Tolerance	Vcc	-0.3		4.0	V	
Differential Output Voltage Swing	Vout,pp	300		900	mVpp	
Differential Output Impedance	Zout	90	100	110	ohms	3
Data output rise/fall time	Tr/Tf	9.5			ps	4
LOS Assert Voltage	VlosH	Vcc-1.3		Vcc	V	5
LOS De-assert Voltage	VlosL	Vee-0.3		0.8	V	5

Notes:

1. Connected directly to TX data input pins. AC coupled thereafter.
2. Or open circuit.
3. Input 100 ohms differential termination.
4. These are unfiltered 20-80% values.
5. Loss of Signal is LVTTL. Logic 0 indicates normal operation; logic 1 indicates no signal detected.

IV. Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter						
Centre Wavelength	λC	1260	1270	1280	nm	BXU
		1320	1330	1340		BXD
Optical Spectral Width	Δλ			1	nm	
Average Optical Power	Pavg	-7		2	dBm	1
Side Mode Suppression Ratio	SMSR	20			dB	
Optical Extinction Ratio	ER	3.5			dB	
Transmitter OFF Output Power	POff			-30	dBm	
Transmitter and Dispersion Penalty	TDP			2.7	dB	
Optical Retunr Loss	ORLT			20	dB	
Transmitter Eye Mask	Compliant with IEEE802.3ae					
Receiver						
Center Wavelength	λc	1320	1330	1340	nm	BXU
		1260	1270	1280		BXD
Receiver Sensitivity (AVG Power)	PIN			-11.5	dBm	2
Stressed Receiver Sensitivity (OMA)	sen			-8.5	dBm	2
Average Receive Power		-14		2	dBm	
Input Saturation Power (overload)	Psat	0.5			dBm	
LOS Assert	LOSA	-30			dBm	
LOS De-Assert	LOSD			-14	dBm	
LOS Hysteresis	LOSH	0.5			dBm	
Damage Threshold	THd	3			dB	

Notes:

1. Class 1 Laser Safety per FDA/CDRH and IEC-825-1 regulations.
2. Measured with Light source 1270@1330nm, ER=3.5dB; BER≤1E-12 @10.3125Gbps, PRBS=2^{31} -1 NRZ.

v. Ordering Information

Pivotal Part Number	Description
SFP28-W23-10-25GD	SFP28, WDM BiDi 1270TX/1330RX, LR SMF 10km, 25G DDM, C-Temp
SFP28-W23-10-25GDI	SFP28, WDM BiDi 1270TX/1330RX, LR SMF 10km, 25G DDM, I-Temp
SFP28-W32-10-25GD	SFP28, WDM BiDi 1330TX/1270RX, LR SMF 10km, 25G DDM, C-Temp
SFP28-W32-10-25GDI	SFP28, WDM BiDi 1330TX/1270RX, LR SMF 10km, 25G DDM, I-Temp

Notes:

1. Please contact sales for specific OEM Platform part numbers to fit your network.

Warranty
https://pivotaloptics.com/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.