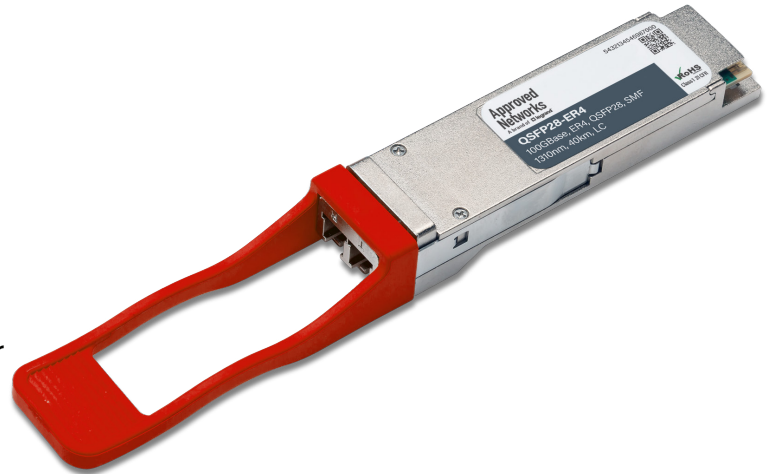


Features

- Support line rates from 103.125 Gb/s
- Transmission data rate up to 25.78125Gbps per channel
- Up to 40km transmission on single mode fiber
- LAN WDM EML laser and APD
- Support Multi-Pin function with IntL/RxLOSL and LPMode/TxDIS
- High speed I/O electrical interface (CAUI-4)
- I2C interface with integrated Digital Diagnostic monitoring
- QSFP28 MSA package with duplex LC connector
- Single +3.3V power supply



- Maximum power consumption 5 W
- Operating case temperature: 0 to +70 °C
- Complies with EU Directive 2015/863/EU;

Applications

- 100GBASE-ER4 Ethernet
- 100G Datacom & Telecom connections

1. Absolute Maximum Ratings

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

2. Recommended Operating Conditions

Parameter	Symbol	Min	Typical	Max	Units
Operating Case Temperature	TC	0		70	°C
Power Supply Voltage	VCC	3.13	3.3	3.47	V
Power Supply Current	ICC			1.44	A
Maximum Power Dissipation	PD			5	W
Aggregate Bit Rate	BRAVE		103.125		Gb/s
Lane Bit Rate	BRLANE		25.78125		Gb/s

Transmission Distance	TD			40	km
Coupled fiber	9/125um SMF mode fiber				

3. Optical Characteristics

Parameter	Symbol	Min.	Typical	Max.	Unit	Notes
Transmitter						
Signaling Speed per Lane			25.78125		Gbps	
Lane Wavelength	L0	1294.53	1295.56	1296.59	nm	
	L1	1299.02	1300.05	1301.09	nm	
	L2	1303.54	1304.58	1305.63	nm	
	L3	1308.09	1309.14	1310.19	nm	
Total Average Launch Power	PT			12.5	dBm	1
Average Launch Power per Lane,	Pavg	-1		6.5	dBm	1
OMA, each Lane	POMA	0		6.5	dBm	1
Difference in launch power between any two lanes(Average and OMA) between any Two Lanes (OMA)						
Turn off Power (Laser)	Poff			-30	dBm	
Side Mode Suppression Ratio	SMSR	30			dB	
Extinction Ratio	ER	7			dB	
RIN20OMA	RIN			-130	dB/Hz	
Optical Return Loss Tolerance	TOL			20	dB	
Transmitter Reflectance	RT			-12	dB	
Optical Eye Mask	{0.25,0.4, 0.45, 0.25, 0.28, 0.4}				%	2
Receiver						
Signaling rate, each lane			25.78125		Gbps	
Center Wavelength Lane 0	λ_0	1294.53	1295.56	1296.59	nm	
Center Wavelength Lane 1	λ_1	1299.02	1300.05	1301.09	nm	
Center Wavelength Lane 2	λ_2	1303.54	1304.58	1305.63	nm	
Center Wavelength Lane 3	λ_3	1308.09	1309.14	1310.19	nm	
Damage threshold , each lane	Pdamage	-2.5			dBm	
Average Receive Power, each lane				-3.5	dBm	

Receiver sensitivity Average, each lane	SEN			-18	dBm	3
Los Assert	LosA	-30			dBm	
Los De-assert	LosDA			-24	dBm	
Los Hysteresis	LosH	0.5			dB	

Note:

1. The optical power is launched into SMF.
2. Measured with a PRBS 231-1 test pattern @25.78125, Hit ratio≤5E-5.
3. Measured with a PRBS 231-1 test pattern @25.78125 Gb/s, BER≤1E-12.

