AVM FRITZ!BOX 55xx Fiber zbh. AON Replacement GBIC "ALL4786-AON

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AVM FRITZ!BOX 5530 Fiber zbh. AON Replacement GBIC "ALL4786-AON"

ATTENTION:
Works in an ONT. This GBIC is only the fibre wave GBIC for the standard AON. A matching ONT with the corresponding modem ID is still required.

Highlights:

- ITU-T G.652; IEEE 802.3ah-2004 1000BASE-BX10
- LC-APC 8°
- Wavelength: TX 1310 nm, RX 1480 to 1580 nm
- Full duplex transmission
- Transmit power: -9 to -3 dBm
- Receive power range: -3 to -23 dBm
- Range: 10 km
- Support of SFF-8472
- Laser class 1
- Compatible with AVM Fritz Art. 2000 2940

Technical Details:

1.25Gbps BiDi LC/APC 20Km SFP Transceiver ALL4786-AON

Product Features

- Up to 1.25Gbps data links
- 20Km with 9/125µm SMF
- Tx1310nm/ Rx1490nm
- BiDi Simplex LC/APC Connector
- Hot-pluggable SFP footprint
- Single 3. 3V power supply
- Operating temperature: 0~70?
- DDMI
- SFF-8472-Compliance
- RoHS

Applications

? 1.25Gbps 1000Base-LX

PART NUMBER	WAVE LENGTH TX/RX	DISTANCE	LASER	TEMPERATURE
ALL4786-AON	1310nm/1490nm	20km	FP/PIN	0~70?

Product Description

The ALLNET ALL4786-AON SFP is small form factor pluggable (SFP) transceivers compatible with multi-sourcing agreement (MSA). It is suitable for single-mode fiber (SMF) communications in 1.25Gbps Ethernet and 1G/2G Fiber Channel.

Regulatory Compliance

ALLNET ALL4786-AON transceivers are Class 1 Laser Products comply with FDA regulations. Meet Class 1 eye safety requirements of EN 60825 and the electrical safety requirements of EN 60950.

Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit
Supply Voltage	VCC	-0.5	3.6	V
Storage Temperature	TS	-40	85	°C
Operating Case Temperature	TC	0	70	°C

Recommended Operating Conditions

Parameter	Symbol	Min.	Typical	Max.	Unit

Operating Case Temperature	TC	0		70	°C
Power Supply Voltage	VCC	3.15	3.3	3.45	V
Power Supply Current	ICC			300	mA
Data Rate			1.25		GBps
Max Link Length on 9/125µm SMF	Lmax		20		km

Electrical Characteristics

Parameter	Symbol	Min.	Typical	Max.	Unit
Transmitter					
Input Differential Impedance	Zin	90	100	110	?
Data Input Swing Differential	Vin	500		2400	mV
Tx-Dis Disable	Vd	2.0		Vcc	V
Tx-Dis Enable	Ven	0		0.8	V
TX-Fault (Fault)		2.0		Vcc+0.3	V
TX-Fault (Normal)		0		0.8	V
Receiver					
Data Output Swing Differential	Vout	370		2000	mV
Rx-Los Fault	Vlf	2.0		Vcc+0.3	V
Rx-Los Normal	Vln	0		0+0.8	V

Optical Characteristics

Parameter	Symbol	Min.	Typical	Max.	Unit
Transmitter					
Centre Wavelength	?c	1290	1310	1330	nm
Spectral Width (RMS)	?			4	nm
Average Output	Pout	-9		-3	dBm

Power					
Extinction Ratio	ER	9			dB
Optical Rise/Fall Time	tr/tf			2	ns
Receiver					
Centre Wavelength	?c	1470	1490	1610	nm
Receiver Sensitivity	PIN			-23	dBm
Receiver Overload	PMAX	-3			dBm
LOS De-Assert	LOSD			-30	dBm
LOS Assert	LOSA	-35			dBm
LOS Hysteresis		0.5		4.5	dB

