ATGBICS® by
APPROVED TECHNOLOGY

Technical Datasheet

FTLC9558REPM-C

Finisar® Compatible 100GBase-SWDM4 QSFP28 Transceiver

Hot Pluggable, +3.3V, 850,880,910,940nm, MMF, 100m, LC, DOM, Commercial Temperature

FEATURES

- Hot-pluggable QSFP28 form factor
- 4x25Gb/s 850mm VCSEL-based transmitter
- Supports 103.1Gbps aggregate bit rate
- Power dissipation<3.5W
- Maximum link length of 150m on OM5 multimode Fiber
- Duplex LC receptacles
- CAUI-4 electrical interface
- Commercial Operating Temperature Range: 0°C to 70°C
- Compliant with QSFP28 MSA
- Compliant with SWDM MSA
- Compliant with IEEE802.3bm CAUI-4
- RoHS compliant

APPLICATIONS

- 100G Ethernet over Duplex MMF

DESCRIPTION

ATGBICS® FTLC9558REPM-C transceiver is designed for use in 100G Ethernet links over duplex multimode fiber. Four channels/lanes in the 850-940nm region at 25.78Gbps to transport the Ethernet signal. Digital diagnostics functions are available via an I2C interface, as specified by the QSFP28 MSA.

The transceiver is based on the SWDM4 industry standard having the target to enable existing 10Gbps Multimode fiber-pair infrastructure to be re-used for 40Gbps and 100Gbps without replacing it with SM fiber or ribbon fiber.

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ABSOLUTE MAXIMUM RATINGS

The operation in excess of any absolute maximum ratings might cause permanent damage to this module.

Parameter	Symbol	Min	Max	Unit	Note
Storage Temperature	T_S	-40	85	°C	
Relative Humidity (non-condensing)	RH	15	85	%	
Operating Case Temperature	T_O	0	70	degC	
Supply Voltage	Vcc	-0.5	3.6	V	

RECOMMENDED OPERATING CONDITIONS AND SUPPLY REQUIREMENTS

Parameter	Symbol	Min	Typical	Max	Unit
Operating Case Temperature	T_O	0		70	°C
Power Supply Voltage	Vcc	3.14	3.3	3.46	V
Power Consumption	P	-		3.5	W
Link Distance on OM3 Fiber				75	m
Link Distance on OM4 Fiber				100	m
Link Distance on OM5 Fiber				150	m

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OPTICAL CHARACTERISTICS

All parameters are specified under the recommended operating conditions with PRBS31 data pattern unless otherwise specified.

Receiver Parameter	Lane	Min	Typical	Max	Unit	Note
Signaling rate, each lane		25.78125±100ppm			Gb/s	
Lane Wavelength Range	Lane0	844		858	nm	
	Lane1	874		888		
	Lane2	904		918		
	Lane3	934		948		
Modulation Format		NRZ				
Damage Threshold		4.4			dBm	
Average Receive Power, each lane	Lane0	-9.5				
	Lane1	-9.4		2.4	dBm	
	Lane2	-9.4				
	Lane3	-9.4				
Receiver Power, each lane (OMA)				3	dBm	
Receiver Reflectance				-12	dB	
unStressed Receiver Sensitivity(OMA)	Lane0			-8.2	dBm	1
	Lane1			-8.4		
	Lane2			-8.6		
	Lane3			-8.8		
RX_Los_Assert		-30			dBm	
RX_Los_De-ASSERT				-12	dBm	
RX_Los_Hysteresis		0.5			dBm	

Notes:

1. unstressed sensitivity at BER of 5E-5(pre FEC).

