SFP-2-5GB-DW30-160-AV-AO

ADVA® Compatible TAA 2.5GBase-DWDM SFP Transceiver C-Band 100GHz (SMF, 1553.33nm, 160km, LC, DOM)

Features

- INF-8074 and SFF-8472 Compliance
- Duplex LC Connector
- Commercial Temperature 0 to 70 Celsius
- Single-mode Fiber
- Hot Pluggable
- Excellent ESD Protection
- Metal with Lower EMI
- RoHS Compliant and Lead Free

Applications

- 1x Fibre Channel
- Gigabit Ethernet over DWDM
- Access, Metro and Enterprise

Product Description

This ADVA® compatible SFP transceiver provides 2.5GBase-DWDM throughput up to 160km over single-mode fiber (SMF) using a wavelength of 1553.33nm via an LC connector. Our transceiver is built to meet or exceed OEM specifications and is guaranteed to be 100% compatible with ADVA®. 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.

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

TAA refers to the Trade Agreements Act (19 U.S.C. & 2501-2581), which is intended to foster fair and open international trade. TAA requires that the U.S. Government may acquire only "U.S.-made or designated country end products.")

TAA COMPLIANT

SFP+ Channel Number and Wavelength

Channel	Frequency	Center Wavelength (nm)	Channel	Frequency (THz)	Center Wavelength (nm)
0	190.0	1577.86	**50**	195.0	1537.40
1	190.1	1577.03	**51**	195.1	1536.61
2	190.2	1576.20	**52**	195.2	1535.82
3	190.3	1575.37	**53**	195.3	1535.04
4	190.4	1574.54	**54**	195.4	1534.25
5	190.5	1573.71	**55**	195.5	1533.47
6	190.6	1572.89	**56**	195.6	1532.68
7	190.7	1572.06	**57**	195.7	1531.90
8	190.8	1571.24	**58**	195.8	1531.12
9	190.9	1570.42	**59**	195.9	1530.33
10	191.0	1569.59	**60**	196.0	1529.55
11	191.1	1568.77	**61**	196.1	1528.77
12	191.2	1567.95	**62**	186.2	1610.06
13	191.3	1567.13	**63**	186.3	1609.19
14	191.4	1566.31	**64**	186.4	1608.33
15	191.5	1565.50	**65**	186.5	1607.47
16	191.6	1564.68	**66**	186.6	1606.60
17	191.7	1563.86	**67**	186.7	1605.74
18	191.8	1563.05	**68**	186.8	1604.88
19	191.9	1562.23	**69**	186.9	1604.03
20	192.0	1561.42	**70**	187.0	1603.17
21	192.1	1560.61	**71**	187.1	1602.31
22	192.2	1559.79	**72**	187.2	1601.46
23	192.3	1558.98	**73**	187.3	1600.60
24	192.4	1558.17	**74**	187.4	1599.75
25	192.5	1557.36	**75**	187.5	1598.89
26	192.6	1556.55	**76**	187.6	1598.04
27	192.7	1555.75	**77**	187.7	1597.19
28	192.8	1554.94	**78**	187.8	1596.34
29	192.9	1554.13	**79**	187.9	1595.49
30	193.0	1553.33	**80**	188.0	1594.64
31	193.1	1552.52	**81**	188.1	1593.79
32	193.2	1551.72	**82**	188.2	1592.95
33	193.3	1550.92	**83**	188.3	1592.10
34	193.4	1550.12	**84**	188.4	1591.26
35	193.5	1549.32	**85**	188.5	1590.41
36	193.6	1548.51	**86**	188.6	1589.57
37	193.7	1547.72	**87**	188.7	1588.73
38	193.8	1546.92	**88**	188.8	1587.88
39	193.9	1546.12	**89**	188.9	1587.04
40	194.0	1545.32	**90**	189.0	1586.20

41	194.1	1544.53	**91**	189.1	1585.36
42	194.2	1543.73	**92**	189.2	1584.53
43	194.3	1542.94	**93**	189.3	1583.69
44	194.4	1542.14	**94**	189.4	1582.85
45	194.5	1541.35	**95**	189.5	1582.02
46	194.6	1540.56	**96**	189.6	1581.18
47	194.7	1539.77	**97**	189.7	1580.35
48	194.8	1538.98	**98**	189.8	1579.52
49	194.9	1538.19	**99**	189.9	1578.69

