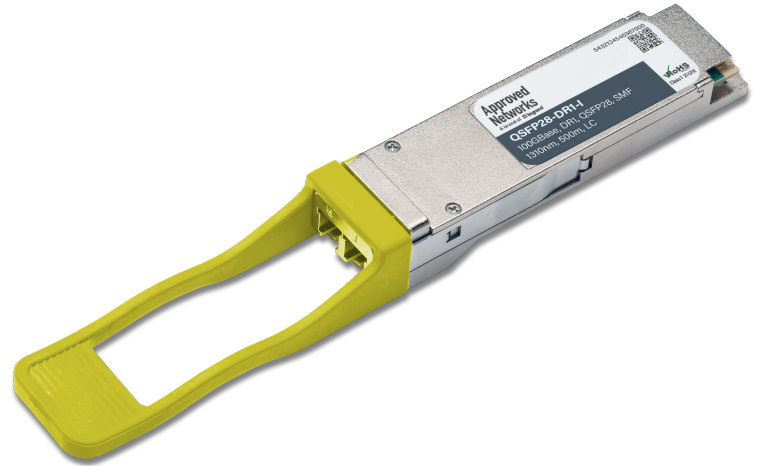


## Features

- 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 500m on 9/125um SMF
- 100ohm differential impedance system
- Operating temperature options  
- (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

Stresses in excess of the absolute maximum ratings can cause permanent damage to the device. Functional operation of the device is not implied at these or any other conditions in excess of those given in the operational sections of the data sheet. Exposure to absolute maximum ratings for extended periods can adversely affect device reliability.

Parameter	Symbol	Min.	Max.	Unit
Storage Temperature	TS	-40	85	°C
Relative Humidity	RH	0	85	%
Supply Voltage	VCC	-0.5	3.6	V

## 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, p-p</sub>	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, p-p</sub>	300	-	850	mVP-P

### 4. Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit
<b>Transmitter</b>					
Launch Optical Power(Average) <sup>1</sup>	P <sub>o</sub>	-2.9	-	4	dBm
Launch Optical Power(OMA)	P <sub>oma</sub>	-0.8	-	4.2	dBm
OMA minus TDECQ	OMA-TDEC Q	-1.9	-	-	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
RIN <sup>15.5</sup> OMA (max)	RIN	-	-	-136	dB/Hz
Optical Return Loss Tolerance	ORLT	-	-	15.5	dB
Pout @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) <sup>2</sup>	RxSENS	-	-	-3.9	dBm
Average receive power		-5.9	-	4	dBm
Receive power(OMAouter)				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<2.4E-4.

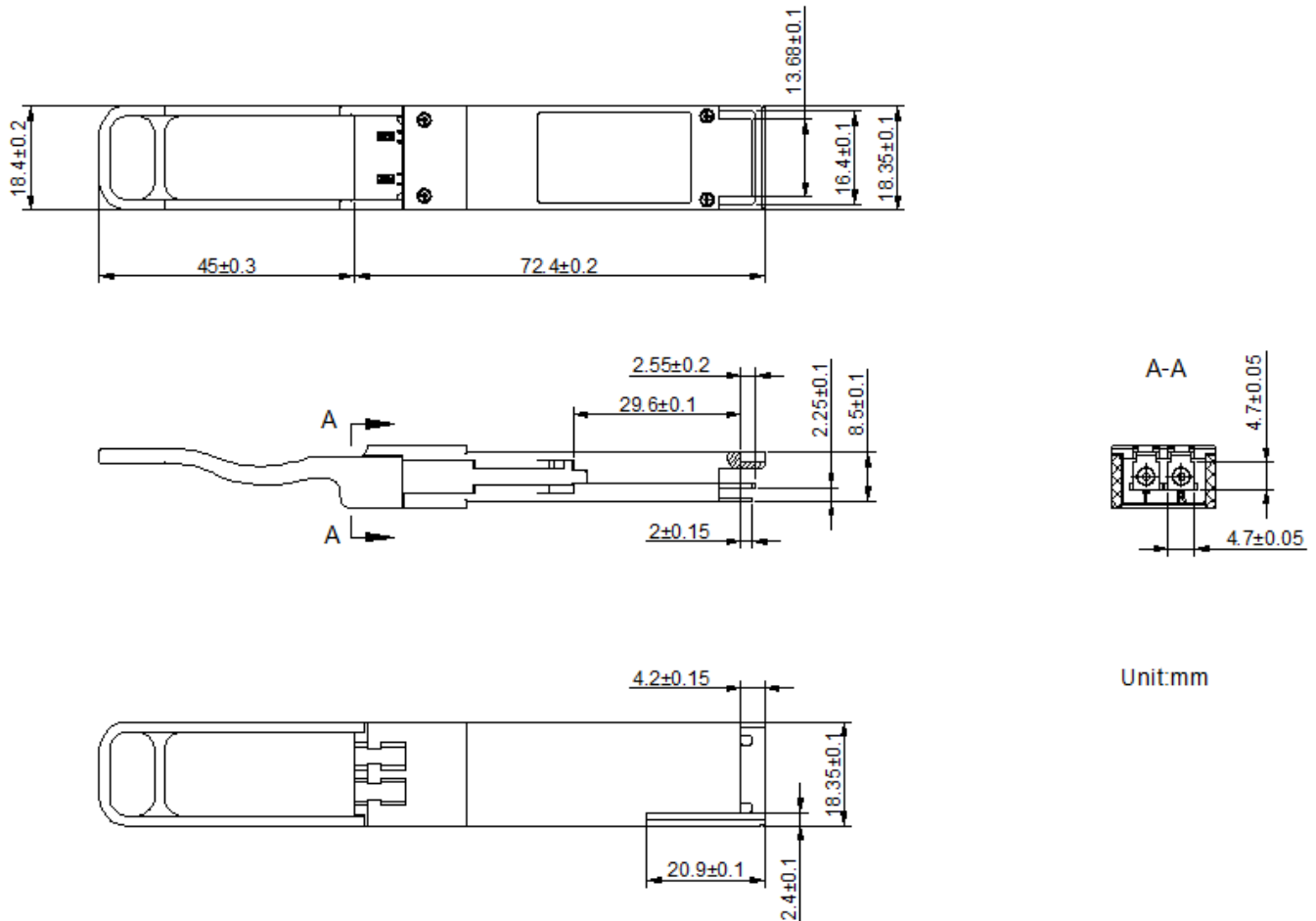
## 5. Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit
Data Rate	BR		53.125		GBd
Bit Error Rate <sup>1</sup>	BER	-	-	2.4E-4	-
Supported Link Length on 9/125um SMF, 53.125 GBd <sup>2</sup>	L	-	500	-	m

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-DR-I-A	MSA	AN-QSFP28-DR1-I
Cisco	QSFP-100G-DR-S-I-A	MSA C1	100GQ28E-DR1-H
Juniper	JNP-Q100G-DR-I-A	MSA OnePort	OP-QSFP28-DR1-I
Mellanox	MMS1V70-CM-I-A		

## 8. Contact Information

Tel: 800.590.9535

Web: <http://www.approvednetworks.com>