GLC-T-IL

1000BASE-T SFP (Small Form Pluggable) Copper Transceiver
3.3V, 1.25GBd Gigabit Ethernet

PRODUCT FEATURES

- Up to 1.25 GBd bi-directional data links
- Compliant with IEEE 802.3z, IEEE 802.3u, IEEE 802.3ab compliant
- Compliant with SFP MSA
- Hot-pluggable SFP footprint
- Support 1000BASE-T full duplex default operating mode
- Support 10/100/1000BASE-T operation in host systems with SGMII interface
- RJ-45 connector
- Auto-sense MDI/MDIX
- Single power supply 3.3V
- RoHS Compliance

Operating temperature range: 0°C to 70°C

APPLICATIONS

1.25 GBd Gigabit Ethernet

General Specifications

Parameter	Symbol	Min	Typ	Max	Unit	Notes
Data Rate[1]	DR	10		1000	Mb/sec	IEEE 802.3
Cable Length	CL			100	m	Category 5 UTP
Bit Error Rate	BER			10^{-12}		
Operating Temperature	T_{OP}	0		70	°C	Case temperature
Storage Temperature	T_{STO}	–40		85	°C	Ambient temperature
Supply Current	I_S		320	375	mA	For electrical power interface
Input Voltage	V_{CC}	3.13	3.3	3.47	V	Referenced to GND. For electrical power interface
Maximum Voltage	V_{MAX}			4	V	For electrical power interface
Surge Current	I_{surge}			30	mA	Hot Plug above steady state current. For electrical power interface.

Note 1: 10/100/1000M operation requires the host system to have an SGMII interface with no clock. With a SERDES interface, this transceiver will operate at 1000M only.

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High Speed Electrical Interface Host-SFP

Parameter	Symbol	Min	Typ	Max	Unit	Notes
Differential Input Voltage	V_{INDIFF}	250		1200	mV	Differential peak-peak
Differential Output Voltage	$V_{OUTDIFF}$	350		800	mV	Differential peak-peak
Rise/Fall Time (20% - 80%)	T_{R-F}		175		psec	
Tx Input impedance	Z_{IN}		50		ohm	Single ended
Rx Output impedance	Z_{OUT}		50		ohm	Single ended

High Speed Electrical Interface Transmission Line-SFP

Parameter	Symbol	Min	Typ	Max	Unit	Notes
Line Frequency	F_L		125		MHz	5-level encoding
Tx Output Impedance - Differential	Z_{OUT_T}		100		Ohm	Note 1
Rx Input Impedance - Differential	Z_{IN_RX}		100		Ohm	Note 1

Note 1: For all frequencies between 1MHz and 125MHz.

Low Speed Electrical Signal

Parameter	Symbol	Min	Typ	Max	Unit	Notes
SFP Output Low	V_{OL}	0		0.5	V	External 4.7-10k ohm pull-up resistor required
SFP Output High	V_{OH}	Host_V_{CC} – 0.5		Host_V_{CC} + 0.3	V	External 4.7-10k ohm pull-up resistor required
SFP Input Low	V_{IL}	0		0.8	V	External 4.7-10k ohm pull-up resistor required
SFP Input High	V_{IH}	2		V_{CC} + 0.3	V	External 4.7-10k ohm pull-up resistor required