10G SFP+ Active Optical Cables

Applications

- 10 Gigabit Ethernet
- Fibre Channel Applications
- InfiniBand QDR, SDR, DDR
- Servers, switches, storage and host card adapters
- High-performance computing clusters

Features

- Electrical interface compliant to SFF-8431
  850nm VCSEL laser and PIN photo-detector
- Hot Pluggable
- 850nm VCSEL transmitter, PIN photo-detector receiver
- Operating case temperature: 0 to 70℃
- 3.3V power supply voltage
- All-metal housing for superior EMI performance

Absolute Maximum Ratings

Parameter	Symbol	Min	Typical	Max	Unit
Storage Temperature	T_{STG}	-20		85	℃
Relative Humidity	RH	0		85	%
Case Operating Temperature	T_{Case}	0		70	℃
Supply Voltage	V_{CC}	-0.3	3.3	3.6	V

Recommended Operating Conditions

Parameter	Symbol	Min	Typical	Max	Unit
Operating Case Temperature	TA	0		+70	℃
Supply Voltage	VCC	3.15	3.3	3.47	V
Supply current (QSFP+)	Icc			450	mA
Supply current (SFP+)	Icc			150	mA
Channel Data Rate	Dr		10.3125		Gbps

SFP+ Transmitter

easured condition： Channel Data Rate 10.3125Gbps, VRCCR=3.3V, PRBS31, Case Operating Temperature 0~70

Parameter	Symbol	Min	Typical	Max	Unit
Centre Wavelength	λc	840	850	860	nm
Average Optical Power	PAVG	-6.5			dBm
Extinction Ratio	ER	3.0			dB
Differential Data Input Swing	Vin PP	200		1600	mV
Input differential impedance	Zin	90	100	110	Ω

