Product Name	GAOTek Single Mode Fiber Transceiver
Product SKU	GAOTek-DWDM-101
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Features

- Compliant with SFF-8431 andSFF-8472
- Compliant with SFP28 MSA Specification
- Digital Diagnostic Monitoring available
- Cooled DWDM EML Laser
- 100GHz ITU Grid, C-Band
- Up to 25.78Gb/s data links
- Up to 40km on 9/125μm SMF
- Duplex LC connector compliant
- Single +3.3V DC power supply
- Hot-pluggable SFP footprint
- Class 1 laser safety certified
- Low power dissipation

Operating temperature Options：

- 0 ~ +70°C(YV0D-C7X/8X)
- -40 ~ +85°C(YV0D-I7X/8X)
- RoHS compliance

Applications

- High-speed storage area networks
- 25G high speed interconnection
- Switch to Switch Interface
- Other Optical Links

Description

- YV0D-C7X/C8X/I7X/I8X is a high performance, cost effective modules, which is transmission distance up to 40km on SMF. The transceiver consists of two sections:
- The transmitter section incorporates an DWDM EML driver.
- The receiver section consists of a APD photodiode integrated with a transimpedance preamplifier (TIA).
- The module is hot pluggable into the 20-pin connector.

- All modules satisfy class I laser safety requirements. Digital diagnostics functions are available via a 2-wire serial interface, as specified in SFF-8472, which allows real-time access to device operating parameters such as transceiver temperature,laser bias current, transmitted optical power,received optical power and transceiver supply voltage.

Ordering Information

	Specification								
PartNo.	Pack	Rate	Tx	Pout	Rx	Sen	Temp	Reach	Others
YV0D-C7X/8X	SFP28	25.78G	DWDM EML	+0~+6dBm	APD	≤-18dBm	0~+70℃	10km	DDM/RoHS
YV0D-I7X/8X	SFP28	25.78G	DWDM EML	+0~+6dBm	APD	≤-18dBm	-40~+85℃	10km	DDM/RoHS

Wavelength Guide for "xx" value (100GHz ITU-T channel)

Channel#	PartNumber	Freqency(THz)	Center Wavelength(nm)
17	YV0D-I71	191.7	1563.86
18	YV0D-I72	191.8	1563.05
19	YV0D-I73	191.9	1562.23
20	YV0D-I74	192	1561.42
21	YV0D-I75	192.1	1560.61
22	YV0D-I76	192.2	1559.79
23	YV0D-I77	192.3	1558.98
24	YV0D-I78	192.4	1558.17
25	YV0D-I79	192.5	1557.36
26	YV0D-I7A	192.6	1556.55
27	YV0D-I7B	192.7	1555.75
28	YV0D-I7C	192.8	1554.94
29	YV0D-I7D	192.9	1554.13

30	YV0D-I7E	193	1553.33
31	YV0D-I7F	193.1	1552.52
32	YV0D-I7G	193.2	1551.72
33	YV0D-I7H	193.3	1550.92
34	YV0D-I7I	193.4	1550.12
35	YV0D-I7J	193.5	1549.32
36	YV0D-I7K	193.6	1548.51
37	YV0D-I7L	193.7	1547.72
38	YV0D-I7M	193.8	1546.92
39	YV0D-I7N	193.9	1546.12
40	YV0D-I7O	194	1545.32
41	YV0D-I7P	194.1	1544.53
42	YV0D-I7Q	194.2	1543.73
43	YV0D-I7R	194.3	1542.94
44	YV0D-I7S	194.4	1542.14
45	YV0D-I7T	194.5	1541.35
46	YV0D-I7U	194.6	1540.56
47	YV0D-I7V	194.7	1539.77
48	YV0D-I7W	194.8	1538.98
49	YV0D-I7X	194.9	1538.19
50	YV0D-I7Y	195	1537.4
51	YV0D-I7Z	195.1	1536.61
52	YV0D-I81	195.2	1535.82
53	YV0D-I82	195.3	1535.04
54	YV0D-I83	195.4	1534.25
55	YV0D-I84	195.5	1533.47
56	YV0D-I85	195.6	1532.68
57	YV0D-I86	195.7	1531.9
58	YV0D-I87	195.8	1531.12
59	YV0D-I88	195.9	1530.33
60	YV0D-I89	196	1529.55
61	YV0D-I8A	196.1	1528.77

Specification

Absolute Maximum Ratings				
Parameter	Symbol	Min.	Max.	Unit
StorageTemperature	T_{S}	-40	+85	℃
SupplyVoltage	V_{CC3}	-0.5	4.0	V
RelativeHumidity(Non-condensing)	RH	5	95	%

Recommended operating condition					
Parameter	Symbol	Min.	Typical	Max.	Unit
Temperature1	T_{C}	-40		85	℃
Temperature2	T_{C}	0		70	℃
PowerSupplyVoltage	V_{CC3}	3.135	3.3	3.465	V
	I_{CC3}	_	_	600	mA
PowerDissipation	P_{D}	_	_	2	W
DataRate	_	_	25.78	_	Gbps
TransmissionDistance	_	_	_	40	km

