MELBYE

RAYCORE

Q3-S277 V1.1E

Specification of SFP+ Dual LC 10G Transceiver

Part Number: ATRG-79xx-xxxDD-xx

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For Multi Mode Fiber – 850nm

For Single Mode Fiber – 1310nm

For Single Mode Fiber – 1550nm

The SFP+ Transceiver 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.

Applications

- 10 Gigabit Ethernet
- 10 Gigabit Fiber Channel

Features

- Compliant with SFF-8413 and IEE802.3ae
- Data rate selectable ≤ 4.25Gbps or 9.95Gbps to 10.3Gbps bit rates
- Link length up to 300m/10km/40km/80km
- Single 3.3V power supply
- Diagnostic Performance Monitoring of module temperature, supply voltages, laser bias current, transmit optical power, receive optical power
- RoHS compliant and lead free
- Operating case temperature: Standard: -5 to 70°C, Industry: -40 to +85°C

Specifications

Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Supply Voltage	Vcc	-0.5	3.8	V
Storage Temperature	Tst	-40	85	°C
Relative Humidity	Rh	0	85	%
Optical Input Received Power	APD-IN	-	-8	dBm

Recommended Operating Conditions

Parameter		Symbol	Min	Typical	Max	Unit
Supply Voltage		Vcc	3.13	3.3	3.47	V
Supply current		Icc		360	450	mA
Operating Case Temperature	Standard	Tca	-5		70	°C
	Industry		-40		+85	

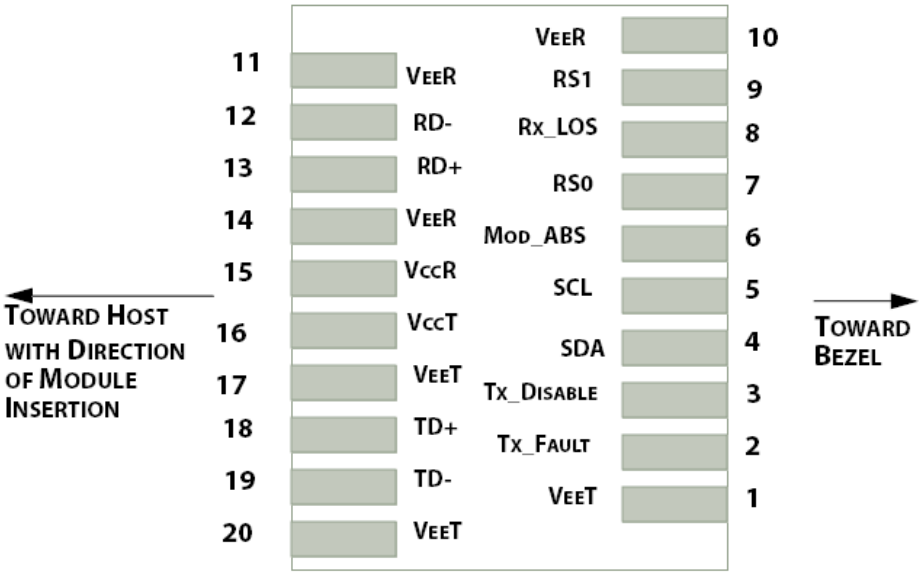

Figure1.Electrical Pin-out Details

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Pin Definitions

Pin	Symbol	Name/Description
1	VEET [1]	Transmitter Ground
2	Tx_FAULT [2]	Transmitter Fault
3	Tx_DIS [3]	Transmitter Disable. Laser output disabled on high or open
4	SDA [2]	2-wire Serial Interface Data Line
5	SCL [2]	2-wire Serial Interface Clock Line
6	MOD_ABS [4]	Module Absent. Grounded within the module
7	RS0 [5]	RS0 for Rate Select: Open or Low = Module supports ≤4.25Gbps High = Module supports 9.95 Gb/s to 10.3125 Gb/s
8	RX_LOS [2]	Loss of Signal indication. Logic 0 indicates normal operation
9	RS1 [5]	No connection required
10	VEER [1]	Receiver Ground
11	VEER [1]	Receiver Ground
12	RD-	Receiver Inverted DATA out. AC Coupled
13	RD+	Receiver DATA out. AC Coupled
14	VEER [1]	Receiver Ground
15	VCCR	Receiver Power Supply
16	VCCT	Transmitter Power Supply
17	VEET [1]	Transmitter Ground
18	TD+	Transmitter DATA in. AC Coupled
19	TD-	Transmitter Inverted DATA in. AC Coupled
20	VEET [1]	Transmitter Ground

Notes:

[1] Module circuit ground is isolated from module chassis ground within the module.

