Approved Networks
A brand of legrand

QSFP28-WDM-Oxxxx

100GBASE, QSFP28, DWDM, SMF TRANSCEIVER
O-Band, 25km REACH, DUPLEX LC CONNECTOR

Features

- Single-wavelength 100 Gbps transmission
- nCP4™ Silicon Photonics Optical Engine
- O-band xWDM with 200GHz channel spacing
- Aligned to 800GHz spacing LAN-WDM grid
- Multi-channel links up to 25km over SMF
- without dispersion compensation or amplifiers
- Single-channel links up to 30km over SMF
- PAM4 optical signal with integrated FEC
- 4x25.78 Gbps CAUI-4 host interface
- Compliant with QSFP28 MSA SFF-8636
- QSFP28 MSA digital monitoring functions

Applications

- 100GbE multiple channel transmission using O-band xWDM wavelengths & Mux/Demux filters
- 100GbE single channel transmission

1. Absolute Maximum Ratings

Exceeding any of these maximum ratings may cause permanent damage to the device.

Parameter	Symbol	Min	Max	Units
Storage Temperature (case)	Ts	-40	85	°C
Operating Case Temperature	Top	-5	75	V
Supply Voltage	Vcc	0	3.6	V
Relative Humidity (non-condensing)	RH	5	85	%
Optical Receiver Damage Threshold	Rxdmg	-2		dBm
ESD Sensitivity		500		V

2. Recommended Operating Conditions and Power Supply Requirements

Parameter	Symbol	Min	Typical	Max	Units
Operating Case Temperature	TOP	0	25	70	°C
Power Supply Voltage	VCC	3.135	3.3	3.47	V
Power Consumption (FEC On)	PD		4.7	5.5	W

3. Electrical Characteristics

The host 4x25.78 Gbps electrical interface complies with the CAUI-4 standard.

Parameter	Symbol	Min	Typ	Max	Units	Notes
Data Rate per Lane (host side)	BRavg		25.78125		Gbps	
Data Rate Variation		-100		100	ppm	
Transmitter						
Input Swing (Differential)	Vin			900	mVpp	AC coupled
Input Impedance (Differential)	Zin	90	100	110	Ohm	
Receiver						
Output Swing (Differential)	Vout			900	mVpp	AC coupled
Output Impedance (Differential)	Zout	90	100	110	Ohm	
Low Speed Signals						
LPMode, Reset, ModSel	VIL	-0.3		0.8	V	
	VIH	2		Vcc+0.3		
ModPrs, Int	VOL	0		0.4	V	IOL = 2.0mA
	VOH	Vcc-0.5		Vcc+0.3		
SCL, SDA	VIL	-0.3		0.3*Vcc	V	
	VIH	0.7*Vcc		Vcc+0.5		
SCL, SDA	VOL	0		0.4	V	IOLmax = 3.0mA
	VOH	Vcc-0.5		Vcc+0.3		