Transmitter Operating Characteristic - Optical, Electrical						
Parameter	Symbol	Min.	Typical	Max.	Unit	Note
CenterWavelength	λ_{C}	1528.77		1563.86	nm	
LaserOffPower	Poff	-	-	-30	dBm	
AverageOpticalPower	Pavg	+0	-	+6	dBm	
SpectralWidth(-20dB)	_	_	_	1	nm	
SideModeSuppressionRatio	SMSR	30	_	_	dB	

Notes:

[1] Time from rising edge of TX Disable to when the optical output falls below 10% of nominal.

[2] Time from falling edge of TX Disable to when the modulated optical output rises above 90% of nominal.

[3] From power on or negation of TX Fault using TX Disable

[4] Time from fault to TX fault on

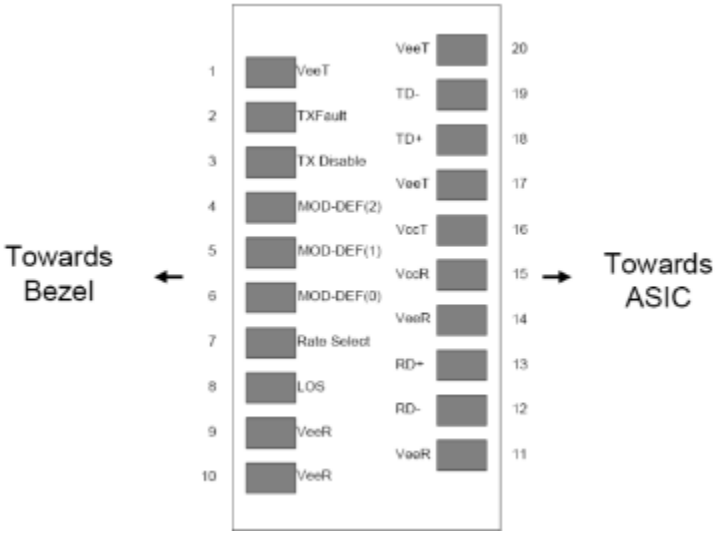
[5] Time TX Disable must be held high to reset TX_fault

[6] Time from LOS state to RX LOS assert

[7] Time from non-LOS state to RX LOS deassert.

[8] Time from rising or falling edge of Rate Select input until receiver bandwidth is in conformance with appropriate specification

Pin-out Definition



1		VeeT	Module Transmitter Ground	Note1
2	LVTTL-O	TX_Fault	Module Transmitter Fault	Note2
3	LVTTL-I	TX_Disable	Transmitter Disable; Turns off transmitter laser output	Note3
4	LVTTL-I/O	SDA	2-wire Serial Interface Data Line (SameasMOD-DEF2 as defined in the INF-8074i)	Note4
5	LVTTL-I/O	SCL	2-wire Serial Interface Clock (SameasMOD-DEF1as defined in the INF-8074i)	Note4
6		MOD_ABS	Module Absent, connected to VeeTorVeeR in the module	Note5
7	LVTTL-I	RS	Rate Select, optionally controls SFP module receiver.	Note6
8	LVTTL-O	RX_LOS	Receiver Loss of Signal Indication (In FC design at edas RX_LOS,in SONET designated as LOS, and in Ethernet designated at Signal Detect)	Note2
9		VeeR	Module Receiver Ground	Note1

10		VeeR	Module Receiver Ground	Note1
11		VeeR	Module Receiver Ground	Note1
12	CML-O	RD-	Receiver Inverted Data Output	
13	CML-O	RD+	Receiver Non-Inverted Data Output	
14		VeeR	Module Receiver Ground	Note1
15		VccR	Module Receiver 3.3V Supply	
16		VccT	Module Transmitter 3.3V Supply	
17		VeeT	Module Transmitter Ground	Note1
18	CML-I	TD+	Transmitter Non-Inverted Data Input	
19	CML-I	TD-	Transmitter Inverted Data Input	
20		VeeT	Module Transmitter Ground	Note1

Notes:

[1] The module signal ground pins, VeeR and VeeT, shall be isolated from the module case.

[2] This pin is an open collector/drain output pin and shall be pulled up with 4.7k-10kohms to Host_Vcc on the host

board. Pull ups can be connected to multiple power supplies, however the host board design shall ensure that no

module pin has voltage exceeding module VccT/R + 0.5 V.

[3] This pin is an open collector/drain input pin and shall be pulled up with 4.7k-10kohms to VccT in the module.

[4] See sff-8472 4.2 2-wire Electrical Specifications.

[5] This pin shall be pulled up with 4.7k-10kohms to Host_Vcc on the host board.

[6] If implementing SFF-8079 pin 7 are used for RS0.

Mechanical specification