

Features

- QSFP56 MSA compliant
- 4 parallel lanes on 850nm center wavelength
- Compliant to IEEE 802.3bs Specification
- Up to 70m transmission on multi-mode fiber (MMF) OM3 with FEC
- Operating case temperature: 0 to 70°C
- 4x53.125Gb/s and 2x53.125Gb/s electrical interface (200GAUI-4 and 100GAUI-2)
- Data Rate 53.125Gbps (PAM4) per channel.
- Maximum power consumption 5W per terminal
- RoHS compliant



Applications

- Data Center Interconnect
- 200G Ethernet
- Infiniband interconnects
- Enterprise networking

1. Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Units
Storage Temperature	TS	-40	85	degC
Operating Case Temperature	TOP	0	70	degC
Power Supply Voltage	VCC	-0.5	3.6	V
Relative Humidity (non-condensation)	RH	0	85	%

2. Recommended Operating Conditions

Parameter	Symbol	Min	Typical	Max	Units	Notes
Operating Case Temperature	TOP	0		70	degC	
Power Supply Voltage	VCC	3.135	3.3	3.465	V	
Data Rate, each Lane			26.5625		GBd	PAM4

Data Rate Accuracy		-100		100	ppm	
Pre- FEC Bit Error Ratio				2.4x10 ⁻⁴		
Post-FEC Bit Error Ratio				1x10 ⁻¹²		1
Link Distance with OM3	D	0.5		70	m	2

Notes:

1. FEC provided by host system.
2. FEC required on host system to support maximum distance.

3. Electrical Characteristics

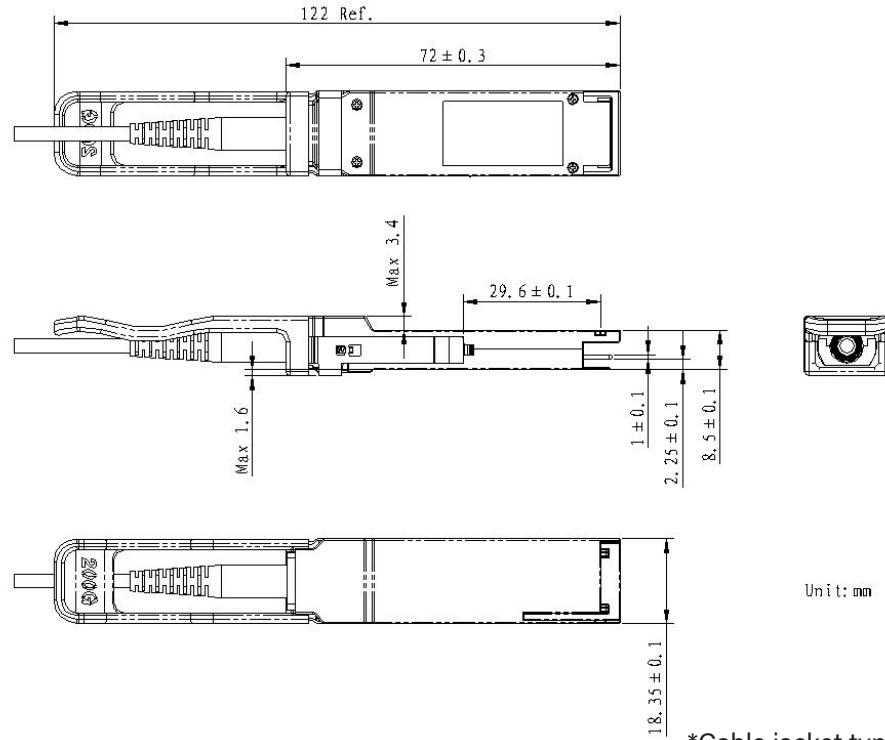
Parameter	Test Point	Min	Typical	Max	Units	Notes
Power Consumption				5	W	
Supply Current	I _{cc}			1.52	A	
Transmitter (each Lane)						
Signaling Rate, each Lane	TP1	26.5625 ± 100 ppm			GBd	
Differential pk- pk Input Voltage Tolerance	TP1a	900			mVpp	1
Differential Termination Mismatch	TP1			10	%	
Differential Input Return Loss	TP1	IEEE 802.3-2015 Equation (83E-5)			dB	
Differential to Common Mode Input Return Loss	TP1	IEEE 802.3-2015 Equation (83E-6)			dB	
Module Stressed Input Test	TP1a	See IEEE 802.3bs 120E.3.4.1 2				
Single- ended Voltage Tolerance Range (Min)	TP1a	-0.4 to 3.3			V	
DC Common Mode Input Voltage	TP1	-350		2850	mV	3
Receiver (each Lane)						
Signaling Rate, each lane	TP4	26.5625 ± 100 ppm			GBd	
Differential Peak- to- Peak Output Voltage	TP4			900	mVpp	

