



10G SFP+ Direct Attach Cable (DAC) Hot Pluggable, Twinax Copper Cables, Passive 0.5~7M

Part Number: FDAC-10G-SPSP-Pxx-yy



Overview:

FDAC-10G-SPSP-Pxx-yy SFP+ Copper Twinax Direct Attach Cables (DAC) are cost-effective and energy-saving I/O solutions for 10GBASE Ethernet applications. The SFP+ 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 7m.

Applications:

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

Features:

- Compliant with 10GBASE-CR
- Compliant with SFF-8431, 8432 SFP+ MSA
- Support 1G~10G Ethernet
- Support 1G/2G/4G/8G Fiber Channel
- Support InfiniBand SDR, DDR, QDR & FDR-10
- Hot Pluggable
- 2-wire interface for management
- Single +3.3V power supply
- Link distance up to 10m
- Low power consumption <0.1W
- Enhanced EMI / EMC performance
- RoHS Compliant

Absolute Maximum Ratings:

Parameters	Symbol	Min.	Max.	Unit
Storage Temperature	T _{ST}	-40	+85	°C
Storage Relative Humidity	RH	5	95	%
Supply Voltage	V _{CC}	-0.5	+3.6	V



Recommended Operating Conditions:

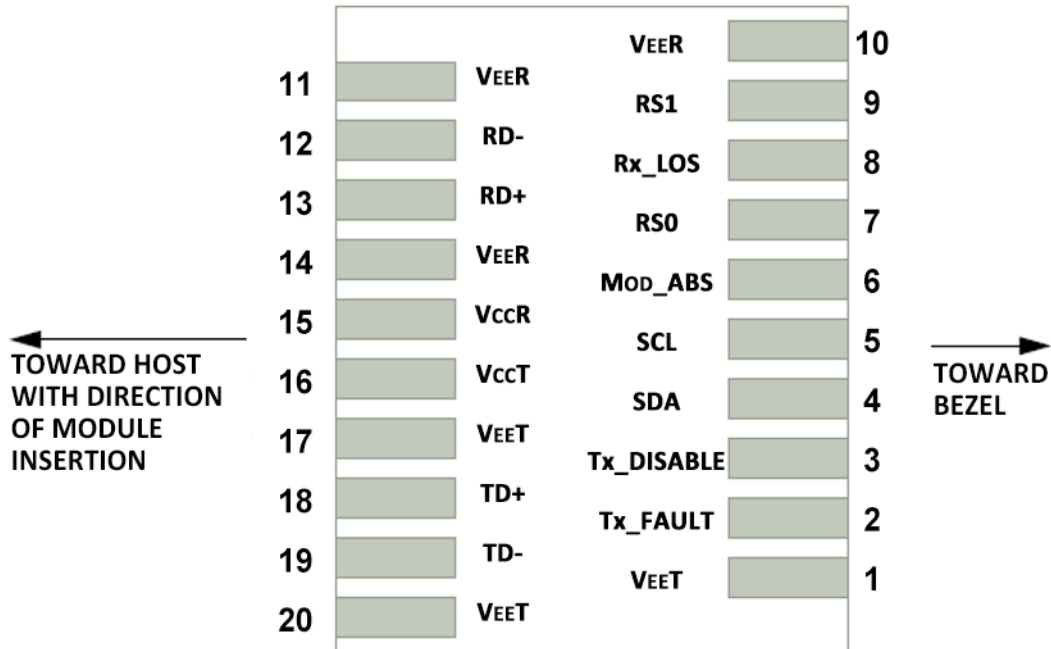
Parameters	Symbol	Min.	Typ.	Max.	Unit
Case Operating Temperature	T _{OP}	-20	-	+75	°C
Supply Voltage	V _{CC}	+3.13	+3.3	+3.47	V
Supply Current, per SFP+	I _{CC}			30	mA
Power Consumption, per SFP+	P			0.1	W
Operating Data Rate	DR	1.0625	10.3125		Gb/s
Minimum Cable Bending Radius, 30AWG		21			mm
Minimum Cable Bending Radius, 28AWG		24			mm
Minimum Cable Bending Radius, 26AWG		27			mm
Minimum Cable Bending Radius, 24AWG		30			mm

Product Specifications:

