Maipu 100G QSFP28 SR4 100M Transceiver

QSFP28-M1-M1920C8D

Overview

Maipu QSFP28-M1-M1920C8D Transceiver is an integrated transceiver module containing a micro-optic component and semiconductor material and can implement optical-electrical conversion and electrical-optical conversion. The module is designed as a four-channel, pluggable, parallel, QSFP28 transceiver for 100Gbps fiber-communication. Each channel can operate at 25Gbps up to 70m on OM3 fiber. And the operating wavelength is 850nm. The optical interface uses a 12 fiber MTP(MPO) connector, and the electrical interface uses a 38-contact edge type connector. This product is compliant to 100GBASE-SR4 of IEEE802.3bm standard and SFF-8436 specification, and provides reliable long life, high performance, and consistent service.

Key Features

- Compliant with 100G Ethernet IEEE 802.3bm 100GBASE
- Duplex MPO optical connector
- 4*25Gb/s 850nm VCSEL laser transmitter
- RoHS compliant and Lead Free
- Distance up to 70m(OM3) and 100m(OM4) on multi-mode fiber
- Metal enclosure for lower EMI
- Low Power Consumption <3.0W
- Operating case temperature: 0℃ to 70℃

Absolute Maximum Ratings

Parameter	Symbol	Min	Typ	Max	Unit	Notes
Maximum Supply Voltage	Vc	-0.5		+3.6	V	
Storage Temperature	TS	-40		+85	°C	
Operating Humidity	RH	0		85	%	

Recommended Operating Conditions

Parameter	Symbol	Min	Typ	Max	Unit	Notes
Power Supply Voltage	Vcc	3.13	3.30	+3.47	V	
Module total power	P			3.0	W	
Case Operating Temperature	Tc	0		70	°C	
Bit Rate Each Lane	BR		25.78		Gbps	1
Link distance on OM3 MMF	Lmax			70	m	2
Link distance on OM4 MMF	Lmax			100	m	2
Bit Error Ratio (pre-FEC)	BER			$5*10^{-5}$		3

Electrical Characteristics

Parameter	Symbol	Min	Typ	Max	Unit	Notes
Transmitter						
Input differential impedance	Rin	85	100	115	Ω	1
Differential data input swing	Vin, pp			900	mV	
TX Disable-High		Vcc-0.8		Vcc	V	
TX Disable-Low		Vee		Vee+0.8	V	
TX Fault-High		Vcc-0.8		Vcc	V	
TX Fault-Low		Vee		Vee+0.8	V	
Receiver						
Output differential impedance	Rin	85	100	115	Ω	1
Differential data output swing	Vin, pp	300		900	mV	2
LOS-High		Vcc-0.8		Vcc	V	
LOS-Low		Vee		Vee+0.8	V	

Optical Characteristics

Parameter	Symbol	Min	Typ	Max	Unit	Notes
Transmitter						
Center Wavelength	λt	840	850	860	nm	
RMS Spectral Width	Pm			0.6	nm	
Average Optical Power, each Lane	Pavg	-8.4		+2.4	dBm	
Optical Modulation Amplitude, each Lane	Poma	-6.4		3	dBm	
Transmitter and dispersion eye closure(TDEC), each lane	TDEC			4.3	dBm	
Extinction Ratio	ER	2			dB	
Average launch power of OFF transmitter, each lane	Toff			-30	dBm	
Transmitter Eye mask definition {X1, X2, X3, Y1, Y2, Y3}		{0.3,0.38, 0.45, 0.35, 0.41, 0.5}				1
Receiver						
Center Wavelength	λr	840		860	nm	
Average power at receiver input,each lane	Rin	-10.3		2.4	dBm	2
Damage threshold		3.4			dBm	
Optical Modulation Amplitude(OMA),each lane				3	dBm	
Stressed receiver sensitivity in OMA,each lane				-5.2	dBm	3
Receiver Reflectance				-12	dB	
Los Assert	LosA	-30			dBm	
Los Dessert	LosD			-10	dBm	
Los Hysteresis	LosH	0.5			dB	

Order Information

Model	Description
QSFP28-M1-M1920C8D	100G QSFP28, 850nm, 100m, MPO, DDM, Multi-mode

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