Absolute Maximum Ratings

Parameter		Symbol	Min.	Typ.	Max.	Unit
Maximum Supply Voltage		Vcc	-0.5		3.6	V
Storage Temperature		Tstg	-40		85	°C
Operating Case Temperature		Tc	0		70	°C
Operating Humidity		RH			95	%
Data Rate	**GBE**			1.25		Gbps
	FC			1.063		

Electrical Characteristics

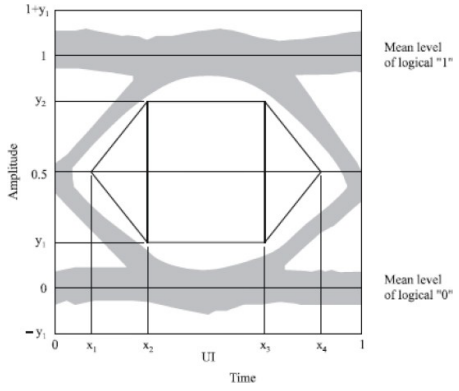
Parameter		Symbol	Min.	Typ.	Max.	Unit	Notes
Power Supply Voltage		Vcc	3.15	3.3	3.45	V	
Power Supply Current		Icc			450	mA	
Transmitter							
CML Differential Inputs		VIN	400		1600	mVp-p	AC Coupled Inputs
Input Differential Impedance		ZIN	85	100	115	Ω	RIN>100kΩ @ DC
Tx_Disable	**Disable**		2		Vcc	V	
	Enable		0		0.8		
Tx_Fault	**Fault**		2		Vcc	V	
	Normal		0		0.8		
Receiver							
CML Differential Outputs		VOUT	400	800	1200	mVp-p	AC Coupled Outputs
Output Impedance		ZOUT	85	100	115	Ω	
Rx_LOS	**LOS**		2		Vcc	V	
	Normal		0		0.8	V	
MOD-DEF (0:2)		VOH	2.5			V	
		VOL	0		0.8	V	

Optical Characteristics

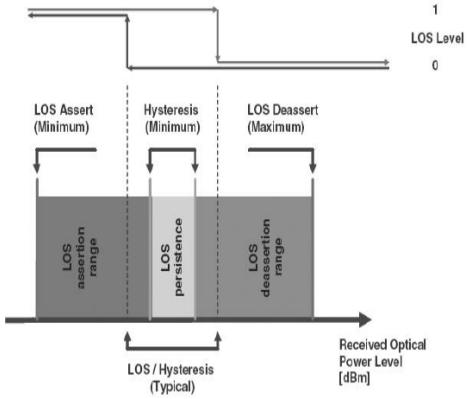
Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter						
Optical Center Wavelength	λC	1528		1610	nm	
Spectral Width (-20dB)	Δλ			0.3	nm	
Side-Mode Suppression Ratio	SMSR	30			dB	
Channel Spacing	Δf		100		GHz	
Deviation From Central Frequency @ EOL		-12		12	GHz	
Average Output Power	POUT	2		5	dBm	1
Average Launch Power (Tx Off)	Poff			-45	dBm	
Extinction Ratio	ER	8.2			dB	1
Rise/Fall Time (20-80%)	Tr/Tf			150	ps	
Tx_Disable Assert Time	Toff			10	us	
POUT @ Tx_Disable Asserted	POUT			-45	dBm	
Optical Signal Noise Ratio @ 0.1nm	OSNR		40		dB	3
Relative Intensity Noise	RIN			-135	dB/Hz	
Dispersion Tolerance	DT		2400		Ps/nm	
Output Optical Eye	Compatible with IEEE 802.3					1, 4
Receiver						
Optical Input Wavelength	λ	1528		1620	nm	
Receiver Sensitivity	Pmin			-31	dBm	2
Receiver Overload	Pmax	-9			dBm	
LOS De-Assert	LOSD			-32	dBm	
LOS Assert	LOSA	-45			dBm	
LOS Hysteresis			0.5		dB	5

Notes:

1. Filtered. Measured with a PRBS 2^{23}-1 test pattern at 2.5Gbps.
2. Measured with a PRBS 2^{23}-1 test pattern at 2.5Gbps, G.652 SMF, and BER ≤$1x10^{-12}$.
3. OSNR at BER of $10e^{-12}$.
4. Eye Pattern Mask.



