Approved Networks
A brand of legrand

QSFP28-SR4-MDC

100GBASE, QSFP28, SR4, MMF TRANSCEIVER
850nm, 100m REACH, MDC CONNECTOR

Features

- Hot Pluggable QSFP28 form factor
- Supports 103.1Gb/s aggregate bit rate
- Maximum link length of 100m on OM4 Multi-mode Fiber (MMF)
- MDC interface
- Single 3.3V power supply
- Typical Power dissipation <1.8W
- 4x25Gb/s 850mm VCSEL-based transmitter
- 4x25G electrical interface
- I2C management interface
- Commercial operating case temperature range: 0°C to 70°C

1. General Specifications

Parameter	Symbol	Min.	Typical	Max.	Unit
Bit Rate (all wavelengths combined)	BR			103.1	Gb/s
Bit Error Ratio (pre-FEC)	BER			5x10-5	
Maximum Supported Distances					
Fiber Type					
OM3 MMF	Lmax1			70	m
OM4 MMF	Lmax2			100	m

2. Electrical Characteristics

(EOL, TOP = 0 to 70C, VCC = 3.135 to 3.465 Volts)

Parameter	Symbol	Min.	Typical	Max.	Unit	Note
Supply Voltage	Vcc	3.135		3.465	V	
Supply Current	Icc			800	mA	
Module total power	P			2.5	W	
Transmitter Section						
Signaling rate per lane		25.78125 ± 100ppm			Gb/s	
Differential pk-pk input voltage tolerance	Vin,pp,diff			900	mV	

Single-ended voltage tolerance	Vin,pp	-0.35		+3.3	V	
Module stress input test		Per Section 83E.3.4.1, IEEE 802.3bm			V	
Receiver Section:						
Signaling rate per lane		25.78125 ± 100ppm			V	
Differential data output swing	Vout,pp	100		400	mVpp	
		300		600		
		400	600	800		
		600		1200		
Eye width		0.57			UI	
Eye height, differential		228			mV	
Vertical eye closure	VEC	5.5			dB	
Transition time (20% to 80%)	tr, tf	12			ps	

3. Optical Characteristics

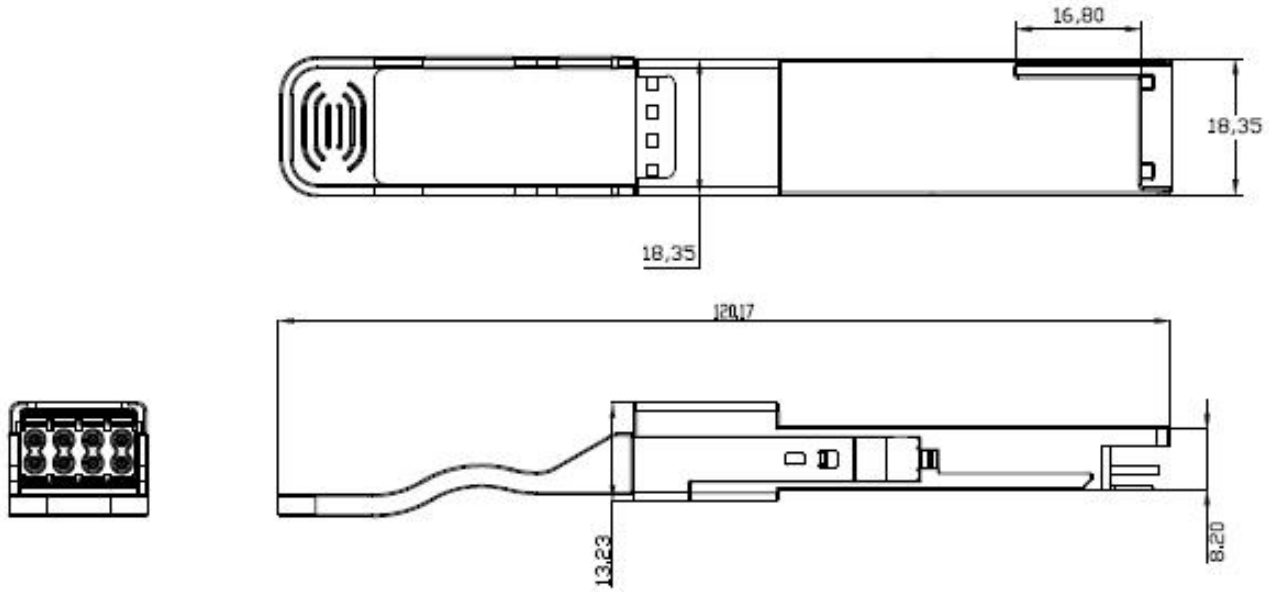
(EOL, TOP = 0 to 70C, VCC = 3.135 to 3.465 Volts)

