



GZ10GPS55L-40X

10Gbps 1550nm SFP+ Transceivers

Features

- Electrical interface specifications per SFF-8431
- Management interface specifications per SFF-8431 and SFF-8472
- SFP+ MSA package with duplex LC connector
- Cooled EML Transmitter
- Up to 11.3Gb/s data links
- Single +3.3V power supply
- Class 1 laser safety certified
- Commercial operating temperature: 0°C to 70°C or -40°C to 85°C
- Up to 40km on 9/125μm SMF
- ROHS Compliant



Applications

- 10G Ethernet 10GBASE-ZR/ZW, 10GBASE-ER/EW
- 40km 10G Network

Standards

- IEEE 802.3ae
- SFF-8431/8432
- SFF-8472

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solute Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Unit
Storage Temperature	TS	-40	85	°C
Relative Humidity	RH	5	95	%
Supply Voltage	VCC	-0.5	4.0	V

Recommended Operating Conditions

Parameter	Symbol	Min	Typ	Max	Unit
Operating Case Temperature	Tc	0		70	°C
		-40		85	
Supply Voltage	VCC	3.135	3.3	3.465	V
Data Rate	-	-	10.3125	-	Gb/s

Specifications(Tc=25°C, BOL, unless otherwise noted)

Parameter	Symbol	Unit	Min	Typ	Max	Notes
Electrical Characteristics						
Supply Current	Icc	mA	-	-	600	
Single Ended Data Input Swing	-	mV	180	-	700	
Single Ended Data Output Swing	-	mV	180	-	700	
TX_fault /LOS output (TTL)	VOH	V	2.0		Vcc	
	VOL		0		0.8	
TX_disable input (TTL)	VOH	V	2.0		Vcc	
	VOL		0		0.8	
Optical transmitter Characteristics						
Launch Optical Power	Po	dBm	-4		4	40km
Center Wavelength	λc	nm	1530	-	1565	
Side Mode Suppression Ratios	SMSR	dB	30			
Extinction Ratio	ER	dB	8.2			
Eye Diagram	Complies with IEEE802.3ae eye masks when filtered					

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Pout of OFF transmitter	Poff	dBm	-	-	-40	
Optical receiver Characteristics						
Center Wavelength Range	λ_c	nm	1260		1620	
Receiver Sensitivity	Sen	dBm			-16	40km,1
Overload Input Optical Power	Psat	dBm	0			40km
LOS De-assert	LosD	dBm			-18	
LOS Assert	LosA		-35			
LOS Hysteresis		dB	0.5	3	5	2

Notes:

1. Measured with a PRBS $2^{31}-1$ test pattern, @10.3Gb/s, ER=10dB, BER< 10^{-12}
2. The LOS Hysteresis to minimize "chatter" on the output line. In principle, hysteresis alone does not guarantee chatter-free operation

Monitoring Interface

Parameter	Symbol	Spec	Units	Conditions / Notes
Temperature		+/-3°C	°C	
Voltage		+/-3%	V	
IBias		+/-10%	mA	
Rx power		+/-3	dBm	@25°C
Tx power		+/-3	dBm	@25°C

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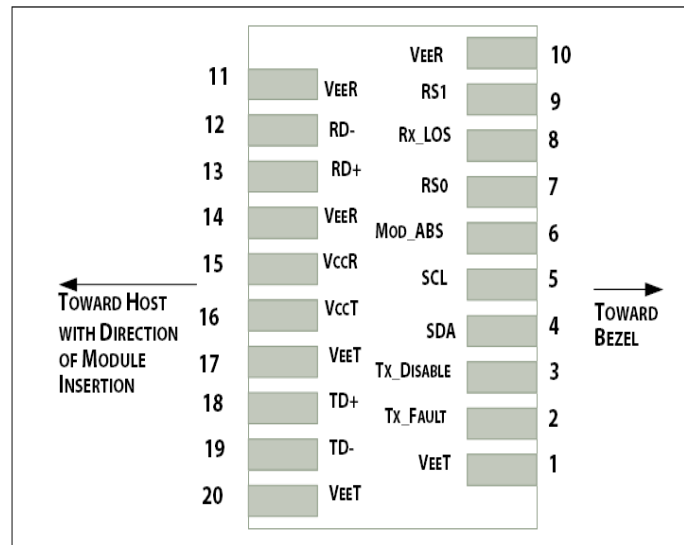
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Pin Assignment