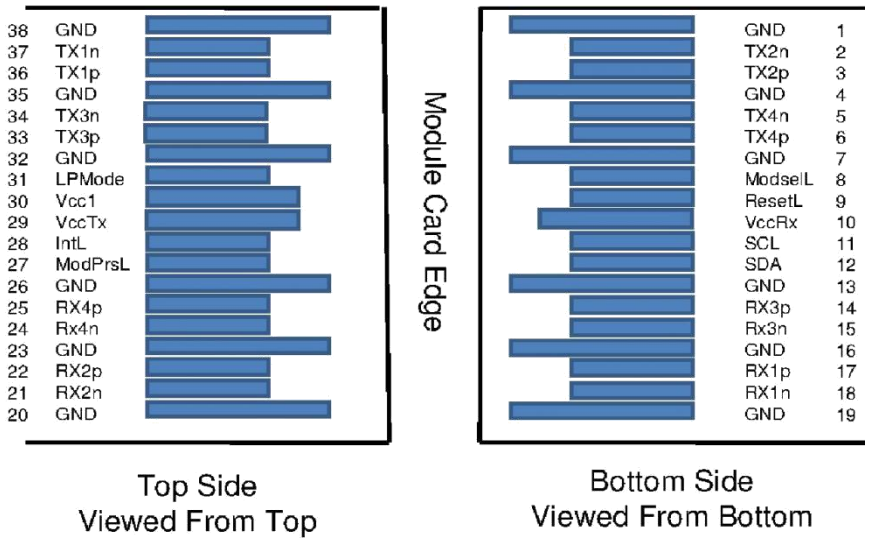
Receiver

Measured condition：Channel Data Rate 10.3125Gbps, VRCCR=3.3V, PRBS31, Case

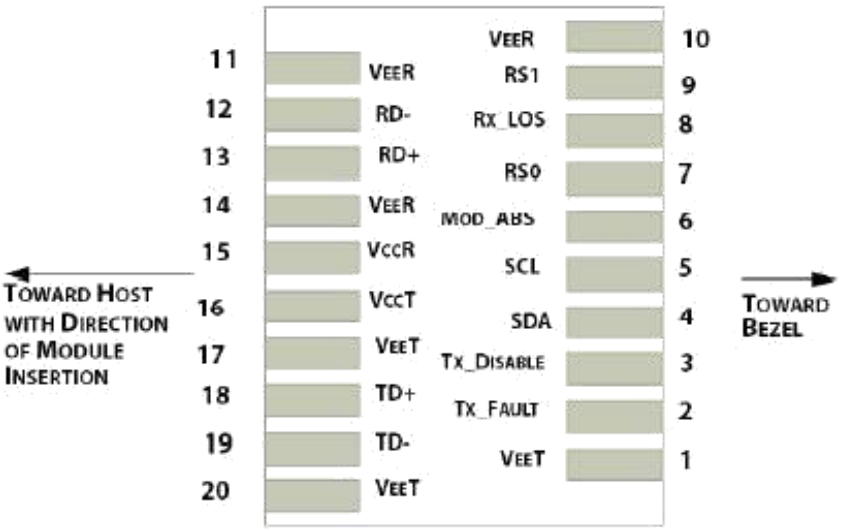
Operating Temperature 0~70℃

Parameter	Symbol	Min	Typical	Max	Unit
Center Wavelength	λc	840	850	860	nm
Differential Data Output Swing	Vout PP	370		1600	mv
Bit Error Rate	BER	0		E2	

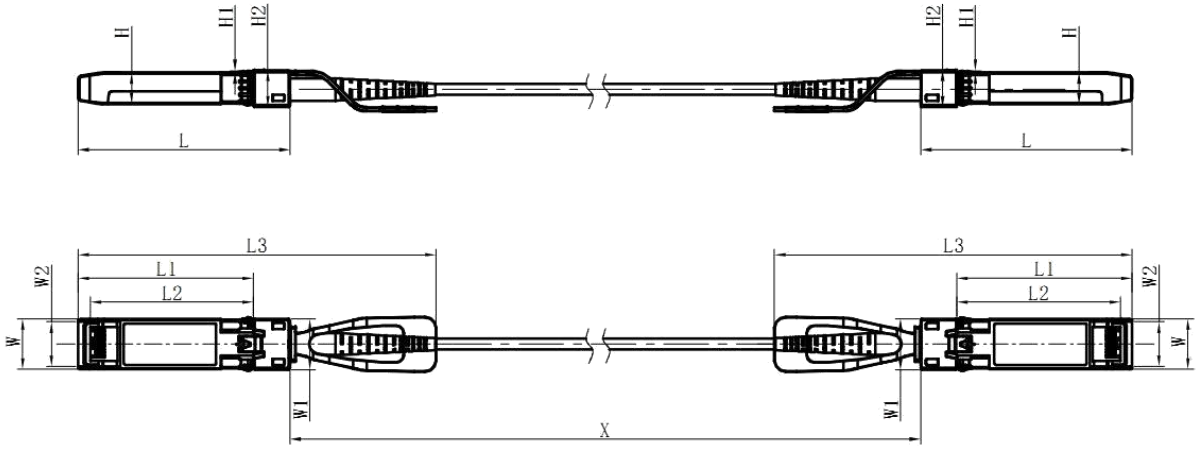
QSFP+Pin Descriptions



SFP+ Pin Descriptions



Mechanical Design Diagram



Unit: mm

	L	L1	L2	L3	W	W1	W2	H	H1	H2
MAX	57.75	48.0	44.65	102.5	13.75	14.0	12.25	8.65	0.55	10.4
Typical	57.55	47.8	44.45	101.5	13.65	13.9	12.15	8.55	0.5	10.2
MIN	57.35	47.6	44.25	100.5	13.55	13.8	12.05	8.45	0.45	10.0

Cable Length（Unit: m）	Tolerant（Unit: cm）
＜1.0	+5/-0
1.0~4.5	+15/-0
5.0~14.5	+30/-0
≥15.0	+2%/-0