

## Features

- Compliant with industry standards 100G-ER1 MSA
- Compliant with SFF-8679 MSA hardware specification
- Compliant with SFF-8636
- Compliant with SFF-8661
- 1310nm EML laser
- APD receiver
- Up to 40km on 9/125um SMF
- Operating temperature options - (Commercial) 0°C to +70 °C
- Trouble-free installation and network bring-up
- RoHS Compliant



## Applications

- Data Center
- 100 Gigabit Ethernet

## 1. Recommended Operating Conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit
Operating Case Temperature	TC	0	-	70	°C
Power Supply Voltage	VCC	3.135	3.3	3.465	V
Operating relative humidity	RH	5	-	85	V

## 2. Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit
Storage Temperature	TS	-40	-	+85	°C
Relative Humidity	RH	5	-	95	%
Supply Voltage	VCC	3.13	-	3.47	V
Data Input Voltage	-	0.3	-	3.6	V
Control Input Voltage	VI	-0.3	-	3.6	V

### 3. Transmitter Optical Specifications

Parameter	Symbol	Minimum	Typ	Max	Unit	Notes
Launch Optical Power(Average)	Po	1.5	-	7.1	dBm	1
Launch Optical Power (OMA)	Poma	4.7	-	7.9	dBm	2
		3.3 + TDECQ		7.9	dBm	3
Extinction Ratio	ER	5	-	-	dB	-
Center Wavelength Range	$\lambda_c$	1307		1313	nm	-
Transmitter and dispersion penalty eye closure for PAM4	TDECQ	-	-	3.9	dB	-
RIN17:1OMA (max)	RIN	-	-	-136	dB/Hz	
Optical Return Loss Tolerance	ORLT	-	-	15	dB	
Pout @TX-Disable Asserted Poff	Poff	-	-	30	dBm	

**Notes:**

1. Class 1 Laser Safety per FDA/CDRH and EN (IEC) 60825 regulations.
2. TDECQ < 1.4 dB
3. 1.4 dB < TDECQ < TDECQ (max)

### 4. Receiver Optical Specifications

Parameter	Symbol	Min	Typical	Max	Unit	Notes
Center Wavelength	$\lambda_c$	1307		1313	nm	-
Receiver Sensitivity (OMA)	RxSENS	-	-	-13.8	dBm	1: TECQ < 1.4 dB
						1.4 < TECQ < 3.9 dB
Receiver Overload (Pavg)	POL	-3	-	-	dBm	-
Receiver reflectance	-	-26	dB	-		
LOS De-Assert	LOSD	-	-	-10	dBm	-
LOS Assert	LOSA	-30	-	-	dBm	-
LOS Hysteresis	-	0.5	-	-	dB	

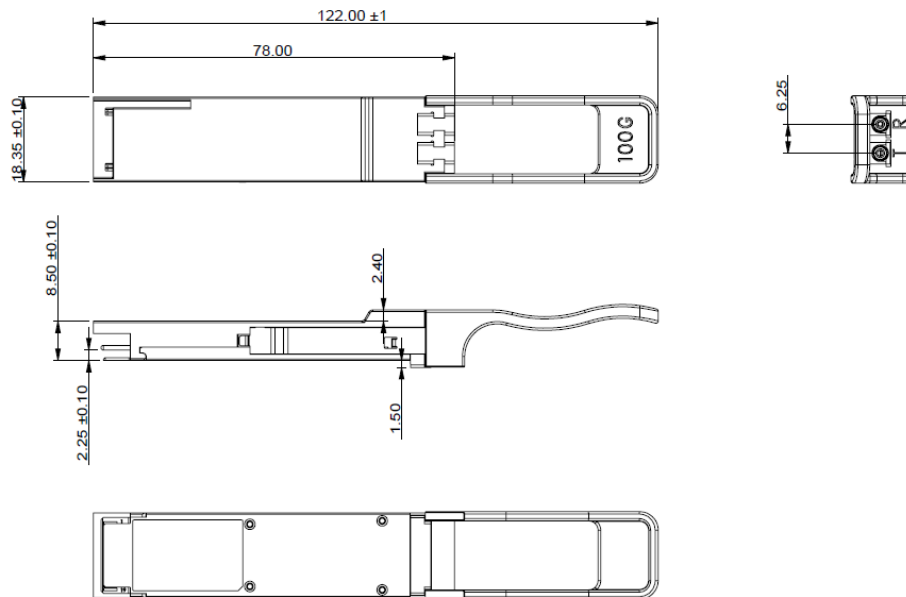
**Notes:**

1. Measured with PRBS31Q test pattern, 53.125GBd, BER<2.4×10<sup>-4</sup>.

## 5. Electrical Specifications

Transmitter Parameter	Symbol	Min	Typical	Max	Unit
Module Supply Current	I <sub>cc</sub>	-	-	1.21	mA
Power Dissipation	PD	-	-	4000	mW
Transmitter Parameter	Symbol	Min	Typical	Max	Unit
Input Differential Impedance	Z <sub>IN</sub>	90	100	110	Ω
Differential Data Input Swing	V <sub>IN,P-P</sub>	180	-	900	mVP-P
Receiver Parameter	Symbol	Min	Typical	Max	Unit
Output Differential Impedance	Z <sub>O</sub>	90	100	110	Ω
Differential Data Output Swing	V <sub>OUT, P-P</sub>	300	-	850	mVP-P

## 6. Mechanical Diagram



**Note:** External physical characteristics are subject to variation. This may include, but is not limited to, external case designs, pull tab colors and/or shapes, removal latch styles or colors, and label sizes and placement. These variations do not affect the function or characteristics of the transceivers.

## 7. Contact Information

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