



25G SFP28 Direct Attach Cable (DAC) Hot Pluggable, Twinax Copper Cables, Passive 0.5~5M

Part Number: FDAC-25G-SPSP-Pxx-xx



Overview

FDAC-25G-SPSP-Pxx-xx SFP28 Copper Twinax Direct Attach Cables (DAC) are cost-effective and energy-saving I/O solutions for 25GBASE Ethernet applications. The SFP28 DAC are suitable for very short distances within racks and across adjacent racks. The Passive DAC has no signal amplification and offer cable lengths reach 0.5m to 5m.

Applications

- 1000BASE ~ 25GBASE Ethernet
- 1G/2G/4G/8G/16G Fiber Channel
- InfiniBand SDR, DDR, QDR, FDR-10, FDR, EDR
- Data Center & Storage
- Datacom / Telecom Switch & Router

Features

- Compliant with IEEE802.3by 25GBASE-CR
- Compliant with SFF-8402 SFP28 and SFF-8432 MSA
- Support 1G~25G Ethernet
- Support 1G/2G/4G/8G/16G Fiber Channel
- Support InfiniBand SDR, DDR, QDR, FDR, EDR
- Hot Pluggable
- 2-wire interface for management
- Single +3.3V power supply
- Link distance up to 5m
- Enhanced EMI / EMC performance
- RoHS Compliant

Absolute Maximum Ratings

Parameters	Symbol	Min.	Max.	Unit
Storage Temperature	T _{ST}	-40	+80	°C
Storage Relative Humidity	RH	5	95	%
Supply Voltage	V _{CC}	-0.5	+3.6	V



Recommended Operating Conditions

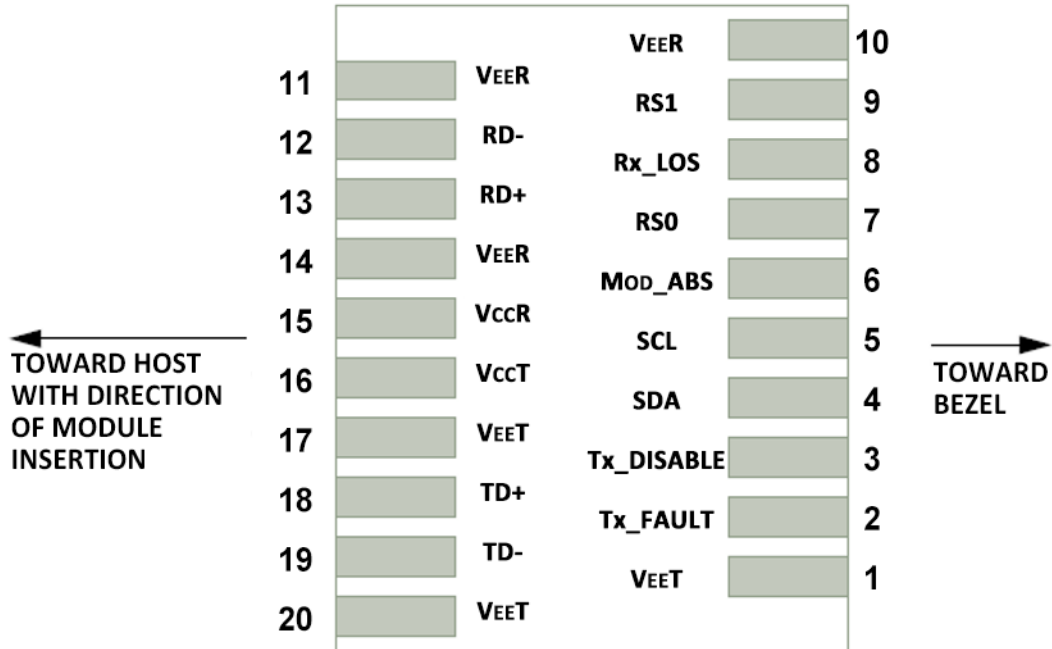
Parameters	Symbol	Min.	Typ.	Max.	Unit
Case Operating Temperature	T _{OP}	-20	-	+75	°C
Supply Voltage	V _{CC}	+3.13	+3.3	+3.47	V
Supply Current, per SFP28	I _{CC}			30	mA
Power Consumption, per SFP28	P			0.1	W
Operating Data Rate	DR	1.0625	25.78		Gb/s
Minimum Cable Bending Radius		30			mm

Specifications

Parameters	Symbol	Min.	Typ.	Max.	Unit
Protocols Supported	Ethernet 1Gb ~ 25Gb Fiber Channel 1G/2G/4G/8G/16GFC InfiniBand SDR, DDR, QDR, FDR, EDR				
Differential Insertion Loss @12.89GHz	S _{DD21} (Max.)	30AWG 1m		10.5	dB
		30/28AWG 3m		21.5	
		26AWG 3m		16.5	
		26AWG 5m		22.0	
Impedance	Z _{IN}	85	100	115	Ohm