Host PCB SFP+ pad assignment top view

Pin Description

Pin	Name	Function/Description	Notes
1	VEET	Transmitter Ground	1
2	TX_Fault	Transmitter Fault (LVTTTL-O) - High indicates a fault condition	2
3	TX_Disable	Transmitter Disable (LVTTTL-I) – High or open disables the transmitter	3
4	SDA	Two wire serial interface Data Line (LVCMOS-I/O) (MOD-DEF2)	4
5	SCL	Two wire serial interface Clock Line (LVCMOS-I/O) (MOD-DEF1)	4
6	MOD_ABS	Module Absent (Output), connected to VeeT or VeeR in the module	5
7	RS0	Rate Select 0 – Not used, Presents high input impedance	-
8	RX_LOS	Receiver Loss of Signal (LVTTTL-O)	2
9	RS1	Rate Select 1 – Not used, Presents high input impedance	-
10	VEER	Receiver Ground	1
11	VEER	Receiver Ground	1
12	RD-	Inverse Received Data out (CML-O)	-
13	RD+	Received Data out (CML-O)	-

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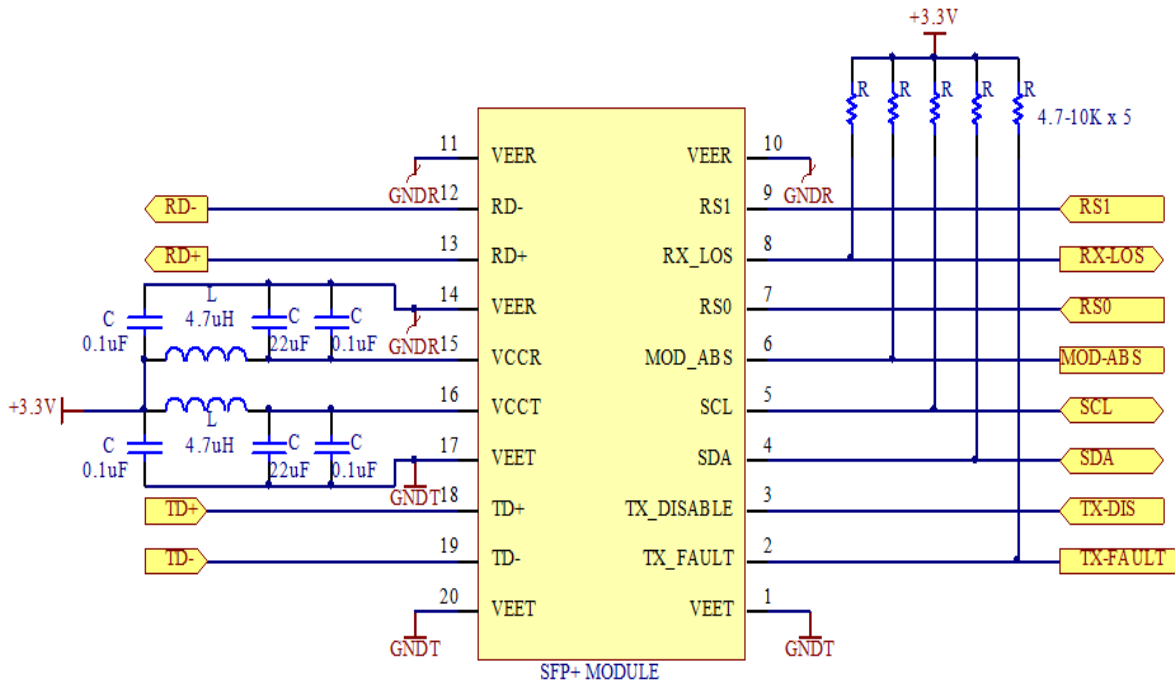