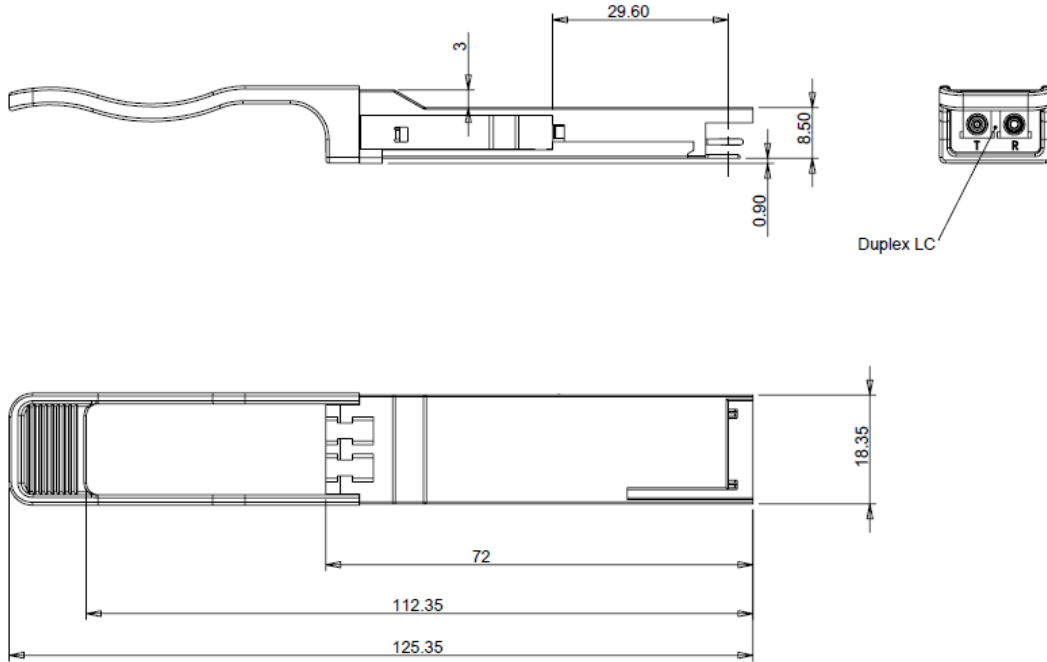
4 . Electrical Characteristics

Parameter	Symbol	Min	Typical	Max	Units	Notes
Transmitter (Module Input)						
Data Rate, each lane			25.78125		Gbps	
Differential Voltage pk-pk	Vpp			900	mV	1
Common Mode Voltage	Vcm	-350		2850	mV	
Transition time	Trise/Tfall	10			ps	2
Receiver (Module Output)						
Data Rate, each lane			25.78125		Gbps	1
Common Mode Noise, RMS	Vrms			17.5	mV	
Differential output voltage swing	Vout, pp			900	mV	
Eye width	EW15	0.57			UI	
Eye height	EH15	228			mV	
Differential Termination Resistance Mismatch				10	%	
Transition time	Trise/Tfall	12			ps	

Notes:

1. At 1 MHz.
2. 20%~80%.

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
Arista	QSFP-100G-ER4-AN-A	Juniper	JNP-QSFP-100G-ER4-A
Ciena	XCVR-Q30V31-ER4-C1	MSA Generic	AN-QSFP28-ER4
Cisco	QSFP-100G-ER4-S-A	MSA Champion ONE	100GQSFP28E-ER4
Fujitsu	HCD00D40C0000-0-A	MSA OnePort	OP-QSFP28-ER4

7. Contact Information

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