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## 1.25Gb/s Bidirectional Single-Fiber SFP Transceiver with DDM & SC Connector

### Features and Benefits

Up to 1.25Gb/s dual data link.

These SFP Modules now include DDM (Digital Diagnostic Monitoring).

Multiple dual wavelength configurations available for various distances.

Single 3.3V power supply.

Hot-pluggable SFP footprint with compact simplex LC or SC optical connector.

Fully metallic enclosure assures low EMI.

Transmits up to 80km over a single 9/125 $\mu$ m single-mode fiber.

Ideal for SONET/SDH equipment interconnects, Fiber Channel links, and WDM Gigabit Ethernet links.



The Olson Model OTOLS-BIYY-ZZD Bidirectional 1.25Gb/s Single-Mode Small Form Pluggable (SFP) Fiber Optic Transceiver is one of several module options available for the Model OTDV-1250 as well as a number of Olson fiber optic Ethernet transport products. The module is compatible with gigabit Ethernet and 1000BASE-SX. The SFP module may be swapped in the field.

The link can be ordered in a variety of wavelengths for varying distances and LC or SC connectors. All models operate over a single 9/125 $\mu$ m single-mode fiber only. These SFP modules include DMM monitoring.

### Ordering Information

OTOLS-BI35SC-20D	SFP, 1.25Gb/s, 20km, SC, 1310nm Tx/1550nm Rx
OTOLS-BI53SC-20D	SFP, 1.25Gb/s, 20km, SC, 1550nm Tx/1310nm Rx
OTOLS-BI35SC-40D	SFP, 1.25Gb/s, 40km, SC, 1310nm Tx/1550nm Rx
OTOLS-BI53SC-40D	SFP, 1.25Gb/s, 40km, SC, 1550nm Tx/1310nm Rx
OTOLS-BI45SC-80D	SFP, 1.25Gb/s, 80km, SC, 1490nm Tx/1550nm Rx
OTOLS-BI54SC-80D	SFP, 1.25Gb/s, 80km, SC, 1550nm Tx/1490nm Rx
OTOLS-BI35LC-20D	SFP, 1.25Gb/s, 20km, LC, 1310nm Tx/1550nm Rx
OTOLS-BI53LC-20D	SFP, 1.25Gb/s, 20km, LC, 1550nm Tx/1310nm Rx
OTOLS-BI35LC-40D	SFP, 1.25Gb/s, 40km, LC, 1310nm Tx/1550nm Rx
OTOLS-BI53LC-40D	SFP, 1.25Gb/s, 40km, LC, 1550nm Tx/1310nm Rx
OTOLS-BI45LC-80D	SFP, 1.25Gb/s, 80km, LC, 1490nm Tx/1550nm Rx
OTOLS-BI54LC-80D	SFP, 1.25Gb/s, 80km, LC, 1550nm Tx/1490nm Rx

## System Specifications

## Recommended Operating Conditions

	Min	Typ	Max	Units
<b>Absolute Max. Ratings</b>				
Power Supply Voltage	-0.5		+3.6	V
Storage Temperature	-40		+85	°C
<b>Normal Operating Conditions</b>				
Operating Temperature	0		+70	°C
Power Supply Voltage	3.15	3.3	3.45	V
Power Supply Current			190	mA
Surge Current			+30	mA
Baud Rate		1.25		GBaud
Total Supply Current			+300	mA

## Optical and Electrical Characteristics

	Min	Typ	Max	Units
Distance (9/125µm)	20		80	km
Data Rate			1.25	Gb/s
<b>Transmitter</b>				
Wavelength (1310)	1270	1310	1350	nm
Wavelength (1490nm)	1480	1490	1510	nm
Wavelength (1550nm)	1530	1550	1570	nm
Spectral Width (RMS)			4	nm
Spectral Width (-20dB)			1	nm
Optical Output Power (1310nm)	-9.0		-3.0	dBm
Optical Output Power (1550nm)	-8.0		-3.0	dBm
Extinction Ratio	9			dB
Rise/Fall Time (20%-80%)			90	ps
Output Optical Eye				IUT-T G.957 Compliant
Data Input Swing Differential	500		2000	mV
Input Differential Impedance	90	100	110	Ohms
Enable Tx_Disable	2.0		V <sub>cc</sub> +0.3	V
Disable Tx_Enable	0		0.8	V
Tx_Fault = Fault	2.0		V <sub>cc</sub> +0.3	V
Tx Fault = Normal	0		0.8	V
Tx_Disable Assert Time			10	s
<b>Receiver</b>				
Wavelength (1310nm)	1270	1310	1350	nm
Wavelength (1490nm)	1480	1490	1510	nm
Wavelength (1550nm)	1530	1550	1570	nm
Sensitivity			-20	dBm
Output Differential Impedance	90	100	110	Ohms
Data Output Swing Differential	370		2000	mV
Rise/Fall Times			2.2	ns
LOS De-assert			-24	dBm
LOS Assert	-40			dBm

## Physical Characteristics

	Min	Typ	Max	Units
Weight		0.8		oz.
		23		g
Dimensions (L x W x H)	2.68 x 0.47 x 0.28			in.
	68 x 12 x 7			mm

## Performance Specifications - Electrical

	Min	Typ	Max	Units
<b>Transmitter</b>				
CML/PECL Inputs (Differential) (1)	400		2500	mVp-p
Input Impedance (Differential) (2)	85	100	115	Ohms
Tx_Disable Input Voltage - High	2		3.45	V
Tx_Disable Input Voltage - Low	0		0.8	V
Tx_Fault Output Voltage - High (3)	V <sub>cc</sub> -0.5		V <sub>cc</sub> +0.3	V
Tx_Fault Output Voltage - Low (4)	0		0.5	V
<b>Receiver</b>				
CML Outputs (Differential)(5)	400	800	1200	mVp-p
Output Impedance (Differential)	85	100	115	Ohms
Rx_LOS Output Voltage High (3)	V <sub>cc</sub> -0.5		V <sub>cc</sub> +0.3	V
Rx_LOS Output Voltage Low (4)	0		0.8	V

## NOTES:

- 1) Ac coupled inputs.  
 2) R<sub>IN</sub>>100 kOhms @ DC.  
 3) I<sub>o</sub> = 400µA; Host V<sub>cc</sub>.

- 4) I<sub>o</sub> = -4.0mA.  
 5) AC coupled outputs.