Parameter	Symbol	Min.	Typical	Max.	Unit	Note
Transmitter Section:						
Center Wavelength	λt	840	850	860	nm	
RMS spectral width	Δλ			0.6	nm	
Average Optical Power per Lane	TXPx	-8.4		2.4	dBm	
Optical Power OMA per Lane	TxOMA	-6.4		3	dBm	
Launch Power [OMA] minus TDEC per Lane	P-TDEC	-7.3			dBm	
TDEC per Lane	TDEC			4.3	dBm	
Optical Extinction Ratio	ER	2			dB	
Optical Return Loss Tolerance	ORL			12	dB	
Encircled Flux	FLX	>86% at 19 um <30% at 4.5 um			dB	
Average Launch Power of OFF Transmitter, per Lane				-30	dBm	
Transmitter Eye mask definition {X1, X2, X3, Y1, Y2, Y3}		{0.3,0.38,0.45,0.35,0.41,0.5}				2

Receiver Section:						
Signaling Speed per Lane		25.78125 ± 100ppm			Gb/s	3
Center Wavelength	λr	840		860	nm	
Damage Threshold	DT	3.4			dBm	
Average Receive Power per Lane	RXPx	-10.3		2.4	dBm	
Receive Power (OMA) per Lane	RxOMA			3	dBm	
Receiver Reflectance	Rfl			-12	dB	
Stressed Sensitivity (OMA)	SRS			-5.2	dBm	4
Stressed Conditions:						
Stressed Eye Closure	SEC		4.3		dB	
Stressed Eye J2 Jitter	J2		0.39		UI	
Stressed Eye J4 Jitter	J4		0.53		UI	
OMA of each aggressor lane			3		dBm	
Stressed Receiver Eye Mask Definition {X1, X2, X3, Y1, Y2,Y3}		{0.28,0.5,0.5,0.33,0.33,0.4}				5
Los De-Assert	LOSD				-13	
Los Assert	LOSA	-30				
Los Hysteresis	LOSH	0.5				2

Notes:
1. Transmitter consists of 4 lasers operating at a maximum speed of 25.78125Gb/s ±100ppm each.
2. Hit Ratio 1.5 x 10-3 hits/sample.
3. Receiver consists of 4 photo detectors operating at a maximum speed of 25.78125Gb/s±100ppm each.
4. Minimum value is informative only and not the principal indicator of signal strength.
5. Hit Ratio 5 x 10-5 hits/sample

4. 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.

5. Ordering Information

OEM	Part Number	OEM	Part Number
Atran	1445510F1C-MDC-A	HP	JL309A-MDC-A
Alcatel	3HE11275AA-MDC-A	Infinera	TOM-100G-Q-SR4-MDC-A
Arista	QSFP-100G-SR4-MDC-A	Juniper	QSFP-100GBASE-SR4-MDC-A
Brocade	100G-QSFP28-SR4-MDC-A	Juniper	JNP-QSFP-100G-SR4-MDC-A
Cisco	QSFP-100G-SR4-S-MDC-A	Juniper	QSFP-100G-SR4-T2-MDC-A
Dell	407-BBWV-MDC-A	MSA OnePort	OP-QSFP28-SR4-MDC
HP	845966-B21-MDC-A	MSA Generic	AN-QSFP28-SR4-MDC
HP	JL274A-MDC-A		

6. Contact Information

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