SFP-10GB-DW17-80-HW2-OPC

Huawei® Compatible TAA 10GBase-DWDM SFP+ Transceiver C-Band 100GHz (SMF, 1563.86nm, 80km, LC, DOM)

Features

- SFF-8432 and SFF-8472 Compliance
- Duplex LC Connector
- Temperature-stabilized EML transmitter and APD receiver
- Single-mode Fiber
- Commercial Temperature 0 to 70 Celsius
- Hot Pluggable
- Metal with Lower EMI
- Excellent ESD Protection
- RoHS Compliant and Lead Free

Applications:

- 10x Gigabit Ethernet over DWDM
- 8x/10x Fibre Channel
- Access, Metro and Enterprise

Product Description

This Huawei® compatible SFP+ transceiver provides 10GBase-DWDM throughput up to 80km over single-mode fiber (SMF) using a wavelength of 1563.86nm via an LC connector. It can operate at temperatures between 0 and 70C. Our transceiver is built to meet or exceed OEM specifications and is guaranteed to be 100% compatible with Huawei®. It has been programmed, uniquely serialized, and tested for data-traffic and application to ensure that it will initialize and perform identically. All of our transceivers comply with Multi-Source Agreement (MSA) standards to provide seamless network integration. Additional product features include Digital Optical Monitoring (DOM) support which allows access to real-time operating parameters. This transceiver is Trade Agreements Act (TAA) compliant. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

OptioConnect's transceivers are RoHS compliant and lead-free.

Wavelength Guide (100GHz ITU-T Channels)

ITU Channel #	Frequency (THz)	Center Wavelength (nm)
17	191.7	1563.86
18	191.8	1563.05
19	191.9	1562.23
20	192.0	1561.42
21	192.1	1560.61
22	192.2	1559.79
23	192.3	1558.98
24	192.4	1558.17
25	192.5	1557.36
26	192.6	1556.55
27	192.7	1555.75
28	192.8	1554.94
29	192.9	1554.13
30	193.0	1553.33
31	193.1	1552.52
32	193.2	1551.72
33	193.3	1550.92
34	193.4	1550.12
35	193.5	1549.32
36	193.6	1548.51
37	193.7	1547.72
38	193.8	1546.92
39	193.9	1546.12
40	194.0	1545.32
41	194.1	1544.53
42	194.2	1543.73
43	194.3	1542.94
44	194.4	1542.14
45	194.5	1541.35
46	194.6	1540.56
47	194.7	1539.77
48	194.8	1538.98
49	194.9	1538.19
50	195.0	1537.40

51	195.1	1536.61
52	195.2	1535.82
53	195.3	1535.04
54	195.4	1534.25
55	195.5	1533.47
56	195.6	1532.68
57	195.7	1531.90
58	195.8	1531.12
59	195.9	1530.33
60	196.0	1529.55

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Storage Temperature	Tstg	-40		85	°C	1
Maximum Supply Voltage	Vcc	-0.5		3.6	V	
Operating Relative Humidity	RH			95	%	
Power Budget		23			dB	
Data Rate			10.3125		Gbps	

Notes:

1. Exceeding any one of these values may destroy the device permanently.

Electrical Characteristics

Parameter		Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter							
CML Differential Inputs		VIN	150		1200	mVp-p	1
Input AC Common-Mode Voltage					25	mV	2
Input Differential Impedance		ZIN	85	100	115	Ω	3
Tx_Disable	**High**		2		Vcc	V	
	Low				0.8		
Tx_Fault	**High**		2		Vcc+0.3	V	4
	Low				0.5		5
Receiver							
CML Differential Outputs		VOUT	350		700	mVp-p	1
Output Differential Impedance		ZOUT	85	100	115	Ω	
Rx_LOS	**High**		2		Vcc+0.3		4
	Low				0.8		5
MOD_DEF(0.2)		VOH	2.5			V	
		VOL			0.5		6

Notes:

1. AC coupled inputs.
2. RMS.
3. RIN>100kΩ @DC.
4. Io = 400µA; Host_Vcc.
5. Io = -4.0mA.
6. With serial ID.

Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter						
Operating Wavelength	λ	λ-0.1		λ+0.1	nm	
Spectral Width (-20dB)	Δλ			1	nm	
Average Output Power	POUT			4	dBm	1
Extinction Ratio	ER	7.5			dB	
Average Power of Off Transmitter	Poff			-30	dBm	
Relative Intensity Noise	RIN			-128	dB/Hz	
Side-Mode Suppression Ratio	SMSR	30			dB	
Transmitter Dispersion Penalty	TDP			3.0	dB	
Tx_Disable Assert Time	T_off			10	us	
Receiver						
Center Wavelength	λ_C	1260	λ	1600	nm	
Receiver Sensitivity	Pmin			-23	dBm	2
Receiver Overload	Pmax	-7			dBm	
LOS De-Assert	LOSD			-24	dBm	
LOS Assert	LOSA	-40			dBm	
LOS Hysteresis	LOSH	0.5			dB	

Notes:

1. Output is coupled into a 9/125µm SMF.
2. Measured with worst ER, BER less than $1E^{-12}$, and PRBS 2^{31}-1 @10.3125Gbps.

