



ESD threshold 1kV for SFI pins and 2kV for all other electrical input pins, tested per MIL-STD-883G, Method 3015.4 /JESD22-A114A (HBM). However, normal ESD precautions are still required during the handling of this module.



Features

- Operating case temperature: 0°C to 70°C
- Supports 25,88243Gbps Data rate

Applications

- Suitable for 25G Ethernet usage

Compliances

- Compliant with RoHS
- Compliant with SFF-8432
- Compliant with SFF-8402
- Compliant with SFP28 MSA



Product may differ from the picture

Overview

Part Number	Data Rate	Cable Length	AWG	Temperature
SFP28-25G-PDAC-0.5M	25,88243Gbps	0,5m	30	0°C to 70°C
SFP28-25G-PDAC-1M	25,88243Gbps	1m	30	0°C to 70°C
SFP28-25G-PDAC-1.5M	25,88243Gbps	1,5m	30	0°C to 70°C
SFP28-25G-PDAC-2M	25,88243Gbps	2m	30	0°C to 70°C
SFP28-25G-PDAC-2.5M	25,88243Gbps	2,5m	30	0°C to 70°C
SFP28-25G-PDAC-3M	25,88243Gbps	3m	30	0°C to 70°C
SFP28-25G-PDAC-3.5M	25,88243Gbps	3,5m	30	0°C to 70°C
SFP28-25G-PDAC-4M	25,88243Gbps	4m	26	0°C to 70°C
SFP28-25G-PDAC-5M	25,88243Gbps	5m	26	0°C to 70°C

Ordering Information

Part Number	Product Description
SFP28-25G-PDAC-xM	25GBase SFP28 to SFP28 Passive DAC xm, where x stands for the length of the cable

Recommended Operating Conditions

Parameters	Symbols	Min	Typ	Max	Unit	Notes
Storage Temperature	TS	-40	-	85	°C	
Operating Case Temperature	TOP	0	-	70	°C	
Data Rate per Lane	-	-	25,88243	-	Gbps	
Power Supply Voltage	Vcc	3.135	3.3	3.465	V	



PIN Description

PIN	Symbol	Name - Description	Notes
1	VEET	Transmitter Ground (Common with Receiver Ground)	
2	TFAULT	Transmitter Fault. Not Supported.	1
3	TDIS	Trnsmitter Disable. Laser output disabled on high or open.	2
4	MOD_DEF(2)	Module Definition 2. Data line for Serial ID.	1
5	MOD_DEF(1)	Module Definition 1. Clock line for Serial ID.	1
6	MOD_DEF(0)	Module Definition 0. Grounded within the module.	1
7	Rate Select	No Connection Required	
8	LOS	Loss of Signal Indication. Logic 0 indicates normal operation.	3
9	VEER	Receiver Ground	
10	VEER	Receiver Ground	
11	VEER	Receiver Ground	4
12	RD-	Receiver Inverted Data Out. AC Coupled	4
13	RD+	Receiver Non-Inverted Data Out. AC Coupled	
14	VEER	Receiver Ground	
15	VCCR	Receiver Power Supply	
16	VCCT	Transmitter Power Supply	
17	VEET	Transmitter Ground	
18	TD+	Transmitter Non-Inverted Data In. AC Coupled	5
19	TD-	Transmitter Inverted Data In. AC Coupled	5
20	VEET	Transmitter Ground	

Notes:

- Open collector/drain output, which should be pulled up with a 4.7kΩ to 10kΩ resistor on the host board if intended for use. Pull up voltage should be between 2.0V to 3.6V. A high output indicates a transmitter fault caused by either the TX bias current or the TX output power exceeding the preset alarm thresholds. A low output indicates normal operation. In the low state, the output is pulled to <0.8V.
- Laser output disabled on TX_Disable >2.0V or open, enabled on TX_Disable <0.8V.
- LOS is open collector output. Should be pulled up with 4.7kΩ to 10kΩ on host board to a voltage between 2.0V and 3.6V. Logic 0 indicates normal operation; logic 1 indicates loss of signal.
- RD-/+: These are the differential receiver outputs. They are internally AC-coupled 100Ω differential lines which should be terminated with 100Ω (differential) at the user SERDES.
- TD-/+: These are the differential transmitter inputs. They are internally AC-coupled, differential lines with 100Ω differential termination inside the module.



Figure 1: Diagram of host board connector block pin numbers and names



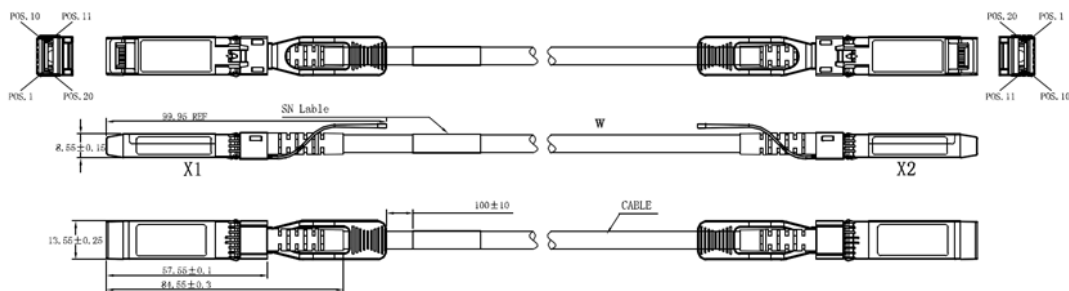
Electrical Characteristics

Parameters	Symbol	Min	Typ	Max	Unit	Notes
Differential Impedance Insertion Loss	$R_{in, P-P}$	90	100	110	dB	
Insertion Loss	SDD21	8	-	22.48	dB	At 12.8906 GHz
Common-mode to common mode output return loss	SCC11	2	-	Note 1	dB	At 0.2 to 19 GHz
Common-mode to common mode output return loss	SCC22	2	-	Note 2	dB	At 0.2 to 19 GHz
Differential Return Loss	SDD11	12,45	-	Note 3	dB	At 0.05 to 4.1 GHz
Differential Return Loss	SDD22	3,12	-	Note 4	dB	At 4.1 to 19 GHz
Channel Operating Margin	COM	3	-	-	dB	

Notes:

1. Reflection Coefficient given by equation $SDD11(dB) < 16.5 - 2 \times \text{SQRT}(f)$, with f in GHz
2. Reflection Coefficient given by equation $SDD11(dB) < 10.66 - 14 \times \log_{10}(f/5.5)$, with f in GHz
3. Reflection Coefficient given by equation $SCD11(dB) < 22 - (20/25.78)*f$, with f in GHz
4. Reflection Coefficient given by equation $SCD11(dB) < 15 - (6/25.78)*f$, with f in GHz

Mechanical Dimensions



Revision History

Revision	Doc. #	Date	Author	Description
Version 1.0	DT000397	10/02/2025	GS	Initial Document

Note: Nexgen A/S reserves the right to change this document without notice.