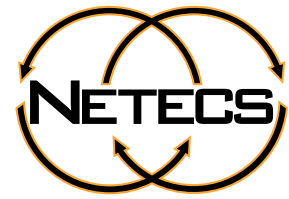


## GLC-ZX-SM-RGD-NT

Cisco 1000Base-LH(ZX) Module  
1550nm, 70km, SMF, LC RoHS6



## GLC-ZX-SM-RGD-NT

1.25Gbps SFP Transceiver

### Features

- Operating data rate up to 1.25Gbps
- 1550nm DFB LD Laser Transmitter
- Distance up to 80km with 9/125  $\mu$ m SMF
- Single 3.3V Power supply and TTL Logic interface
- Duplex LC Connector Interface
- Hot Pluggable
- Compliant with specifications for IEEE802.3z and IEEE802.ae
- Operating Temperature: -40°C ~+85°C
- Compliant with MSA SFP Specification

### Product Description

GLC-ZX-SM-RGD-NT is a single mode transceiver is a small form factor pluggable module for bi-directional serial optical data communications such as Gigabit Ethernet 1000Base-ZX and Fiber Channel SM-LC-L FC-PI. This module is designed for single mode fiber and operates at a nominal wavelength of 1550nm.

The transmitter section uses a multiple quantum well laser and is a Class 1 laser compliant according to International Safety Standard IEC 60825. The receiver section uses an integrated GaAs detector preamplifier (IDP) mounted in an optical header and a limiting post-amplifier IC.

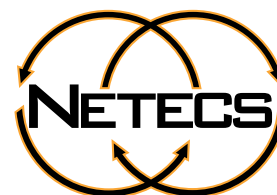
The GLC-ZX-SM-RGD-NT is designed to be compliant with SFF-8472 SFP Multi-source Agreement (MSA).

### 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 $\mu$ V standards
Component Recognition	UL and CUL	UL file E317337
Green Products	RoHS	RoHS6

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## Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit
Storage Temperature	TST	-40	+85	°C
Supply Voltage	VCC	-0.5	3.6	V

## Recommended Operating Conditions

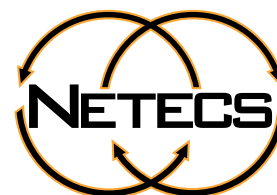
Parameter	Symbol	Min.	Typical	Max.	Unit
Operating Case Temperature	TOP	-40		+85	°C
Power Supply Voltage	VCC	3.15	3.3	3.45	V
Power Supply Current	ICC			300	mA
Surge Current	ISurge			+30	mA
Baud Rate			1.25		GBaud

## Performance Specifications - Electrical

Parameter	Symbol	Min.	Typ.	Max	Unit	Notes
<b>TRANSMITTER</b>						
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		3.45	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
<b>RECEIVER</b>						
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

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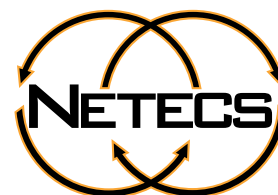
MOD_DEF ( 0:2 )	VoH	2.5			V	With Serial ID
	VoL	0		0.5	V	

## Optical and Electrical Characteristics

Parameter	Symbol	Min.	Typical	Max.	Unit
9µm Core Diameter SMF	L		80		Km
Data Rate			1.25		Gbps
<b>Transmitter</b>					
Centre Wavelength	λ <sub>C</sub>	1480	1550	1580	nm
Spectral Width (RMS)	λ			1	nm
Average Output Power	P <sub>Out</sub>	0		+5	dBm
Side Mode Suppression Ratio	SMSR	30			dB
Extinction Ratio	EX	9			dB
Rise/Fall Time(20%~80%)	tr/tf			260	Ps
Output Optical Eye	IUT-T G.957 Compliant				
Data Input Swing Differential	V <sub>IN</sub>	500		2000	mV
Input Differential Impedance	Z <sub>IN</sub>	90	100	110	Ω
TX Disable	Disable		2.0	VCC+0.3	V
	Enable		0	0.8	
TX_Fault	Fault		2.0	VCC+0.3	V
	Normal		0	0.8	
TX_Disable Assert Time	t <sub>off</sub>			10	us
<b>Receiver</b>					
Centre Wavelength	λ <sub>C</sub>	110		1600	Nm
Receiver Sensitivity	P <sub>IN</sub>			-24	dBm
Output Differential Impedance	P <sub>IN</sub>	90	100	110	Ω
Data Output Swing Differential	V <sub>OUT</sub>	370		2000	mV
Rise/Fall Time	Tr/tf			2.2	ns
LOS De-Assert	LOSD			-20	dBm
LOS Assert	LOSA	-40			dBm
LOS	High		2.0	VCC+0.3	V

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	Low		0	0.8	
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## Mechanical Specifications