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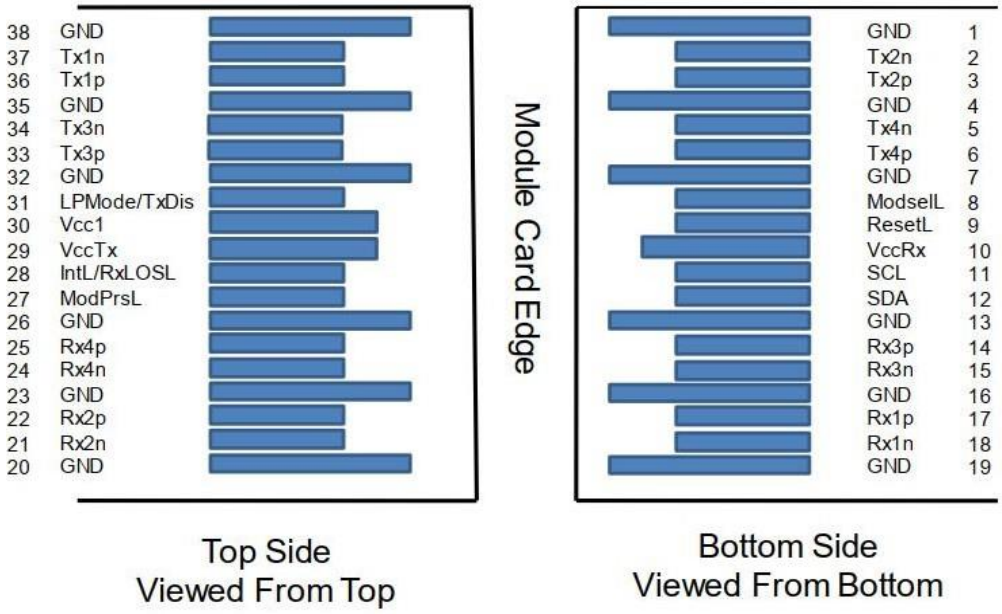
DIGITAL DIAGNOSTIC MONITORING SPECIFICATIONS

Parameters	Unit	Specification
Temperature Monitor	°C	±3
Voltage Monitor	V	±5 %
I_bias Monitor	mA	±10 %
Received Power (Rx) Monitor	dB	±3.0
Transmit Power (Tx) Monitor	dB	±3.0

PIN ASSIGNMENT



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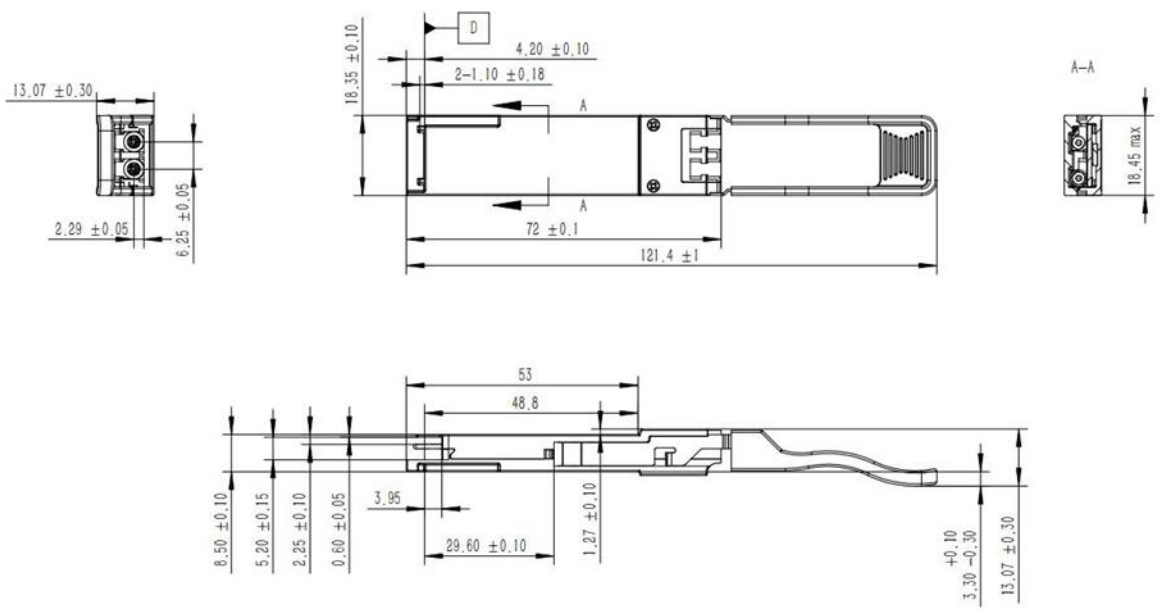
MECHANICAL DIAGRAM (units: mm)



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