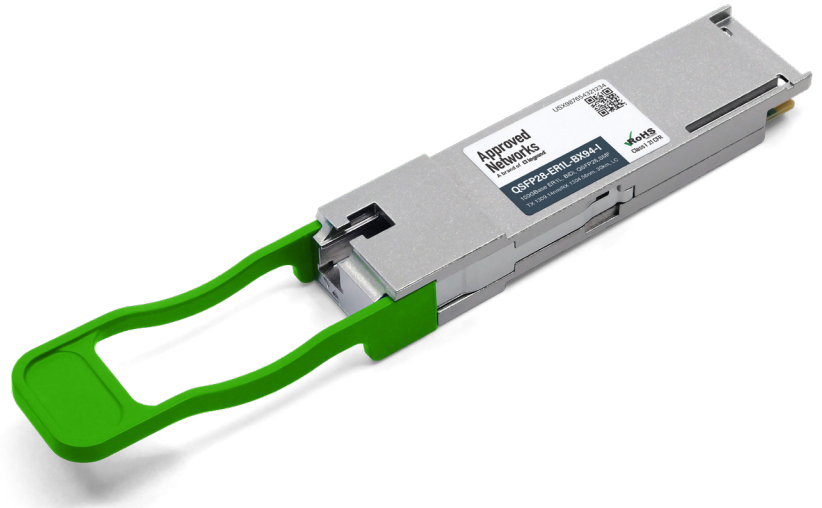


Features

- Compliant with industry standards 100G-ER1-30 MSA
- Compliant with SFF-8679 MSA hardware specification
- Compliant with SFF-8636
- Compliant with SFF-8661
- EML laser
- APD receiver
- Up to 30km on 9/125um SMF
- Operating temperature -40°C to +85°C
- Trouble-free installation and network bring-up
- RoHS Compliant



Applications

- Data Center
- 100 Gigabit Ethernet

1. Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Units
Storage Temperature	TS	-40	85	°C
Relative Humidity	RH	5	95	%
Supply Voltage	VCC	-0.5	3.6	V

2. General Specifications

Parameter	Symbol	Min	Typical	Max	Units
Data Rate ¹	BR	53.125±100ppm			GBd
Bit Error Rate	BER	-	-	2.4E-4	-
Supported Link Length on 9/125um SMF, 53.125 GBd ²	L	-		30	km

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.

3. Electrical Characteristics

Parameters	Symbol	Min.	Typ.	Max.	Unit
Transmitter					
Module Supply Current	Icc	-	-	1435	mA
Power Dissipation	PD	-	-	4500	mW
Input Differential Impedance	Zin	90	100	110	Ω
Differential Data Input Swing	Vin, p-p	180	-	900	mVP-P
Receiver					
Output Differential Impedance	Zo	90	100	110	Ω
Differential Data Output Swing	Vout, p-p	300	-	900	mVP-P

4. Optical Characteristics

Parameters	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter						
Launch Optical Power (Average)	Po	0	-	5.6	dBm	1
Launch Optical Power(OMA)	Poma	3.0	-	6.4	dBm	TDECQ < 1.4 dB
		1.6+ TDECQ				1.4 dB \leq TDECQ \leq TDECQ (max)
Extinction Ratio	ER	5	-	-	dB	-
Center Wavelength Range	λ_c	1308.61	1309.14	1309.66	nm	-
Transmitter and dispersion penalty eye closure for PAM4	TDECQ	-	-	3.9	dB	-
RIN15OMA (max)	RIN	-	-	-136	dB/Hz	
Optical Return Loss Tolerance	ORLT	-	-	15	dB	
Pout @TX-Disable Asserted	Poff	-	-	-15	dBm	
Receiver						
Center Wavelength	λ_c	1304.06	1304.58	1305.1	nm	-
Receive power (Pave)		-14.7	-	-3.4	dBm	
Receiver Sensitivity (OMA)	RxSENS_oma	-		-12.5	dBm	TECQ < 1.4 dB
		-		-13.9 + TECQ		1.4 \leq TECQ \leq 3.9 dB
Receiver Sensitivity(Pave)		-	-	-12.67	dBm	
Receiver reflectance				-26	dB	
LOS De-Assert	LOSD	-	-	-16	dBm	