[2] Should be pulled up with 4.7k – 10k ohms on host board to a voltage between 3.15V and 3.6V.

[3] Tx_Disable is an input contact with a 4.7 k ohms to 10 k ohms pull up to VccT inside the module.

[4] Mod_ABS is connected to VeeT or VeeR in the SFP+ module. The host may pull this contact up to Vcc_Host with a resistor in the range 4.7 k ohms to10 k ohms. Mod_ABS is asserted “High” when the SFP+ module is physically absent from a host slot.

[5] RS0 and RS1 are module inputs and are pulled low to VeeT with > 30 k ohms resistors in the module.

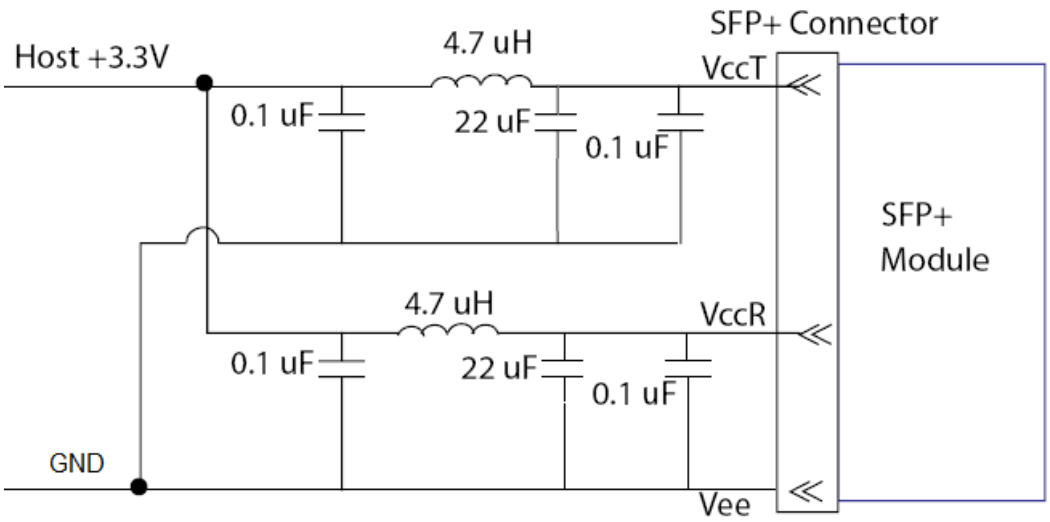

Figure2. Host Board Power Supply Filters Circuit

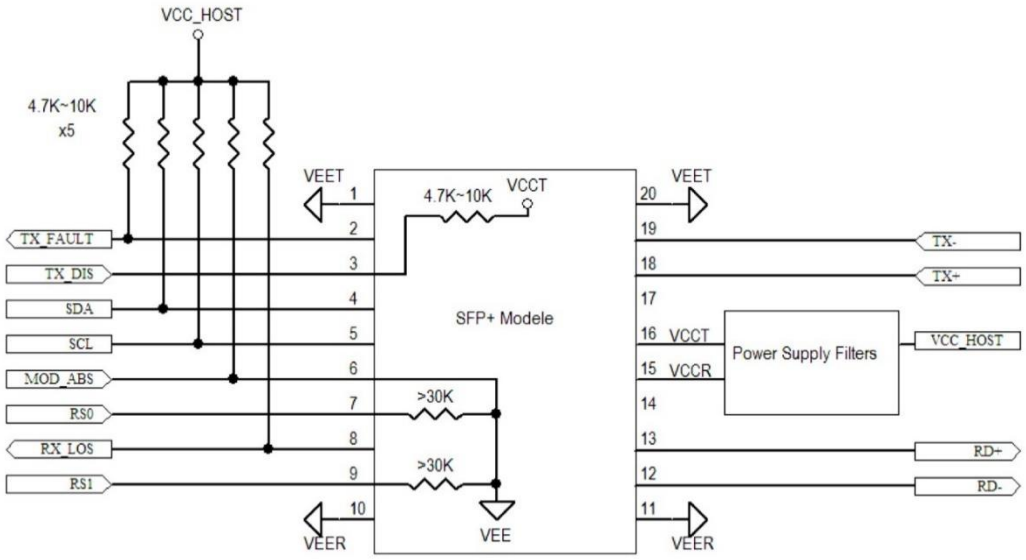

Figure3. Host-Module Interface

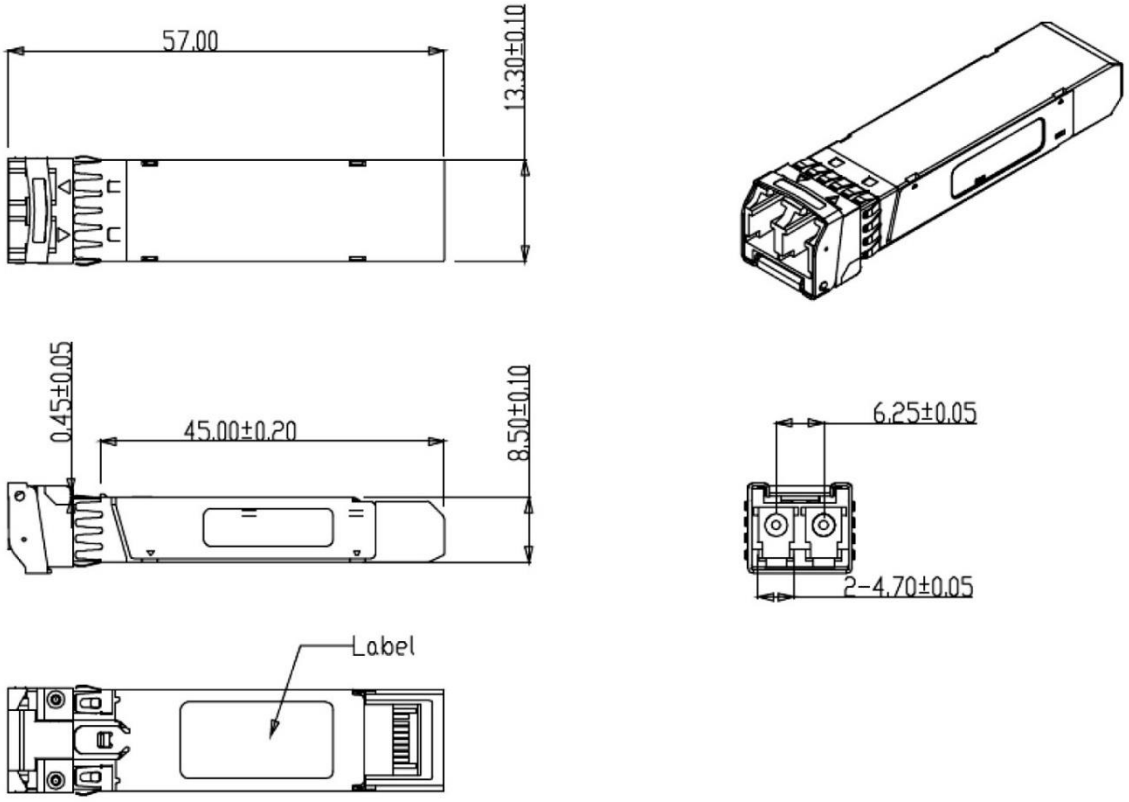

Figure4. Mechanical Specifications

Ordering information

