

**Specification**  
**Small Form Factor Pluggable**  
 COB Process – SFP28  
**Optical Transceiver AOC**  
 25 Gigabit Ethernet



**TAS-A1EH8-X31xx**

↓  
Distance

Model Name	Voltage	Category	Device type	Interface	Temperature	Distance	Latch Color
<a href="#">TAS-A1EH8-X3101</a>	3.3V	With DDMI	VCSEL/PIN	AC-AC / PECL	0°C ~+70°C	1M	Black
<a href="#">TAS-A1EH8-X3103</a>						3M	
<a href="#">TAS-A1EH8-X3105</a>						5M	
<a href="#">TAS-A1EH8-X3107</a>						7M	
<a href="#">TAS-A1EH8-X3110</a>						10M	
<a href="#">TAS-A1EH8-X3120</a>						20M	
<a href="#">TAS-A1EH8-X3125</a>						25M	

## Features

- 25G 850nm VCSEL transmitter.
- 25G PIN photo-detector.
- 2-wire interface for management specifications compliant with SFF 8472 standard.
- Pre-terminated fiber cable.
- Operating environment temperature: 0 ~ 70°C.
- Bit rate up to 25 Gbps.
- Single 3.3V power supply.
- Low Power Consumption (< 0.8W each end).
- SFP28 housing with enhanced EMI shielding.
- Hot pluggable

## Applications

- 25Gbps data link.
- Applicable to 25G Ethernet.
- Data center and in-rack connection.
- High capacity IO with SFP28 interface.

## Compliance

- SFF-8431 SFP28 Electrical MSA.
- SFF-8432 SFP28 Mechanical MSA.
- RoHS complaint

### Absolute Maximum Rating

Parameter	Symbol	Min	Typ.	Max	Unit
Storage Temperature	Ts	-40		85	°C
Relative Humidity (Non - condensing)	RH	5		95	%
Power Supply Voltage	Vcc	0		3.6	V

### Recommended Operating Conditions

Parameter	Symbol	Min	Typ.	Max	Unit
Operating Case Temperature	Top	0	25	70	°C
Power Supply Voltage	Vcc	3.135	3.300	3.465	V
Data Rate			25.78125		Gb/s
Data Rate Accuracy		-100		100	ppm
Power Supply Current (TX + RX)	Icc	160		200	mA

### Specification

Parameter	Symbol	Min	Typ.	Max	Unit	Note
<b>Transmitter</b>						
Power Consumption	P_dis			0.8	W	
Input Differential Impedance	Zin_d		100		Ω	
<b>Receiver</b>						
Differential Output Impedance	R <sub>OUT</sub>		100		Ω	