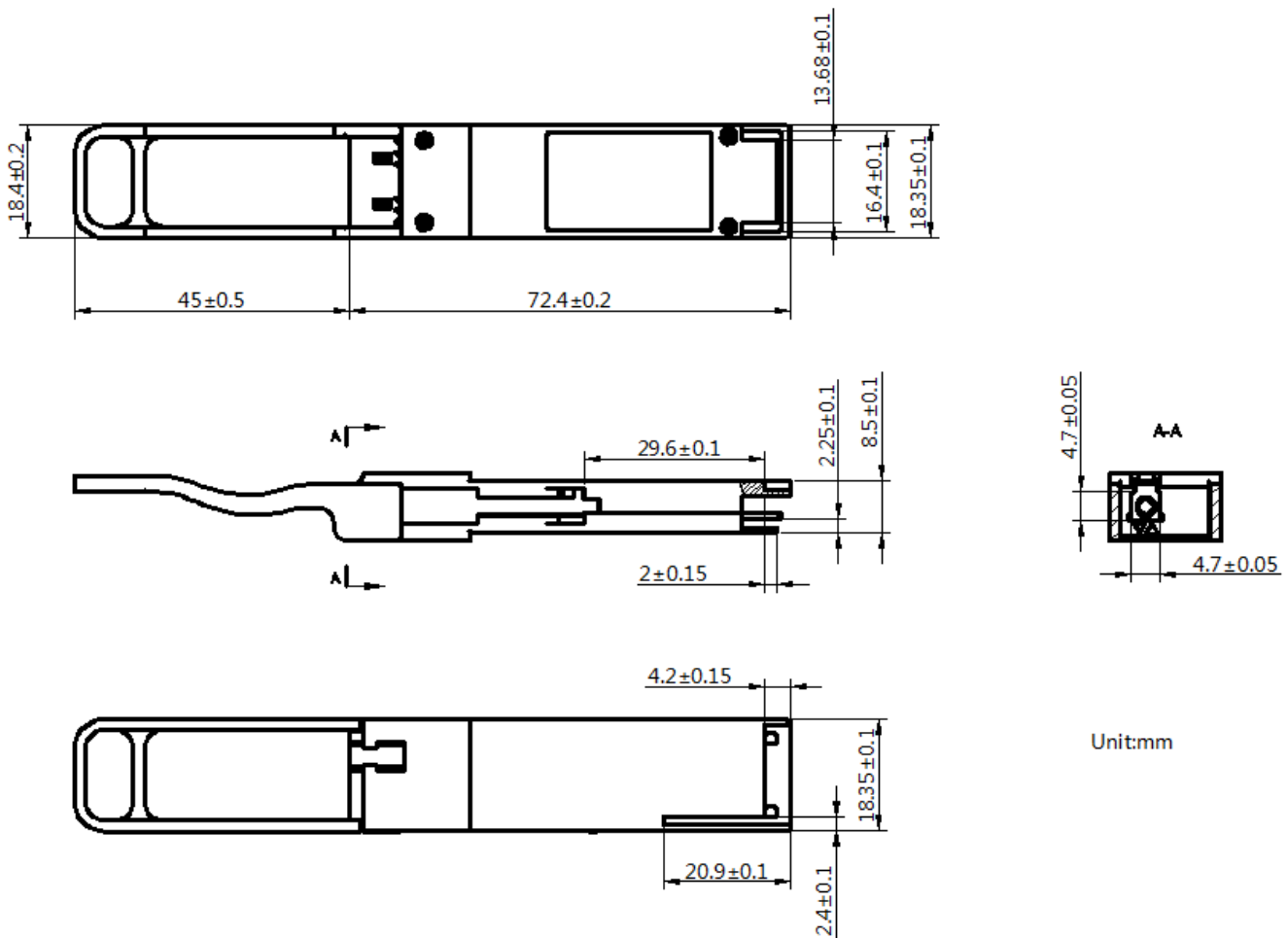
LOS Assert	LOSA	-24	-	-	dBm	
LOS Hysteresis	-	0.5	-	-	dB	

Notes:

1. Class 1 Laser Safety per FDA/CDRH and EN (IEC) 60825 regulations.

Measured with PRBS31Q test pattern, 53.125GBd, BER<2.4E-4.

5. 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.

6. Ordering Information

OEM	Part Number	OEM	Part Number
MSA	AN-Q28-ER1L-BX94-I	OnePort	OP-Q28-ER1L-BX94-I

7. Contact Information

Tel: 800.590.9535

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