Common Mode Voltage		-350		2850	mV	
AC Common Mode Output Voltage, RMS	TP4	17.5			mV	
Differential Termination Mismatch	TP4			10	%	
Differential Output Return Loss	TP4	IEEE 802.3-2015 Equation (83E-2)				
Common to Differential Mode Conversion Return Loss	TP4	IEEE 802.3-2015 Equation (83E-3)				
Transition Time, 20% to 80%	TP4	9.5		ps		
Near- end Eye Symmetry Mask Width (ESMW)	TP4		0.265		UI	
Near- end Eye Height, Differential	TP4	70			mV	
Far- end Eye Symmetry Mask Width (ESMW)	TP4		0.2		UI	
Far-end Eye Height, Differential	TP4	30			mV	
Far- end Pre-cursor ISI Ratio	TP4	-4.5		2.5	%	
Common Mode Output Voltage (Vcm)	TP4	-350		2850	mV	3

Notes:

1. With the exception to IEEE 802.3bs 120E.3.1.2 that the pattern is PRBS31Q or scrambled idle.
2. Meets BER specified in IEEE 802.3bs 120E.1.1.

4. Mechanical Diagram



*Cable jacket type standard is LSZH.

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

PNY P/N	Mellanox Legacy P/N	Nvidia P/N	Product Description
PFS1S50-H003E	MFS1S50-H003E	980-9I452-00H003	100% Mellanox Compatible active fiber splitter cable, IB HDR, 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56 , LSZH, 3m 5 Year Warranty
PFS1S50-H003E-10	MFS1S50-H003E	980-9I452-00H003	100% Mellanox Compatible active fiber splitter cable, IB HDR, 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56 , LSZH, 3m 10 Year Warranty
PFS1S50-H003V	MFS1S50-H003V	980-9I445-00H003	100% Mellanox Compatible active optical cable, 200Gb/s to 2x100Gb/s IB HDR, QSFP56 to 2x QSFP56, 3m 5 Year Warranty

PFS1S50-H003V-10	MFS1S50-H003V	980-9I445-00H003	100% Mellanox Compatible active optical cable, 200Gb/s to 2x100Gb/s IB HDR, QSFP56 to 2x QSFP56, 3m 10 Year Warranty
PFS1S50-H005E	MFS1S50-H005E	980-9I956-00H005	100% Mellanox Compatible active fiber splitter cable, IB HDR, 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56 , LSZH, 5m 5 Year Warranty
PFS1S50-H005E-10	MFS1S50-H005E	980-9I956-00H005	100% Mellanox Compatible active fiber splitter cable, IB HDR, 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56 , LSZH, 5m 10 Year Warranty
PFS1S50-H005V	MFS1S50-H005V	980-9I969-00H005	100% Mellanox Compatible active optical cable, 200Gb/s to 2x100Gb/s IB HDR, QSFP56 to 2x QSFP56, 5m 5 Year Warranty
PFS1S50-H005V-10	MFS1S50-H005V	980-9I969-00H005	100% Mellanox Compatible active optical cable, 200Gb/s to 2x100Gb/s IB HDR, QSFP56 to 2x QSFP56, 5m 10 Year Warranty
PFS1S50-H010E	MFS1S50-H010E	980-9I95A-00H010	100% Mellanox Compatible active fiber splitter cable, IB HDR, 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56 , LSZH, 10m 5 Year Warranty
PFS1S50-H010E-10	MFS1S50-H010E	980-9I95A-00H010	100% Mellanox Compatible active fiber splitter cable, IB HDR, 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56 , LSZH, 10m 10 Year Warranty
PFS1S50-H010V	MFS1S50-H010V	980-9I96D-00H010	100% Mellanox Compatible active optical cable, 200Gb/s to 2x100Gb/s IB HDR, QSFP56 to 2x QSFP56, 10m 5 Year Warranty
PFS1S50-H010V-10	MFS1S50-H010V	980-9I96D-00H010	100% Mellanox Compatible active optical cable, 200Gb/s to 2x100Gb/s IB HDR, QSFP56 to 2x QSFP56, 10m 10 Year Warranty
PFS1S50-H015E	MFS1S50-H015E	980-9I95E-00H015	100% Mellanox Compatible active fiber splitter cable, IB HDR, 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56 , LSZH, 15m 5 Year Warranty
PFS1S50-H015E-10	MFS1S50-H015E	980-9I95E-00H015	100% Mellanox Compatible active fiber splitter cable, IB HDR, 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56 , LSZH, 15m 10 Year Warranty
PFS1S50-H015V	MFS1S50-H015V	980-9I96H-00H015	100% Mellanox Compatible active optical cable, 200Gb/s to 2x100Gb/s IB HDR, QSFP56 to 2x QSFP56, 15m 5 Year Warranty