Pin Descriptions

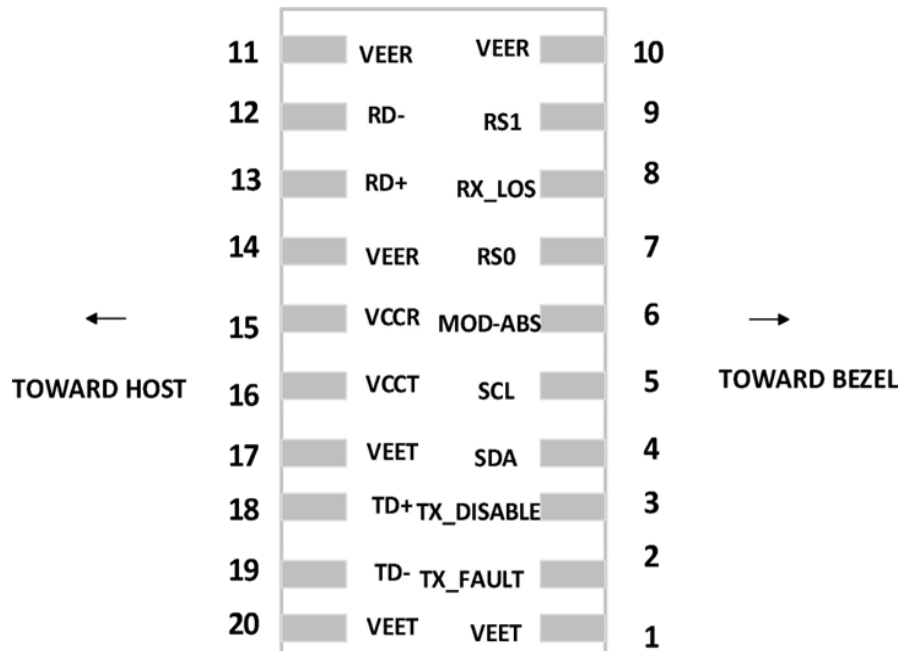| Pin	Symbol	Name/Description	Plug Seq.	Notes
1	VeeT	Transmitter Ground.	1	5
2	Tx_Fault	Transmitter Fault Indication.	3	1
3	Tx_Disable	Transmitter Disable.	3	2, module disables on "high" or "open"
4	SDA	Transmitter Disable.	3	3, 2-wire serial ID interface
5	SCL	Module Definition 2.	3	3, 2-wire serial ID interface
6	MOD_ABS	Module Definition 1.	3	3
7	RS0	Rx Rate Select (LVTTL).	3	NC
8	LOS	Loss of Signal.	3	4
9	RS1	Tx Rate Select (LVTTL).	1	NC
10	VeeR	Receiver Ground.	1	5
11	VeeR	Receiver Ground.	1	5
12	RD-	Inverted Received Data Out.	3	6
13	RD+	Received Data Out.	3	6
14	VeeR	Receiver Ground.	1	5
15	VccR	Receiver Power.	2	7, 3.3V ± 5%
16	VccT	Transmitter Power.	2	7, 3.3V ± 5%
17	VeeT	Transmitter Ground.	1	5
18	TD+	Transmit Data In.	3	8
19	TD-	Inverted Transmit Data In.	3	8
20	VeeT	Transmitter Ground.	1	5

Notes:

1. Tx_Fault is an open collector/drain output that should be pulled up with a 4.7kΩ to 10kΩ resistor on the host board. Pull-up voltage is between 2.0V and VccT/R+0.3V. When "high," the output indicates a laser fault of some kind. "Low" indicates normal operation. In the "low" state, the output will be pulled to <0.8V.

2. Tx_Disable is an input that is used to shut down the transmitter optical output. It is pulled up within the module with a 4.7kΩ to 10kΩ resistor. It states are:

   Low (0V-0.8V): Transmitter On
   (>0.8V, <2.0V): Undefined
   High (2.0V-3.465V): Transmitter Disabled
   Open: Transmitter Disabled.

3. Modulation absent. Connected to the VeeT or VeeR in the module.

4. LOS (Loss of Signal) is an open collector/drain output that should be pulled up with a 4.7kΩ to 10kΩ resistor. Pull-up voltage between 2.0V and VccT/R+0.3V. When "high," this output indicates that the received optical power is below the worst-case receiver sensitivity (as defined by the standard in use). "Low" indicates normal operation. In the "low" state, the output will be pulled to <0.8V.