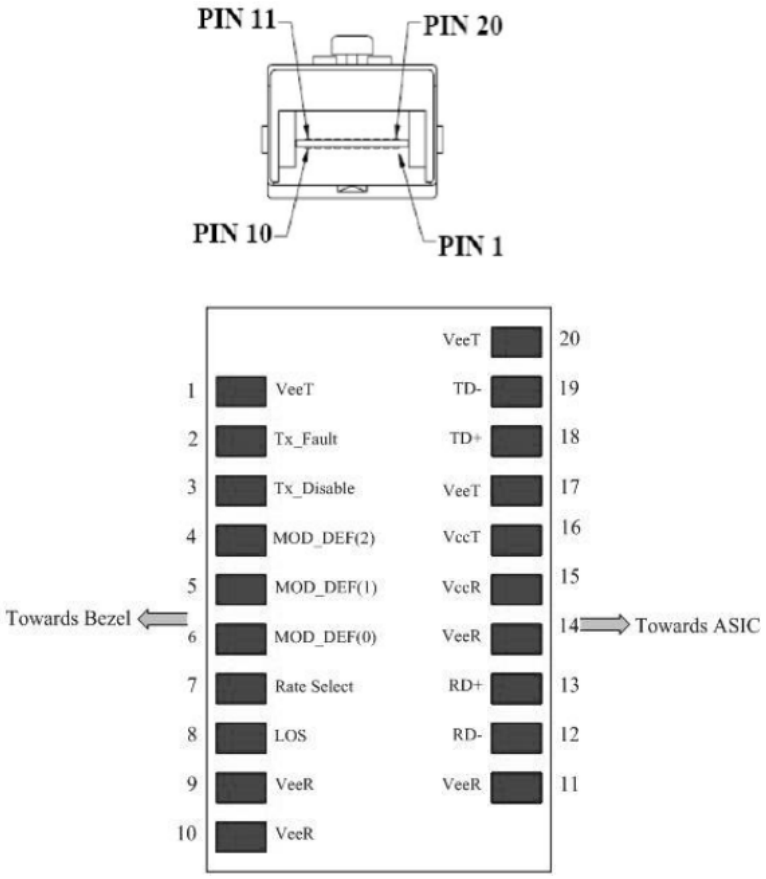
5. LOS Hysteresis.