PFS1S50-H015V-10	MFS1S50-H015V	980-9I96H-00H015	100% Mellanox Compatible active optical cable, 200Gb/s to 2x100Gb/s IB HDR, QSFP56 to 2x QSFP56, 15m 10 Year Warranty
PFS1S50-H020E	MFS1S50-H020E	980-9I95I-00H020	100% Mellanox Compatible active fiber splitter cable, IB HDR, 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56 , LSZH, 20m 5 Year Warranty
PFS1S50-H020E-10	MFS1S50-H020E	980-9I95I-00H020	100% Mellanox Compatible active fiber splitter cable, IB HDR, 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56 , LSZH, 20m 10 Year Warranty
PFS1S50-H020V	MFS1S50-H020V	980-9I96L-00H020	100% Mellanox Compatible active optical cable, 200Gb/s to 2x100Gb/s IB HDR, QSFP56 to 2x QSFP56, 20m 5 Year Warranty
PFS1S50-H020V-10	MFS1S50-H020V	980-9I96L-00H020	100% Mellanox Compatible active optical cable, 200Gb/s to 2x100Gb/s IB HDR, QSFP56 to 2x QSFP56, 20m 10 Year Warranty
PFS1S50-H030E	MFS1S50-H030E	980-9I95M-00H030	100% Mellanox Compatible active fiber splitter cable, IB HDR, 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56 , LSZH, 30m 5 Year Warranty
PFS1S50-H030E-10	MFS1S50-H030E	980-9I95M-00H030	100% Mellanox Compatible active fiber splitter cable, IB HDR, 200Gb/s to 2x100Gb/s, QSFP56 to 2xQSFP56 , LSZH, 30m 10 Year Warranty
PFS1S50-H030V	MFS1S50-H030V	980-9I96P-00H030	100% Mellanox Compatible active optical cable, 200Gb/s to 2x100Gb/s IB HDR, QSFP56 to 2x QSFP56, 30m 5 Year Warranty
PFS1S50-H030V-10	MFS1S50-H030V	980-9I96P-00H030	100% Mellanox Compatible active optical cable, 200Gb/s to 2x100Gb/s IB HDR, QSFP56 to 2x QSFP56, 30m 10 Year Warranty
PFS1S50-H040V	MFS1S50-H040V	980-9I95S-00H040	100% Mellanox Compatible active optical cable, 200Gb/s to 2x100Gb/s IB HDR, QSFP56 to 2x QSFP56, 40m 5 Year Warranty
PFS1S50-H040V-10	MFS1S50-H040V	980-9I95S-00H040	100% Mellanox Compatible active optical cable, 200Gb/s to 2x100Gb/s IB HDR, QSFP56 to 2x QSFP56, 40m 10 Year Warranty
PFS1S50-H050V	MFS1S50-H050V	980-9I95T-00H050	100% Mellanox Compatible active optical cable, 200Gb/s to 2x100Gb/s IB HDR, QSFP56 to 2x QSFP56, 50m 5 Year Warranty



PFS1S50-H050V-10	MFS1S50-H050V	980-9I95T-00H050	100% Mellanox Compatible active optical cable, 200Gb/s to 2x100Gb/s IB HDR, QSFP56 to 2x QSFP56, 50m 10 Year Warranty
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6. Contact Information

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