

## OS-SP28-3110DI

### SMF 1310nm 25Gbps SFP28 Transceiver Data Sheet

#### Features

- Operating data rate up to 25.78Gbps
- Maximum link length of 10km on 9/125 SMF
- Single 3.3V Power supply
- Duplex LC Connector Interface
- Hot Pluggable SFP28 form factor
- SFP28 mechanical specification compliant with SFF -8432
- Compliant with IEEE 802.3cc 25GBASE-LR,eCPRI
- Low power consumption <1.5W
- Compliant with ROHS 2.0
- Operating Case Temperature -40°C~+85°C

#### Applications

- 25GBase-LR
- 5G front haul eCPRI

#### ESD

- ESD compatible with MIL-STD-883 method 3015

#### Laser Safety

- Laser eye safety compatible with FDA 21CFR 1040.10 and 1040.11 EN60950,EN(IEC) 60825-1,2

#### Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit
Storage Temperature	TS	-40	+85	°C
Supply Voltage	VCC	-0.5	4.0	V
Operating Relative Humidity	RH	-	85	%

\*Exceeding any one of these values may destroy the device immediate

#### Recommended Operating Conditions

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Parameter	Symbol	Min.	Typ.	Max.	Unit
Operating Case Temperature	OS-SP28-3110DI	-40		+85	°C
Power Supply Voltage	Vcc	3.135	3.3	3.465	V
Power Consumption(each module)	Pc	-	-	1.5	W

## Transceiver Optical and Electrical Specification

### Module Specification

Parameter	Symbol	Min.	Typ.	Max.	Unit
Data Rate	-		25.78		Gb/s
Link length on9/125um SMF				10	km
Steady State Current	Icc	-	-	455	mA

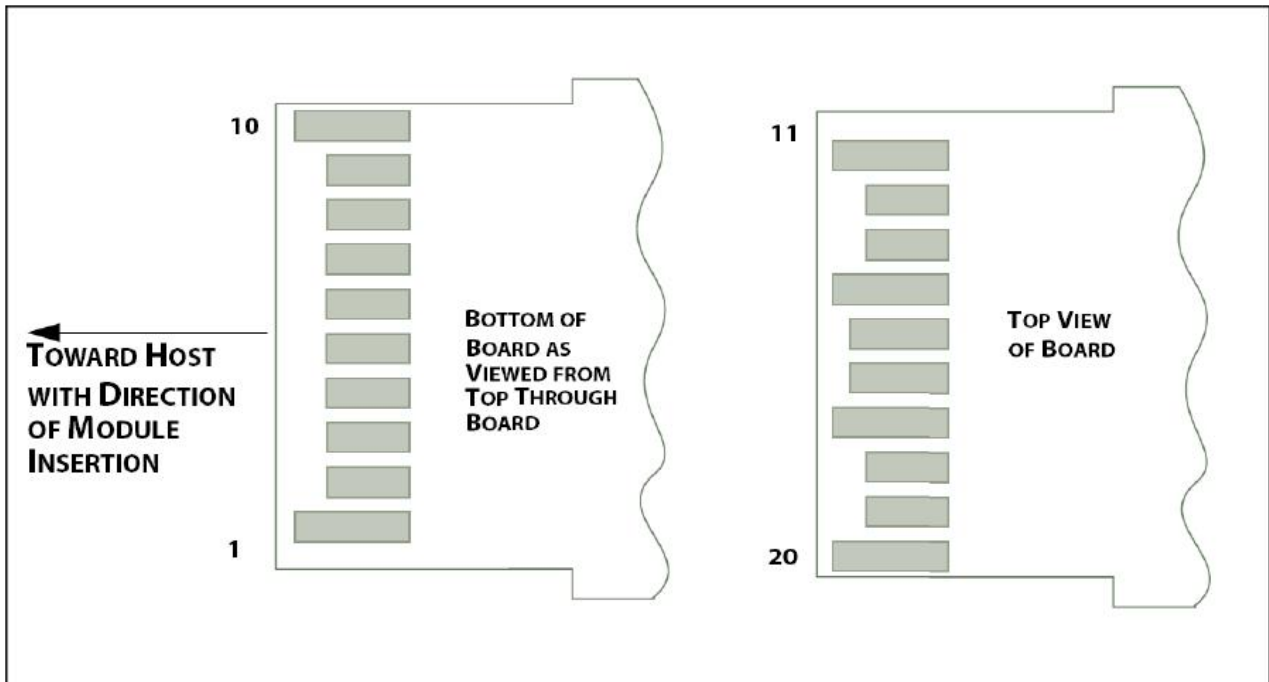
### Optical and Electrical Characteristics

