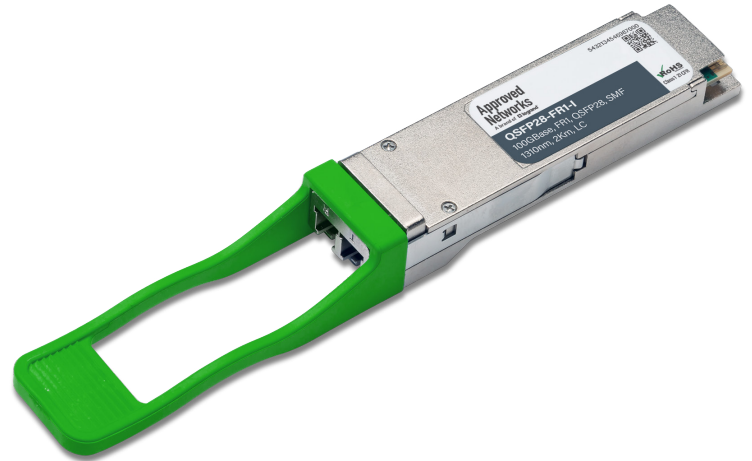


## Features:

- Compliant with IEEE 802.3cu
- Compliant with SFF-8679 MSA hardware specification
- Compliant with SFF-8636
- Compliant with SFF-8661
- 1310nm EML laser
- PIN receiver
- Up to 2km on 9/125um SMF
- 100ohm differential impedance system
- Operating temperature (Industrial) -40°C to +85°C



- Trouble-free installation and network bring-up
- RoHS Compliant

## Applications:

- Data Center
- 100 Gigabit Ethernet, Telecom

## 1. Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit
Storage Temperature	Ts	-40	+85	°C
Supply Voltage	Vcc	3.13	3.47	3.47
Relative Humidity (non-condensing)	RH	5	95	%

## 2. Recommended Operating Conditions

Parameter	Symbol	Min.	Typ	Max.	Unit
Operating Case Temperature	TC	-40	-	85	°C
Supply Voltage	VCC	3.135	3.3	3.465	V
Operating relative humidity	RH	5	-	85	%

### 3. Electrical Characteristics

Parameter	Symbol	Min.	Typ	Max.	Unit
<b>Transmitter</b>					
Module Supply Current	I <sub>cc</sub>	-	-	1277	mA
Power Dissipation	PD	-	-	4	W
Input Differential Impedance	Z <sub>in</sub>	90	100	110	Ω
Differential Data Input Swing	V <sub>in</sub> , p-p	180	-	900	mVP-P
<b>Receiver</b>					
Output Differential Impedance	Z <sub>o</sub>	90	100	110	Ω
Differential Data Output Swing	V <sub>out</sub> , p-p	300	-	850	mVP-P

### 4. Optical Characteristics

Parameter	Symbol	Min.	Typ	Max.	Unit	Notes
<b>Transmitter</b>						
Launch Optical Power(Average)	P <sub>o</sub>	-3.1	-	4	dBm	1
Launch Optical Power(OMA)	P <sub>oma</sub>	-0.1	-	4.2	dBm	-
OMA minus TDECQ	OMA-TDECQ	-1.5			dBm	
Extinction Ratio	ER	3.5	-	-	dB	-
Center Wavelength Range	λ <sub>c</sub>	1304.5	1311	1317.5	nm	-
Transmitter and dispersion penalty eye closure for PAM4	TDECQ	-	-	3.4	dB	-
RIN17.1OMA (max)	RIN	-	-	-136	dB/Hz	
Optical Return Loss Tolerance	ORLT	-	-	17.1	dB	
P <sub>out</sub> @TX-Disable Asserted	P <sub>off</sub>	-	-	-15	dBm	
<b>Receiver</b>						
Center Wavelength	λ <sub>c</sub>	1304.5	-	1317.5	nm	-
Receiver Sensitivity (OMA)	R <sub>x</sub> SENS	-	-	-4.5	dBm	2
Average receive power	P <sub>avg</sub>	-7.1		4	dBm	
Receive power(OMA <sub>outer</sub> )				4.2	dBm	
Receiver reflectance			-	-26	dB	-
LOS De-Assert	LOSD	-	-	-10	dBm	-
LOS Assert	LOSA	-16	-	-	dBm	-
LOS Hysteresis	-	0.5	-	-	dB	

Notes:

1. Class 1 Laser Safety per FDA/CDRH and EN (IEC) 60825 regulations.
2. Measured with PRBS31Q test pattern, 53.125GBd, BER<2.4×10<sup>-4</sup>.