14	VEER	Receiver Ground	-
15	VccR	Receiver Power - +3.3V	-
16	VccT	Transmitter Power - +3.3 V	-
17	VEET	Transmitter Ground	1
18	TD+	Transmitter Data In (CML-I)	-
19	TD-	Inverse Transmitter Data In (CML-I)	-
20	VEET	Transmitter Ground	1

Notes:

1. The module signal grounds are isolated from the module case.
2. This is an open collector/drain output that on the host board requires a 4.7KΩ to 10KΩ pull-up resistor to VccHost.
3. This input is internally biased high with a 4.7KΩ to 10KΩ pull-up resistor to VccT.
4. Two-Wire Serial interface clock and data lines require an external pull-up resistor dependent on the capacitance load.
5. This is a ground return that on the host board requires a 4.7KΩ to 10KΩ pull-up resistor to VccHost.

Typical Application Circuit



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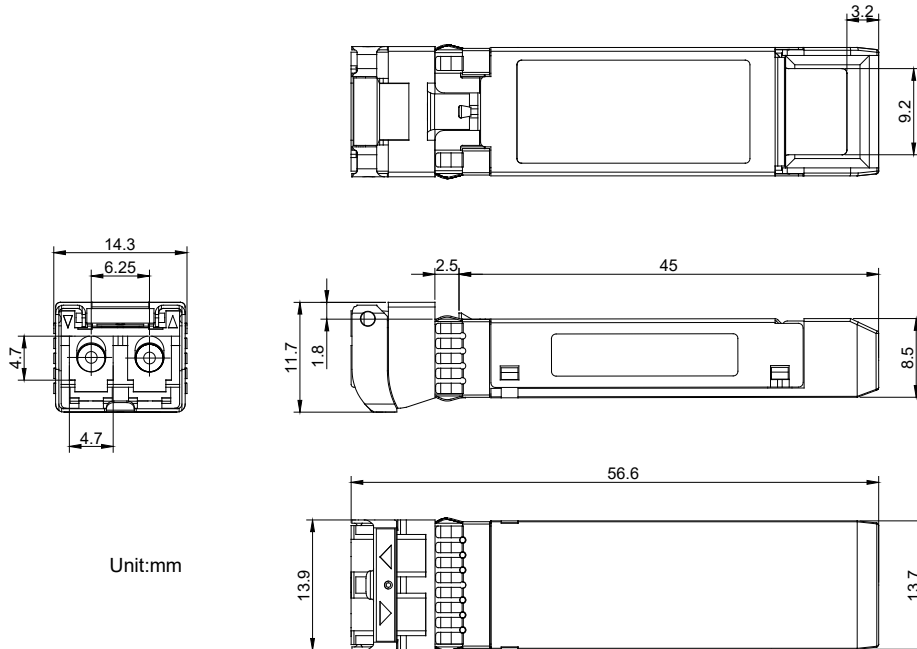
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Mechanical specifications



Outline Drawing

Notes:

1. Tolerance: +/-0.1mm.
2. Others are according with SFF-8074i/SFF-8432 MSA or customer SPEC.
3. Light port according with fiber connector SPEC.

Ordering Information

Part. No	Specifications								
	Rate Gb/s	Tx	Tx WL nm	Po dBm	Rx	Sen. dBm	Temp ℃	Reach km	Other
GZ10GPS55L-40	10	EML	1550	-4~+4	PIN	<-16	0~70	40	RoHS
GZ10GPS55L-40I	10	EML	1550	-4~+4	PIN	<-16	-40~85	40	RoHS

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Warnings

Handling Precautions:

This device is susceptible to damage as a result of electrostatic discharge (ESD). A static free environment is highly recommended. Please follow guidelines according to proper ESD procedures.

Laser Safety:

Radiation emitted by laser devices can be dangerous to human eyes. Avoid eye exposure to direct or indirect radiation.

Notice:

The information provided on this page contains the product target specifications which are subject to change without notice.

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