Parameters	Symbol	Min.	Typ.	Max.	Unit
Protocols Supported	Ethernet 1Gb ~ 10Gb Fiber Channel 1G/2G/4G/8GFC InfiniBand SDR, DDR, QDR & FDR-10				
Transmitter Differential Input Voltage	V _{IN}	250		1200	mVpp
Receiver Differential Input Voltage	V _{OUT}	185		1000	mVpp
Impedance	Z _{IN}	90	100	110	Ohm



Pin Assignment:



Host PCB SFP+ 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, Differential LVPECL, AC coupled



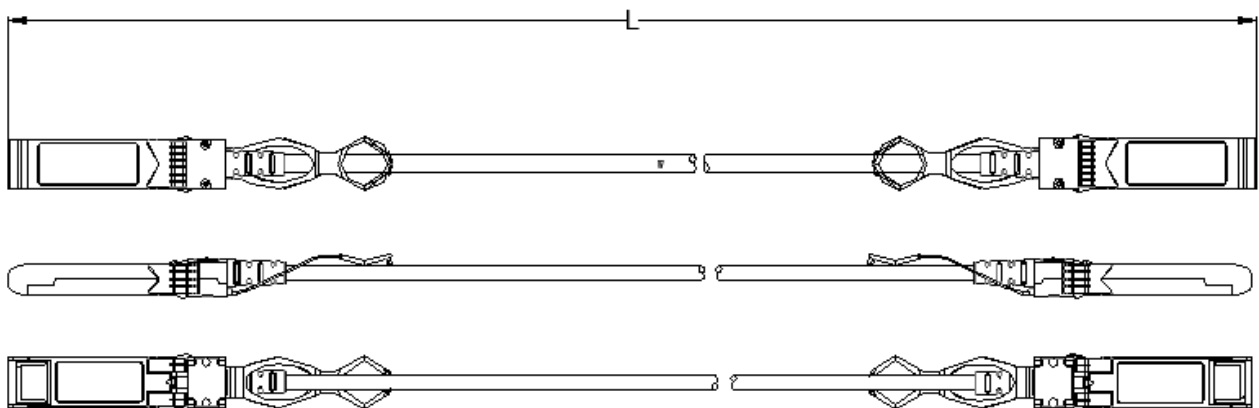
13	RD+	Receiver Non-Inverted Data output, Differential LVPECL, AC coupled
14	VEER	Receiver Ground
15	VCCR	Receiver 3.3V Power Supply
16	VCCT	Transmitter 3.3V Power Supply
17	VEET	Transmitter Ground
18	TD+	Transmitter Non-Inverted Data Input, Differential LVPECL, AC coupled
19	TD-	Transmitter Inverted Data Input, Differential LVPECL, AC coupled
20	VEET	Transmitter Ground

Note1: Signal not supported in SFP+ DAC module, pulled-down to VEET with 20K ohms resistor.

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

Note3: No connect on this module.

Mechanical Dimensions:



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



Ordering Information:

Part No.	Product Description	Length Tolerance
FDAC-10G-SPSP-P0X-30	10GBase-CU, Twinax PVC cable, 30AWG, 0.5m, Passive	± 15mm
FDAC-10G-SPSP-P01-30	10GBase-CU, Twinax PVC cable, 30AWG, 1.0m, Passive	± 25mm
FDAC-10G-SPSP-P1X-30	10GBase-CU, Twinax PVC cable, 30AWG, 1.5m, Passive	± 30mm
FDAC-10G-SPSP-P02-30	10GBase-CU, Twinax PVC cable, 30AWG, 2.0m, Passive	± 35mm
FDAC-10G-SPSP-P2X-30	10GBase-CU, Twinax PVC cable, 30AWG, 2.5m, Passive	± 35mm
FDAC-10G-SPSP-P03-30	10GBase-CU, Twinax PVC cable, 30AWG, 3.0m, Passive	± 45mm
FDAC-10G-SPSP-P04-28	10GBase-CU, Twinax PVC cable, 28AWG, 4.0m, Passive	± 50mm
FDAC-10G-SPSP-P05-26	10GBase-CU, Twinax PVC cable, 26AWG, 5.0m, Passive	± 65mm
FDAC-10G-SPSP-P06-24	10GBase-CU, Twinax PVC cable, 24AWG, 6.0m, Passive	± 80mm
FDAC-10G-SPSP-P07-24	10GBase-CU, Twinax PVC cable, 24AWG, 7.0m, Passive	± 90mm