Pin Descriptions

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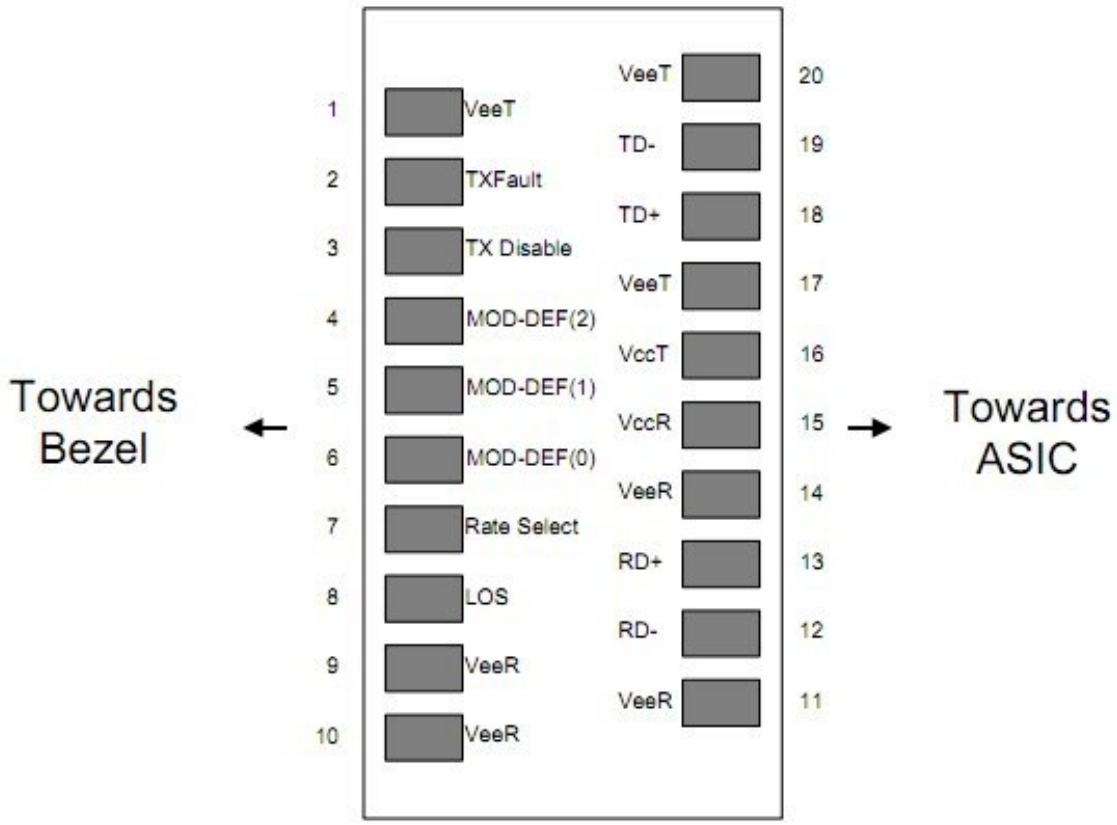


Diagram of Host Board Connector Block Pin Numbers and Names

Pin	Symbol	Description	Ref.
1	VEET	Transmitter Ground (Common with Receiver Ground)	6.1
2	TFAULT	Transmitter Fault. Not supported.	
3	TDIS	Transmitter Disable. Laser output disabled on high or open.	6.2
4	MOD_DEF(2)	Module Definition 2. Data line for Serial ID.	6.3
5	MOD_DEF(1)	Module Definition 1. Clock line for Serial ID.	6.3
6	MOD_DEF(0)	Module Definition 0. Grounded within the module.	6.3
7	Rate Select	No connection required	

8	LOS	Loss of Signal indication. Logic 0 indicates normal operation.	6.4
9	VEER	Receiver Ground (Common with Transmitter Ground)	6.1
10	VEER	Receiver Ground (Common with Transmitter Ground)	6.1
11	VEER	Receiver Ground (Common with Transmitter Ground)	6.1
12	RD-	Receiver Inverted DATA out. AC Coupled.	
13	RD+	Receiver Non-inverted DATA out. AC Coupled.	
14	VEER	Receiver Ground (Common with Transmitter Ground)	6.1
15	VCCR	Receiver Power Supply	
16	VCCT	Transmitter Power Supply	
17	VEET	Transmitter Ground (Common with Receiver Ground)	6.1
18	TD+	Transmitter Non-Inverted DATA in. AC Coupled.	
19	TD-	Transmitter Inverted DATA in. AC Coupled.	
20	VEET	Transmitter Ground (Common with Receiver Ground)	6.1

Notes:

1. Circuit ground is internally isolated from chassis ground.
2. Laser output disabled on TDIS >2.0V or open, enabled on TDIS <0.8V.

