1000BASE-SX GBIC Module Multimode SC 550m data range (850nm) Cisco compatible

GBIC-, SFP-, XFP-, XENPAK-Transceiver

The tde Small Form Pluggable Optical Transceiver are easy installed for enterprise and telecom applications. The tde SFP modular line provides a fully compatible, highly reliable and volume accessible supply of quality transceiver products with excellent performance for design-in manufacturing and end-user enterprise applications.

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Technical Data

Features

- Operating data rate up to 1.25Gbps
- 850nm VCSEL Transmitter
- Distance up to 550m
- 3.3/5V Power supply and TTL Logic Interface
- Duplex SC Connector Interface
- Hot Pluggable
- Operating Case Temperature Industrial: -40°C~+85°C
- Compliant with GBIC Specification Rev. 5.5

Applications

- WDM GBE Links
- SONET/SDH Equipment Interconnect
- Fiber Channel Links

Regulatory Compliance

Feature	Standard	Performance
Electrostatic Discharge (ESD) to the Electrical Pins	MIL-STD-883E Method 3015.7	Class 1(>500 V) Isolation with the case
Electromagnetic Interference (EMI)	FCC Part 15 Class B	Compatible with standards
Laser Eye Safety	FDA 21CFR 1040.10 and 1040.11 EN60950, EN (IEC) 60825-1,2	Compatible with Class I laser product. Compatible with T üV standards
Component Recognition	UL and CUL	UL file E317337
Green Products	RoHS	RoHS6

Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit
Storage Temperature	TS	-40	+85	°C
Supply Voltage	Vcc	0	6	V

Recommended Operating Conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit
Operating Case Temperature	TA	-40		+85	°C
Power Supply Voltage	Vcc	4.75 3.15	5 3.3	5.25 3.45	V
Power Supply Current	Icc			300	mA
Surge Current	ISurge			+30	mA
Baud Rate			1.25		GBaud

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Performance Specifications - Electrical

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter						
LVPECL Inputs (Differential)	Vin	400		2500	mVp	AC coupled inputs
Input Impedance (Differential)	Zin	85	100	115	ohms	Rin > 100 kohms @ DC
Tx_DISABLE Input Voltage - High		2		Vcc+0.3	V	
Tx_DISABLE Input Voltage - Low		0		0.8	V	
Tx_FAULT Output Voltage - High		2		Vcc+0.3	V	Io = 400µA; Host Vcc
Tx_FAULT Output Voltage - Low		0		0,5	V	Io = -4.0mA
Receiver						
LVPECL Outputs (Differential)	Vout	400	800	1200	mVpp	AC coupled outputs
Output Impedance (Differential)	Zout	85	100	115	ohms	
Rx_LOS Output Voltage - High		2		Vcc+0.3	V	Io = 400µA; Host Vcc
Rx_LOS Output Voltage - Low		0		0.8	V	Io = -4.0mA
MOD_DEF (0:2)	VoH VoL	2.5 0		 0.5	V V	With Serial ID

Optical and Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit
50/125µm MMF			550		m
Data Rate			1.25		Gbps
Transmitter					
Centre Wavelength	λc	830	850	860	nm
Spectral Width (RMS)	σ			0.85	nm
Average Output Power	P Out	-10		-3	dBm
Extinction Ratio	EX	9			dB
Rise/Fall Time (20% – 80%)	tr/tf			0.26	ns
Output Optical Eye	ITU-T G.957 Compliant				
Data Input Swing Differential	V IN	500		2000	mV
Input Differential Impedance	ZIN	90	100	110	Ω
TX Disable - Disable - Enable		2.0 0		VCC+0.3 0.8	V V
TX_Fault - Fault - Normal		2.0 0		VCC+0.3 0.8	V V
Receiver					
Centre Wavelength	λc	770		860	nm

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Receiver Sensitivity	PIN			-18	dBm
Output Differential Impedance	P IN	90	100	110	Ω
Data Output Swing Differential	VOUT	370		2000	mV
Rise/Fall Time	Tr/tf			2.2	ns
LOS De-Assert	LOSD			-19	dBm
LOS Assert	LOSA	-40			dBm
LOS - High - Low		2.0 0		VCC+0.3 0.8	V V

Product variants & accessories

Art.-No.	Description
TDE-15454-GBIC-SX	1000BASE-SX GBIC Module Multimode SC 550m data range (850nm) Cisco compatible