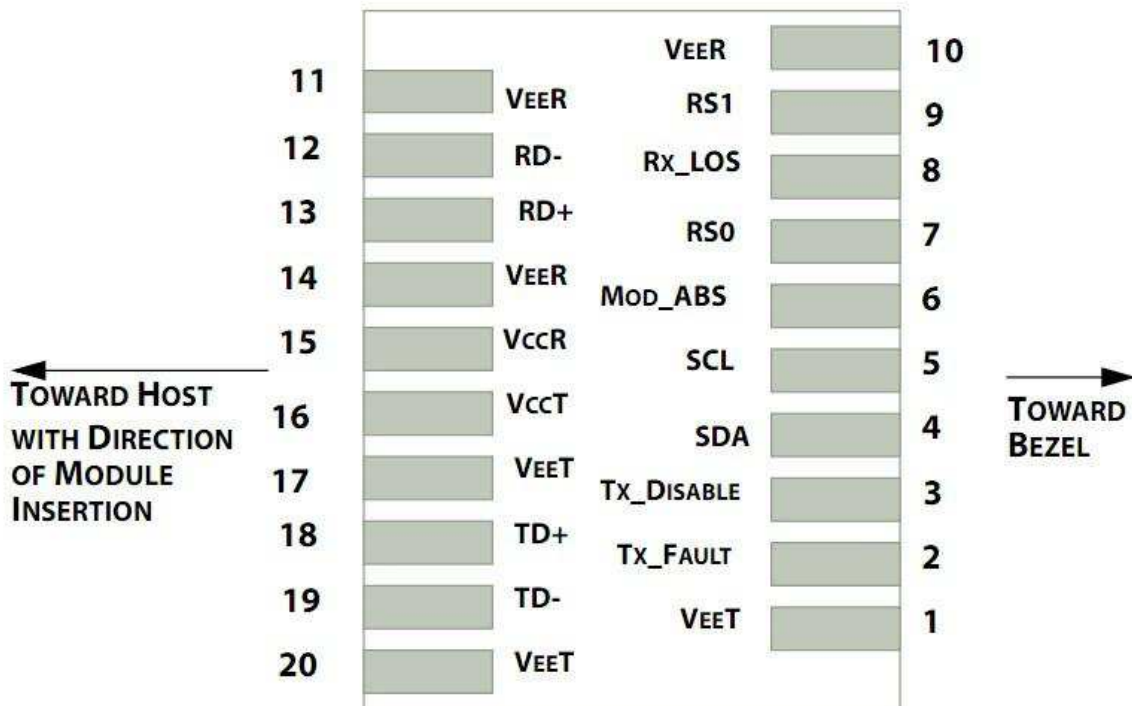
Proposed Application Schematics



Transceiver Block Diagram



**Pin Description**





PIN	Logic	Symbol	Name / Description	Note
1		VeeT	Module Transmitter Ground	1
2	LVTTTL-O	TX_Fault	Module Transmitter Fault	2
3	LVTTTL-I	TX_Disable	Transmitter Disable; Turns off transmitter laser output	3
4	LVTTTL-I/O	SDA	2-Wire Serial Interface Data Line	4
5	LVTTTL-I	SCL	2-Wire Serial Interface Clock	4
6		MOD_ABS	Module Absent	4
7	LVTTTL-I	RS0	No connection requirement	
8	LVTTTL-O	RX_LOS	Receiver Loss of Signal Indication Active LOW	5
9	LVTTTL-I	RS1	No connection requirement	
10		VeeR	Module Receiver Ground	1
11		VeeR	Module Receiver Ground	1
12	CML-O	RD-	Receiver Inverted Data Output	
13	CML-O	RD+	Receiver non-inverted Data Output	
14		VeeR	Module Receiver Ground	1
15		VccR	Module Receiver 3.3 V Supply	
16		VccT	Module Transmitter 3.3 V Supply	
17		VeeT	Module Transmitter Ground	1
18	CML-I	TD+	Transmitter non-inverted Data Input	
19	CML-I	TD-	Transmitter inverted Data Input	
20		VeeT	Module Transmitter Ground	1

**Note:**

1. Module circuit ground pins are isolated from the module chassis ground.
2. Pullup to VccHost with 4.7k – 10k  $\Omega$
3. No connection required.
4. Power supply filtering circuit required.

## Module Outline

Unit: mm



**Note:**

1. Standard length as L in drawing with tolerance
2. L (+1 /- 0 M)

## ESD

Normal ESD precautions are required during the handling of this module. This transceiver is shipped in ESD protective packaging. It should be removed from the packaging and handled only in an ESD protected environment.

## Laser Safety

This is a laser class 1 product according to IEC/EN60825-1:2014 (Third Edition). This product complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007.

## User Manual

### 1. INSTRUCTION FOR USE:

1.1 Pulling out the tab horizontally, then the mechanism will be active.

1.2 The mechanism will be get back to former position once releasing the tab.



### 2. NO GOOD HANDLING:

2.1 Non pulling horizontally, upward angle over 5°, downward angle over 15°.



2.2 The angle of twisting the tab over 45°.







## Contact Information

### **Formerica OptoElectronics Inc.**

5F-11, No.38, Taiyuan St., Zhubei City,  
Hsinchu County 30265, Taiwan

Tel: +886-3-5600286

Fax: +886-3-5600239

### **San Diego, CA**

Tel: 1-949-466-8069

[inquiry@formericaoe.com](mailto:inquiry@formericaoe.com)

[www.formericaoe.com](http://www.formericaoe.com)