1. Should be pulled up with 4.7k - 10kohms on host board to a voltage between 2.0V and 3.6V. MOD_DEF(0) pulls line low to indicate module is plugged in.
2. LOS is open collector output. Should be pulled up with 4.7k -10kohms on host board to a voltage between 2.0V and 3.6V. Logic 0 indicates normal operation; logic 1 indicates loss of signal.

1. EEPROM & DDM THRESHOLD

    1. EEPROM

2 wire address 1010000X (A0hex)

0~95 Serial ID Defined by SFP MSA (96 bytes)
96~127 Vendor Speific (32 bytes)
128~255 Reserved (128 bytes)

***Customized Area**

Address	Description	Hex Data	ASCII
A0 20~35	**Vendor Name**	**41 4c 4c 4e 45 54 20 47 6d 62 48**	**ALLNET GmbH**

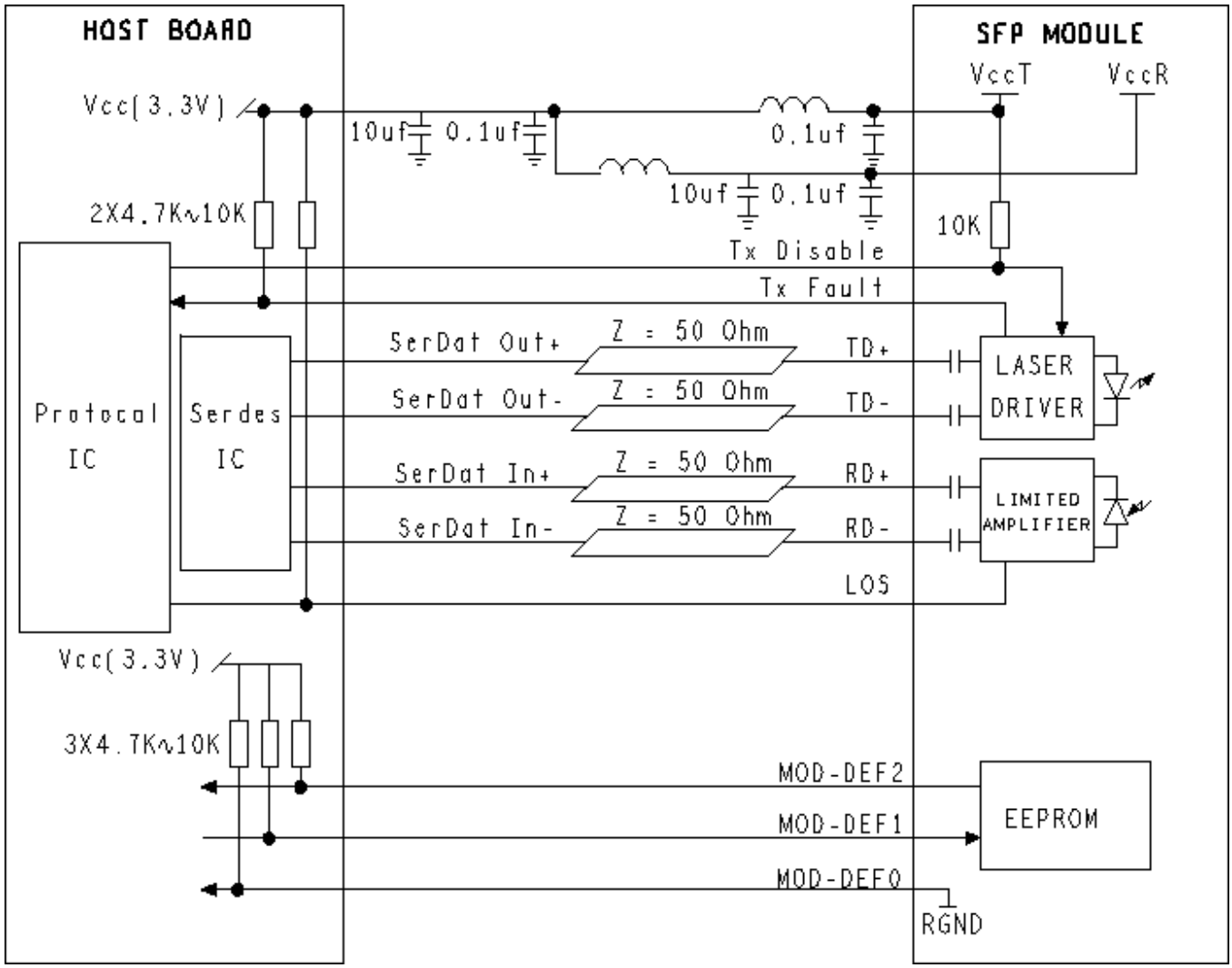
    1. **DDM THRESHOLD**

ALL4786-AON

	Low Alarm	Low Warn	High Warn	High Alarm
Temp	-5?	0?	70?	75?
Voltage	3V	3.1V	3.6V	3.7V
Tx Bias	3mA	4mA	70mA	75mA
Tx Power	-13.5dBm	-9.5dBm	-1dBm	1dBm
Rx Power	-23dBm	-19dBm	-3dBm	1dBm

1.

Recommend Circuit



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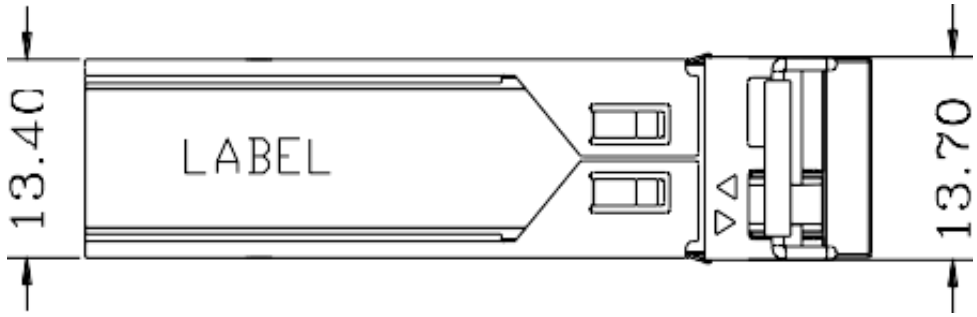