5. VeeR and VeeT may be internally connected within the SFP module.

6. RD-/+. These are the differential receiver outputs. They are AC-coupled, 100 differential lines that should be
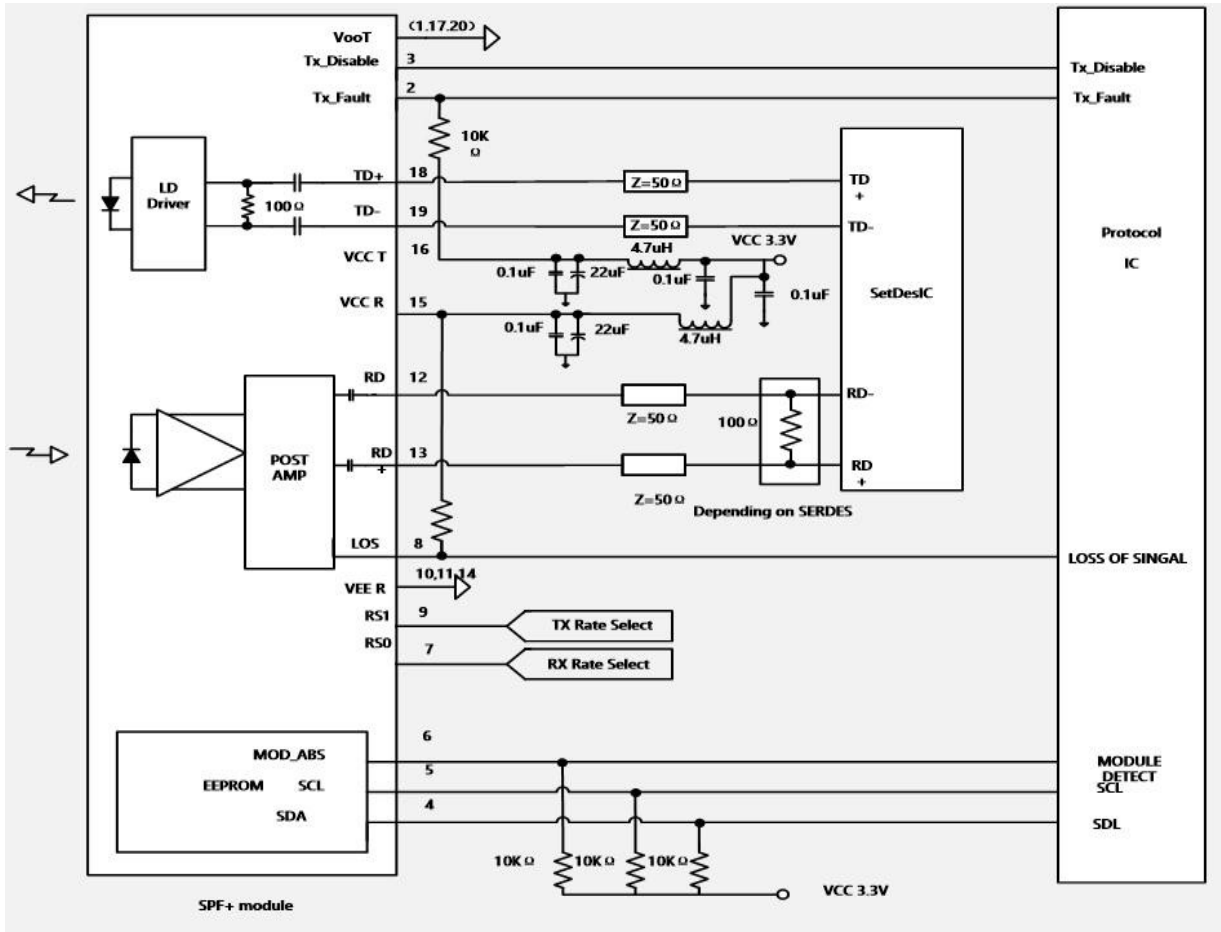
terminated with 100 (differential) at the user SERDES. The AC coupling is done inside the module and is thus not required on the host board. The voltage swing on these lines will be between 400mV and 2000mV differential (200mV–1000mV single-ended) when properly terminated.

7. VccR and VccT are the receiver and transmitter power supplies. They are defined as 3.3V±5% at the SFP connector pin. Maximum supply current is 545mA. Recommended host board power supply filtering is shown below. Inductors with DC resistance of less than 1Ω should be used to maintain the required voltage at the SFP input pin with 3.3V supply voltage When the recommended supply-filtering network is used, hot-plugging of the SFP transceiver module will result in an in-rush current of no more than 30mA greater than the steady state value. VccR and VccT may be internally connected within the SFP transceiver module.