Parameter	Symbol	Min.	Typical	Max.	Unit
Transmitter					
Center Wavelength	$\lambda_c$	1295	1310	1325	nm
Spectral Width (RMS)	$\Delta\lambda$	-	-	1	nm
Average Output Power	Pout	0		5	dBm
PO Power off	Poff			-20	dBm
Extinction Ratio	ER	3.5	-	-	dB
Output Eye	Compliant with IEEE802.3 25G BASE-LR				
Input Differential Impedance	zin	90	100	110	$\Omega$
Differential input voltage	vppin	200	-	900	mv
Transmitter Dispersion Penalty	TDP			3	dB
Side Mode Suppression Ratio	SMSR	30			dB
Receiver					
Center Wavelength	$\lambda_c$	1260	1310	1355	nm
Receive Sensitivity*(Note1)	Pmin			-10.4	dBm
Receiver Overload	Pmax	3	-	-	dBm
LOS De-Assert	LOSD		-	-17	dBm
LOS Assert	LOSA	-30	-		dBm

LOS Hysteresis		0.5			dB
output Differential Impedance	Zout	90	100	110	$\Omega$
Differential output voltage	Vppout	100		500	mV

Note1: Tested at 25.78125Gb/s and 1x10<sup>-12</sup> BER.

## Electrical Pin-out Details

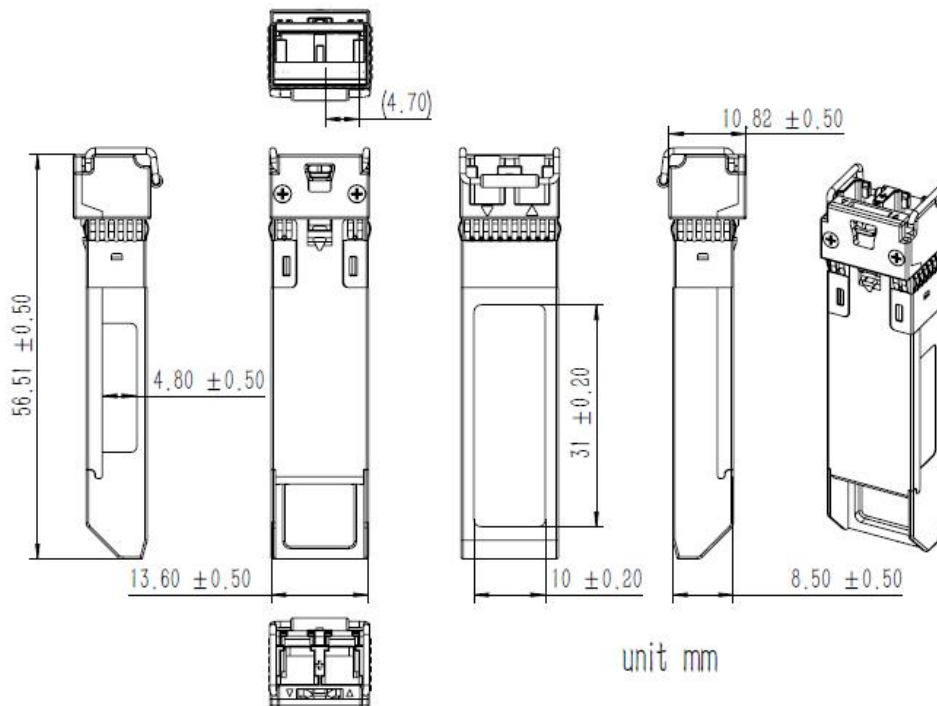


## Pin Function Definitions

Pin	Name	Description
1	VeeT	Transmitter Ground
2	TX Fault	Transmitter Fault Indication
3	TX Disable	Transmitter Disable
4	SDA	Module Definition 2
5	SCL	Module Definition 1
6	MOD-ABS	Module Definition 0
7	RS0	RX Rate Select(LVTTL).
8	LOS	Loss of Signal
9	RS1	TX Rate Select(LVTTL).

10	VeeR	Receiver Ground
11	VeeR	Receiver Ground
12	RD-	Inv. Received Data Out
13	RD+	Received Data Out
14	VeeR	Receiver Ground
15	VccR	Receiver Power
16	VccT	Transmitter Power
17	VeeT	Transmitter Ground
18	TD+	Transmit Data In
19	TD-	Inv. Transmit Data In
20	VeeT	Transmitter Ground

## Mechanical Specifications



## Order Information

Part No.	Data Rate	Fiber Type	Distance	Temp.	DDMI
OS-SP28-3110DI	Up to 25.78Gbps	SMF	10Km	-40~85°C	Yes

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