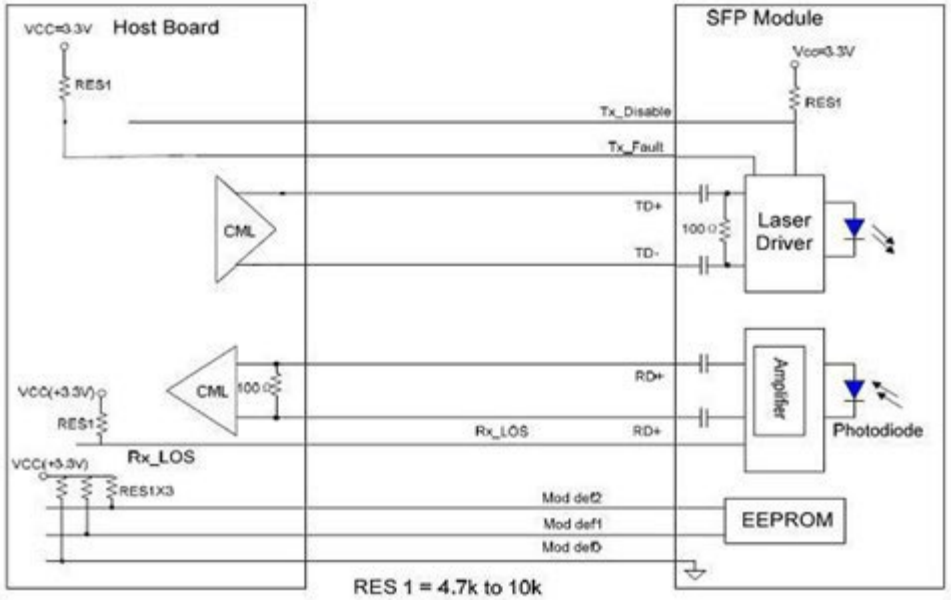
Pin Descriptions

Pin	Symbol	Name/Description	Note
1	VeeT	Transmitter Ground.	
2	Tx_Fault	Transmitter Fault Indication. Open Collector/Drain Output.	
3	Tx_Disable	Transmitter Disable.	
4	MOD-DEF2	Module Definition 2. 2-Wire Serial Interface Data.	
5	MOD-DEF1	Module Definition 1. 2-Wire Serial Interface Clock.	
6	MOD-DEF0	Module Definition 0. Grounded within the module.	
7	Rate Select	Rate Select 0. Not Used.	
8	LOS	Loss of Signal. Open Collector/Drain Output.	
9	VeeR	Receiver Ground.	
10	VeeR	Receiver Ground.	
11	VeeR	Receiver Ground.	
12	RD-	Inverted Receiver Data Out.	
13	RD+	Received Data Out.	
14	VeeR	Receiver Ground.	
15	VccR	Receiver Power. 3.3 ± 5%.	
16	VccT	Transmitter Power. 3.3 ± 5%.	
17	VeeT	Transmitter Ground.	
18	TD+	Transmitter Data In.	
19	TD-	Inverted Transmit Data In.	
20	VeeT	Transmitter Ground.	