8. TD-/+. These are the differential transmitter inputs. They are AC-coupled, differential lines with 100Ω differential termination inside the module.

Electrical Pin-Out Details

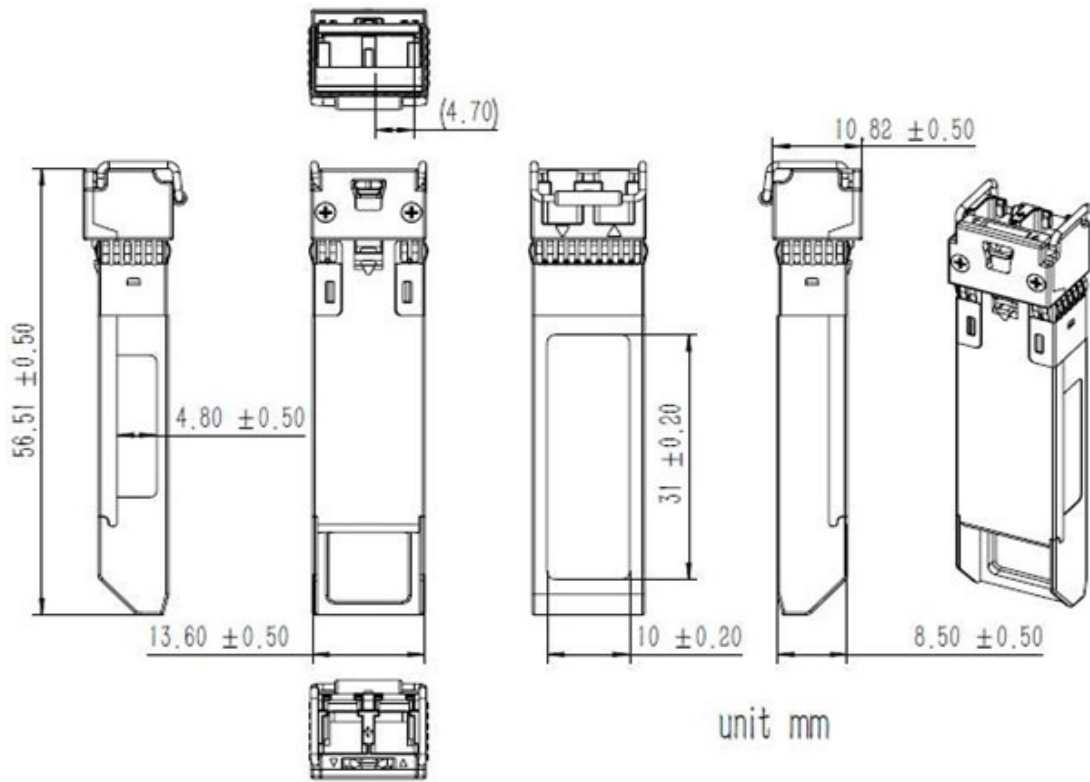|			
11	VEER	VEER	10
12	RD-	RS1	9
13	RD+	RX_LOS	8
14	VEER	RS0	7
15	VCCR	MOD-ABS	6
16	VCCT	SCL	5
17	VEET	SDA	4
18	TD+	TX_DISABLE	3
19	TD-	TX_FAULT	2
20	VEET	VEET	1

← TOWARD HOST   TOWARD BEZEL →

Recommend Circuit Schematic

Mechanical Specifications

unit mm

OptioConnect
Innovation for the Future of High-Speed Networking

Who We Are
OptioConnect is reshaping the landscape of communication and high-speed networking through intelligent technology. With a core focus on cutting edge technology, we deliver smarter fiber optic solutions for enterprise networks, data centers, and next-gen telecom infrastructures.

What We Do
At OptioConnect, we fuse advanced engineering with intelligent automation to drive the future of networking. Our AI-integrated solutions are designed to optimize performance and streamline operations with:

- Superior Performance
- Network and traffic optimization
- Intelligent energy management
- Seamless OEM compatibility
- Scalable cost-efficiency

Smarter Networks by Design
Innovation isn't just a goal—it's our process. We embed AI and machine learning across our R&D and product lines, enabling adaptive performance, automated tuning, and faster deployment cycles. The result? Networks that don't just work—they learn, evolve, and outperform.

Our Team
Our engineers, data scientists, and network architects bring decades of experience and a future-focused mindset. We provide hands-on support with intelligent insights that turn complex challenges into simple solutions.

Our Mission
To deliver AI-enhanced connectivity that reduces cost, increases speed, and maximizes efficiency—empowering our partners to operate at the forefront of a rapidly evolving digital world.

Let's Connect
Discover how OptioConnect's intelligent infrastructure solutions can power your network's next leap forward.
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