4 . Optical Characteristics

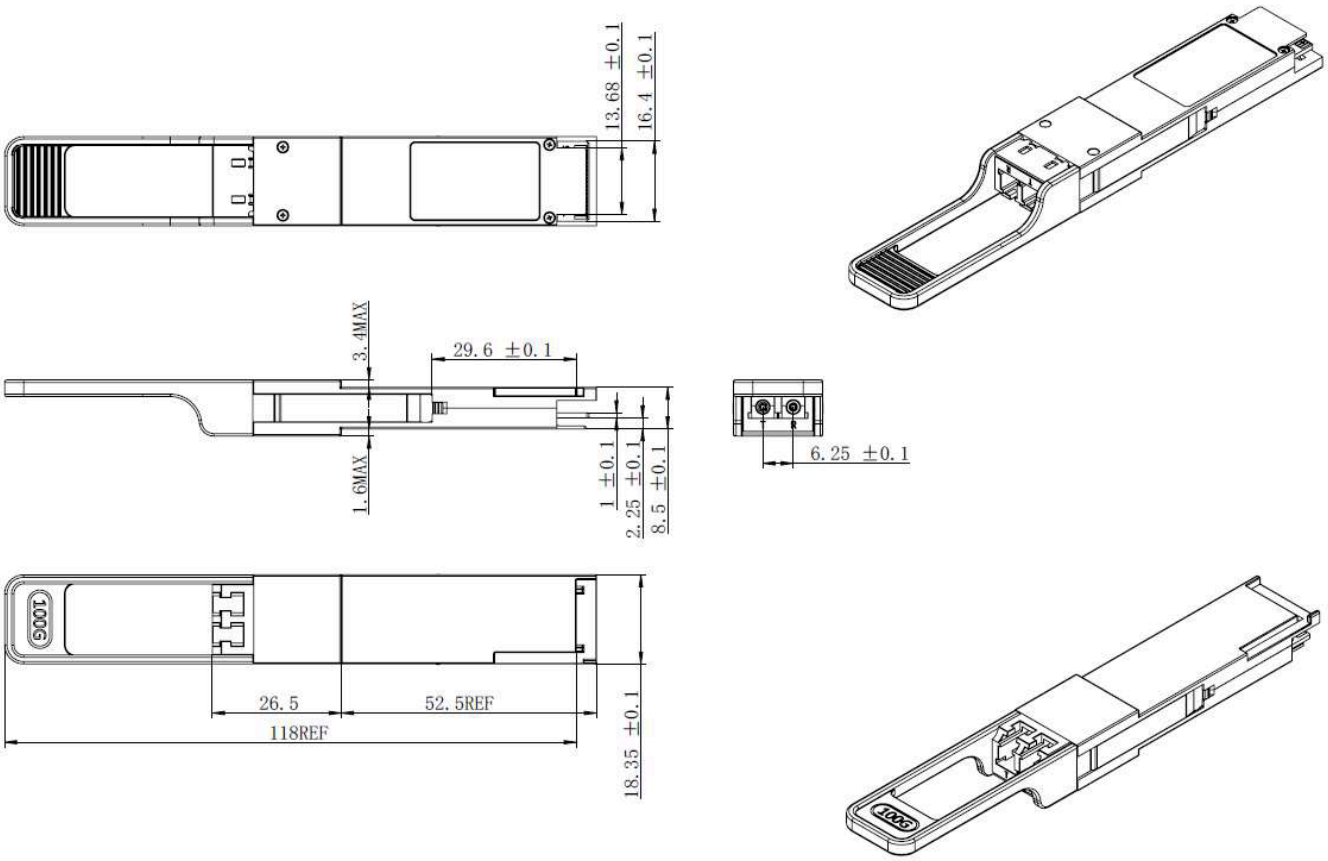
Parameter	Symbol	Min	Typical	Max	Units
Data Rate (1)	BR	103.125			Gbps
Data Rate Variation		-100		100	ppm
Transmitter					
Central Wavelength	∧C	See Ordering Information			nm
Central Wavelength Stability		λC-0.1		λC+0.1	nm
Average optical output power (2)	P0	0		5.6	dBm
Transmitter and dispersion penalty					

eye closure for PAM4 (TDECQ) (1)	TDECQ			3.6	dB
Extinction ratio (ER) (1)	ER	6			dB
Average output power, TX: OFF	P_{OFF}			-20	dBm
TX reflectance				-26	dB
Receiver					
Operating Wavelength		1290		1325	nm
RX Damage Threshold (3)	RX_{DMG}	-2.4			dBm
RX overload, average power (4)	RX_{SAT}	-3			dBm
RX Sensitivity, average power (4)	RXOMA		-16	-14.7	dBm
RX Reflectance				-26	dB
LOS Assert	LOSA	-19			dBm
LOS De-Assert	LOSD			-15	dBm
LOS Hysteresis			1		dB

Notes:

1. The optical signal data rate is 103.125 Gbps 100GE data rate plus FEC code. The TDECQ and ER are specified for 106.25 Gbps signal.
2. Average optical output power is specified for beginning of life (BOL) with clean fiber connector.
3. The RX shall be able to tolerate, without damage, continuous exposure to an optical signal having this average power level. The RX does not have to operate correctly at this input power.
4. Rx average power overload and sensitivity are for post-FEC BER < 1E-15 with integrated FEC without dispersion at BOL.

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 Generic	AN-QSFP28-WDM-O1295	MSA Generic	AN-QSFP28-WDM-O1304
MSA Generic	AN-QSFP28-WDM-O1296	MSA Generic	AN-QSFP28-WDM-O1305
MSA Generic	AN-QSFP28-WDM-O1297	MSA Generic	AN-QSFP28-WDM-O1306
MSA Generic	AN-QSFP28-WDM-O1298	MSA Generic	AN-QSFP28-WDM-O1308
MSA Generic	AN-QSFP28-WDM-O1300	MSA Generic	AN-QSFP28-WDM-O1309
MSA Generic	AN-QSFP28-WDM-O1301	MSA Generic	AN-QSFP28-WDM-O1310
MSA Generic	AN-QSFP28-WDM-O1302	MSA Generic	AN-QSFP28-WDM-O1311
MSA Generic	AN-QSFP28-WDM-O1303	MSA Generic	AN-QSFP28-WDM-O1312

Custom OEM compatibility is available upon request. Contact your representative at Approved Networks

7. Contact Information

Tel: 800.590.9535
Web: http://www.approvednetworks.com