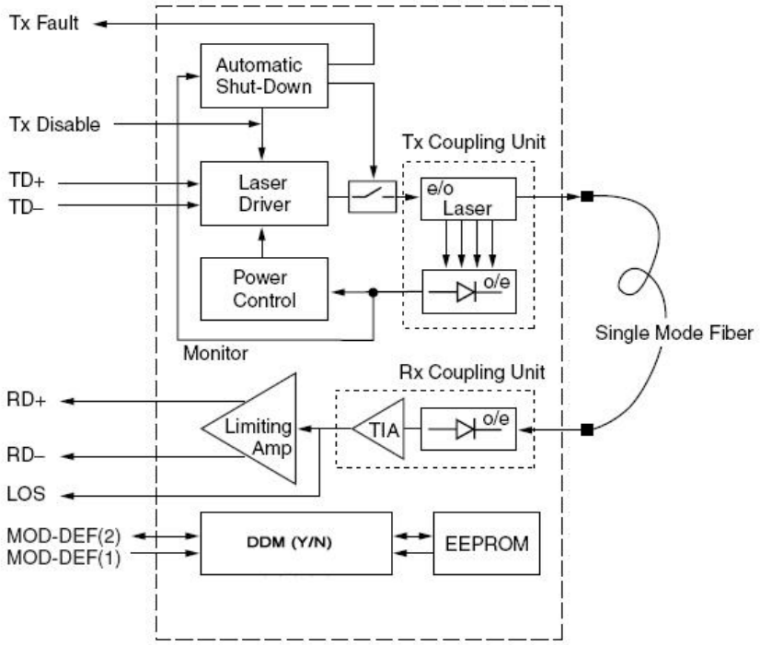
Electrical Pad Layout



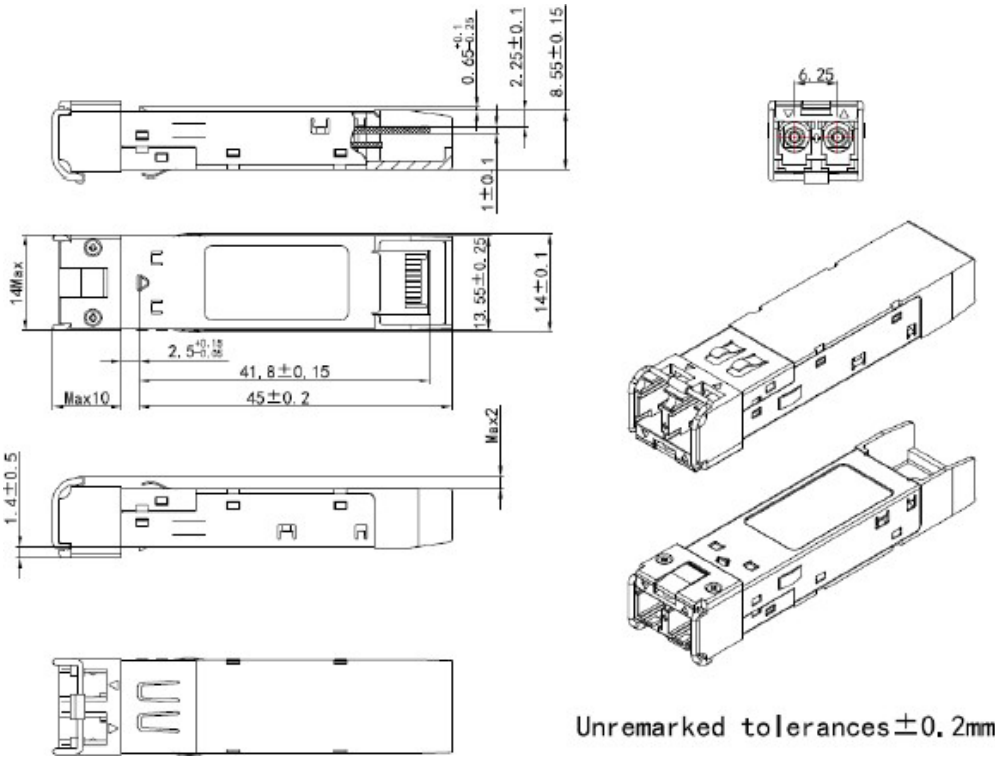
Recommended Circuit Schematic



Functional Description of Transceiver

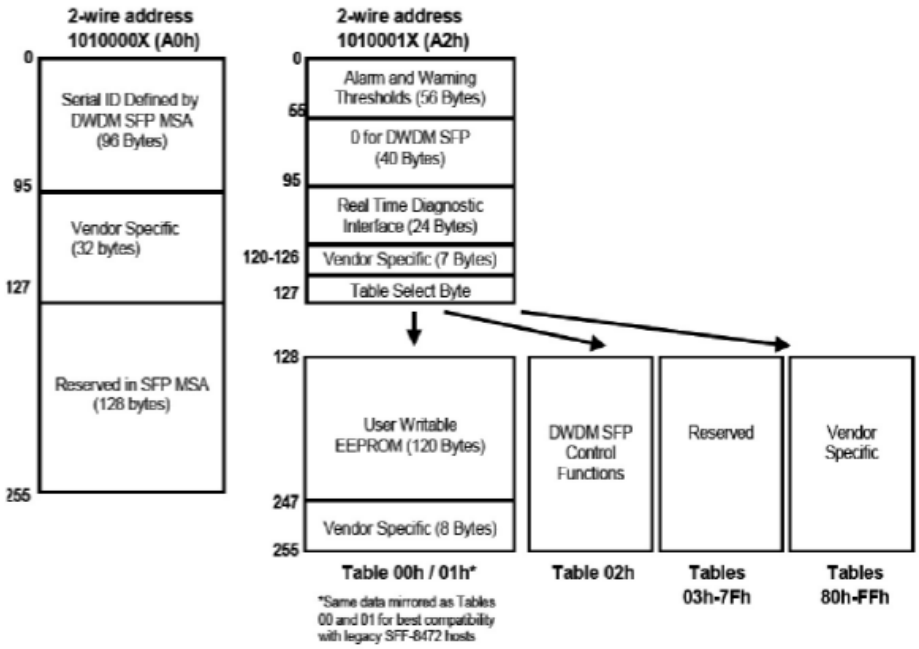


Mechanical Specifications



EEPROM Information

EEPROM memory map-specific data field description is as below:



About AddOn Networks

In 1999, AddOn Networks entered the market with a single product. Our founders fulfilled a severe shortage for compatible, cost-effective optical transceivers that compete at the same performance levels as leading OEM manufacturers. Adhering to the idea of redefining service and product quality not previously had in the fiber optic networking industry, AddOn invested resources in solution design, production, fulfillment, and global support.

Combining one of the most extensive and stringent testing processes in the industry, an exceptional free tech support center, and a consistent roll-out of innovative technologies, AddOn has continually set industry standards of quality and reliability throughout its history.

Reliability is the cornerstone of any optical fiber network and is in engrained in AddOn's DNA. It has played a key role in nurturing the long-term relationships developed over the years with customers. AddOn remains committed to exceeding industry standards with certifications from ranging from NEBS Level 3 to ISO 9001:2005 with every new development while maintaining the signature reliability of its products.

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