Form Factor	Date Rate	Media	Distance	Wavelength	TX Power (dBm)	RX Sensitivity (dBm)	DDM (Y/N)	Temperature (°C)	Part Number
SFP+-Dual-LC	10G	MMF	300m *	850nm	-1 ~ -6.5	≤ -11.1	Y	-5 ~ +70	ATRG-7985-SBMDD-xx
SFP+-Dual-LC	10G	MMF	300m *	850nm	-1 ~ -6.5	≤ -11.1	Y	-40 ~ +85	ATRG-7985-SMMDD-xx
SFP+-Dual-LC	10G	SMF	10km	1310nm-DFB	+0.5 ~ -8.2	≤ -14.4	Y	-5 ~ +70	ATRG-7913-LBSDD-xx
SFP+-Dual-LC	10G	SMF	10km	1310nm-DFB	+0.5 ~ -8.2	≤ -14.4	Y	-40 ~ +85	ATRG-7913-LMSDD-xx
SFP+-Dual-LC	10G	SMF	40km	1550nm-EML	+3 ~ 0	≦ -15.0	Y	-5 ~ +70	ATRG-7915-DBSDD-xx
SFP+-Dual-LC	10G	SMF	40km	1550nm-EML	+3 ~ 0	≦ -15.0	Y	-40 ~ +85	ATRG-7915-DMSDD-xx
SFP+-Dual-LC	10G	SMF	80km	1550nm-EML	+3 ~ 0	≤ -23	Y	-5 ~ +70	ATRG-7915-ZBSDD-xx
SFP+-Dual-LC	10G	SMF	80km	1550nm-EML	+3 ~ 0	≤ -23	Y	-40 ~ +85	ATRG-7915-ZMSDD-xx

* Multi Mode Fiber Transmission Distance:

- OM3 fiber: 300m
- OM2 fiber: 82m
- OM1 fiber: 33m