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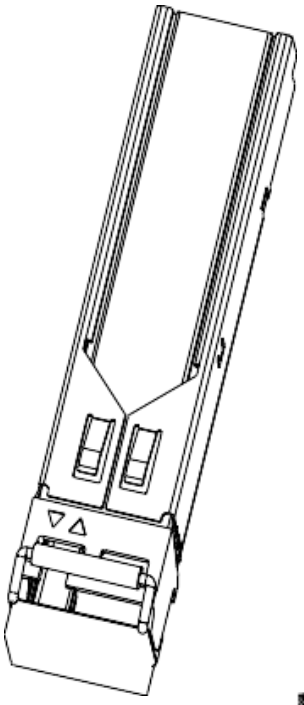
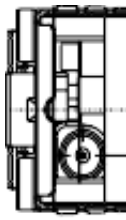
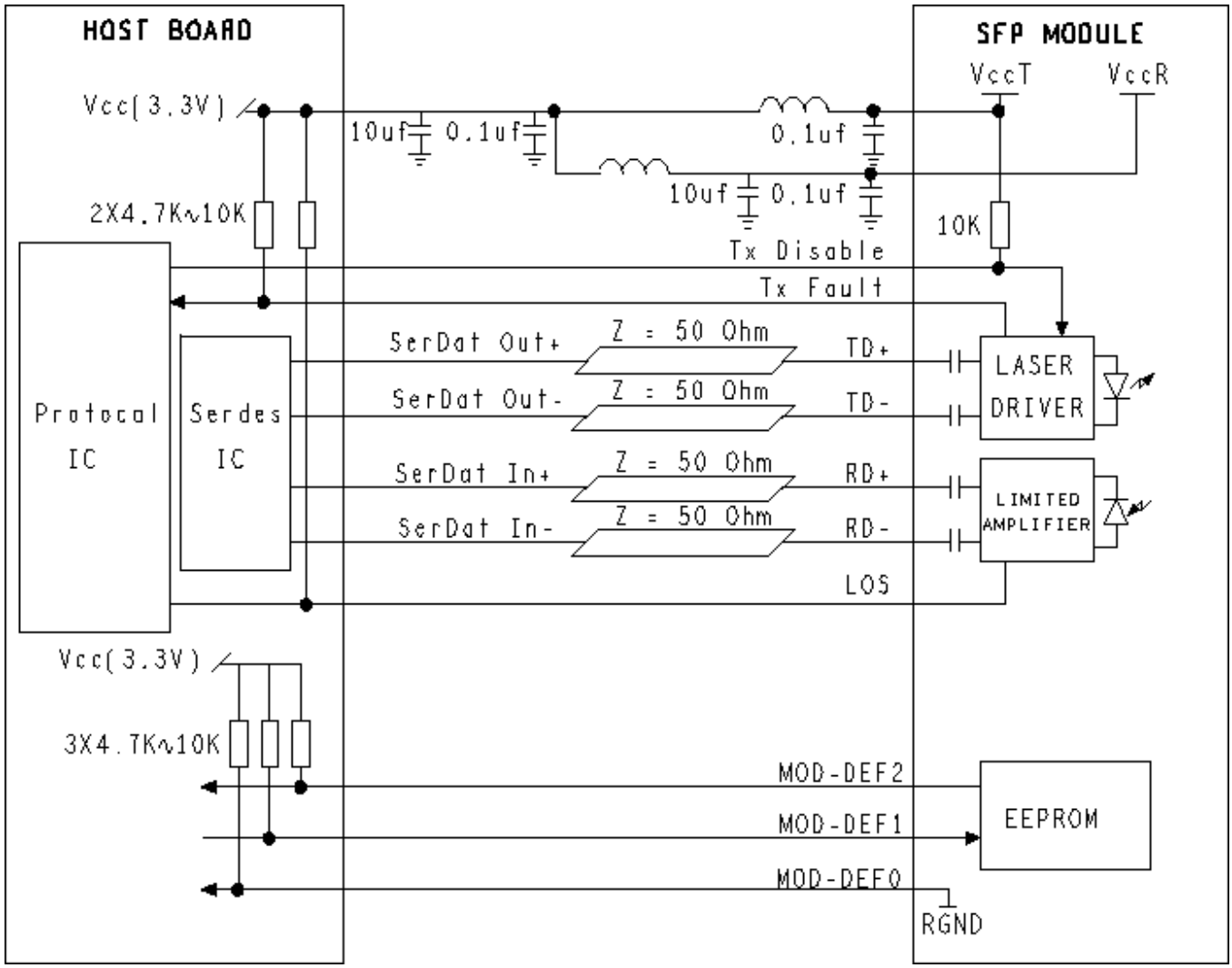




Mechanical Specifications

1.

Recommend Circuit



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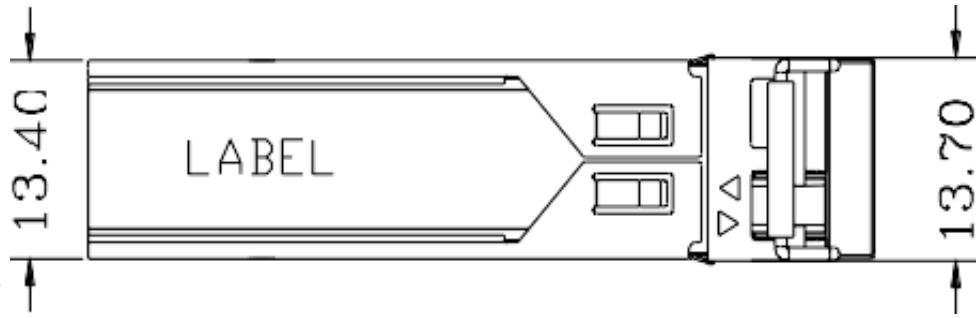