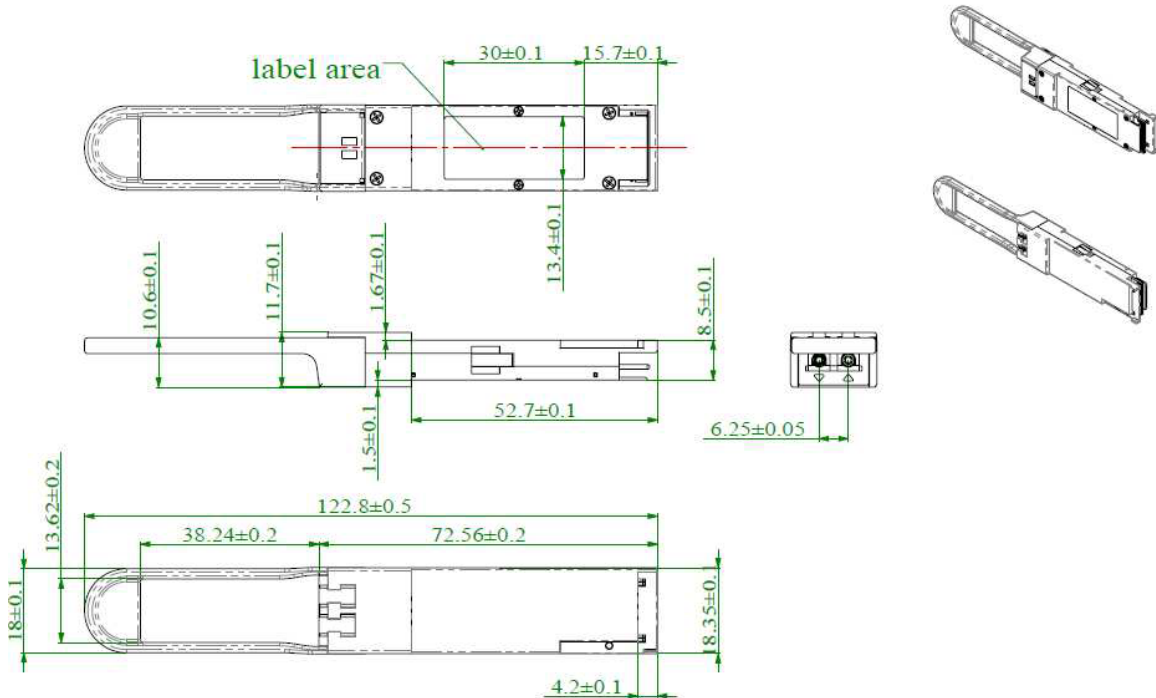
## 5. General Specifications

Parameter	Symbol	Min.	Typ	Max.	Unit	Notes
Data Rate	BR		53.125		GBd	-
Bit Error Rate	BER	-	-	2.4E-4	-	1
Supported Link Length on 9/125um SMF, 53.125 GBd	L	-	2	-	km	2

Notes:

1. Tested with a PRBS31Q test pattern for 53.125 GBd operation.
2. Distances are based on FC-PI-6 Rev. 3.1 and IEEE 802.3 standards, with FEC.

## 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. Ordering Information

OEM	Part Number	OEM	Part Number
Arista	QSFP-100G-FR-I-A	Juniper	JNP-Q100G-FR-I-A
Avago	AFCT-89SFDZ-I-A	MSA Champion ONE	100GQ28E-FR1-H
Cisco	QSFP-100G-FR-S-I-A	MSA Compatible	AN-QSFP28-FR1-I
Dell	407-BCIF-I-A	MSA OnePort	OP-QSFP28-FR1-I

## 8. Contact Information

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