Pin Assignment



Host PCB SFP28 Pad Assignment Top View

Pin Description

Pin	Name	Function / Description
1	VEET	Transmitter Ground
2	Tx_FAULT	Transmitter Fault Indication, No function implemented (1)
3	Tx_DISABLE	Transmitter Disable (2)
4	SDA	2-wire Serial Interface Data Line (SDA: Serial Data Signal)
5	SCL	2-wire Serial Interface Clock (SCL: Serial Clock Signal)
6	MOD_ABS	Module Absent, connected to VeeT or VeeR in the module
7	RS0	Rate Select 0, No connection required (3)
8	Rx_LOS	Receiver Loss of Signal Indication (2)
9	RS1	Rate Select 1, No connection required (3)
10	VEER	Receiver Ground
11	VEER	Receiver Ground
12	RD-	Receiver Inverted Data output, AC coupled
13	RD+	Receiver Non-Inverted Data output, AC coupled



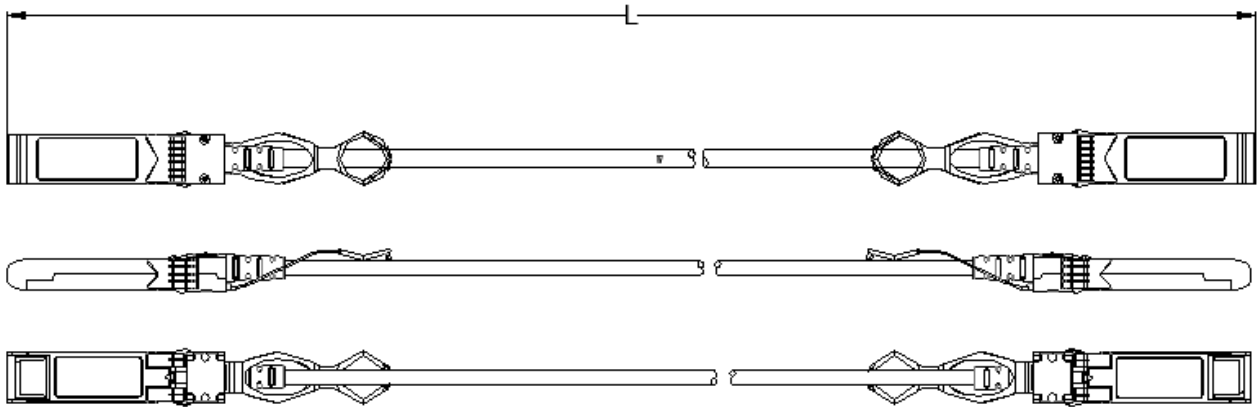
14	VEER	Receiver Ground
15	VCCR	Receiver 3.3V Power Supply
16	VcCT	Transmitter 3.3V Power Supply
17	VEET	Transmitter Ground
18	TD+	Transmitter Non-Inverted Data Input, AC coupled
19	TD-	Transmitter Inverted Data Input, AC coupled
20	VEET	Transmitter Ground

Note1: Signal not supported in SFP28 DAC module, pulled-down to VeeT with 30K ohms resistor.

Note2: The passive DAC cable do not support Rx_LOS and Tx_Disable functions.

Note3: Tied to ground through a 30K ohm resistor.

Mechanical Dimensions



(All Dimensions are $\pm 0.20\text{mm}$ Unless Otherwise Specified, Unit: mm)



Ordering Information

Part No.	Product Description	Length Tolerance
FDAC-25G-SPSP-PX5-30	25GBASE-CR, Twinax PVC cable, 30AWG, 0.5m, Passive	± 15mm
FDAC-25G-SPSP-P01-30	25GBASE-CR, Twinax PVC cable, 30AWG, 1.0m, Passive	± 25mm
FDAC-25G-SPSP-P1X-30	25GBASE-CR, Twinax PVC cable, 30AWG, 1.5m, Passive	± 30mm
FDAC-25G-SPSP-P02-30	25GBASE-CR, Twinax PVC cable, 30AWG, 2.0m, Passive	± 35mm
FDAC-25G-SPSP-P2X-30	25GBASE-CR, Twinax PVC cable, 30AWG, 2.5m, Passive	± 35mm
FDAC-25G-SPSP-P2X-28	25GBASE-CR, Twinax PVC cable, 28AWG, 2.5m, Passive	± 35mm
FDAC-25G-SPSP-P03-30	25GBASE-CR, Twinax PVC cable, 30AWG, 3.0m, Passive	± 45mm
FDAC-25G-SPSP-P03-28	25GBASE-CR, Twinax PVC cable, 28AWG, 3.0m, Passive	± 45mm
FDAC-25G-SPSP-P03-26	25GBASE-CR, Twinax PVC cable, 26AWG, 3.0m, Passive	± 45mm
FDAC-25G-SPSP-P04-26	25GBASE-CR, Twinax PVC cable, 26AWG, 4.0m, Passive	± 50mm
FDAC-25G-SPSP-P05-26	25GBASE-CR, Twinax PVC cable, 26AWG, 5.0m, Passive	± 65mm