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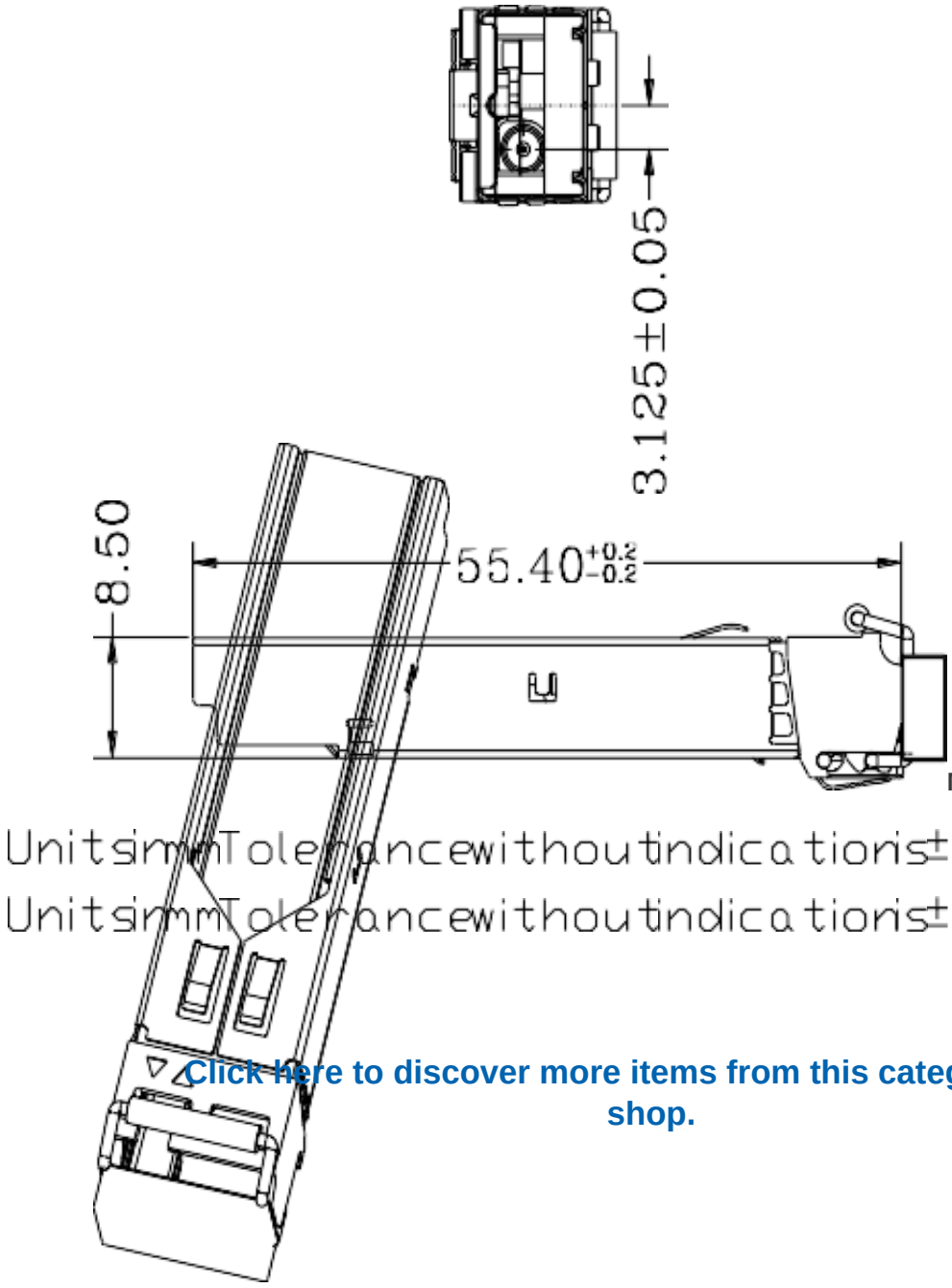

Mechanical Specifications

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