

HSB-70596-xx

1.25Gbps 1310/1490nm SC BiDi 20Km SFP Transceiver

Product Description

The 70596-xx is a small form factor pluggable (SFP) transceivers with SC interface compatible with applicable multi-sourcing agreement (MSA). It is suitable for single strand bi-directional (WDM) communication in single-mode fiber (SMF) targeting 1.25Gbps Ethernet and 1G/2G Fiber Channel.

Features

- Up to 2.125Gbps data links
- 20km in 9/125µm SMF
- 1310nm FP laser
- Simplex SC Connector
- Hot-pluggable
- Single 3.3V power supply
- Digital Diagnostic Monitor (DDM)



Applications

- 1.25Gbps 1000Base-LX
- 1G/2G Fiber Channel

Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit
Supply Voltage	V _{CC}	-0.5	3.6	V
Storage Temperature	T _s	-40	85	°C
Operating Case Temperature	T _c	0	70	°C

Recommended Operating Conditions

Parameter	Symbol	Min.	Typical	Max.	Unit
Power Supply Voltage	V _{CC}	3.15	3.3	3.45	V
Power Supply Current	I _{CC}			300	mA
Data Rate			1.25		GBps
Max Link Length on 9/125µm SMF	L _{max}			20	km

Optical Characteristics

Parameter	Symbol	Min.	Typical	Max.	Unit
Transmitter					
Centre Wavelength	λ_c	1300	1310	1320	nm
Spectral Width (RMS)	σ			4	nm
Average Output Power	P _{out}	-8		-3	dBm
Extinction Ratio	EX	9			dB
Optical Rise/Fall Time	tr/ta			2	ns
Receiver					
Centre Wavelength	λ_c	1480	1490	1500	nm
Receiver Sensitivity	P _{IN}			-23	dBm
Receiver Overload	P _{MAX}	1			dBm
LOS De-Assert	LOS _D			-30	dBm
LOS Assert	LOS _A	-35			dBm
LOS Hysteresis		0.5		4.5	dB

Electrical Characteristics

Parameter	Symbol	Min.	Typical	Max.	Unit
Transmitter					
Input Differential Impedance	Zin	90	100	110	Ω
Data Input Swing Differential	Vin	500		2400	mV
Tx-Dis Disable	Vd	2.0		Vcc	V
Tx-Dis Enable	Ven	0		0.8	V
TX-Fault (Fault)		2.0		Vcc+0.3	V
TX-Fault (Normal)		0		0.8	V
Receiver					
Data Output Swing Differential	Vout	370		2000	mV
Rx-Los Fault	Vlf	2.0		Vcc+0.3	V
Rx-Los Normal	Vln	0		0+0.8	V

DDM Threshold

	Low Alarm	Low Warn	High Warn	High Alarm
Temperature	-10°C	-5°C	75°C	80°C
Voltage	3V	3.1V	3.5V	3.6V
Tx Bias	4mA	5mA	70mA	75mA
Tx Power	-13.5dBm	-9.5dBm	-1dBm	1dBm
Rx Power	-23dBm	-19dBm	-3dBm	1dBm

