WTACQ40-4S10-7

40G Q/4SFP+ Direct Attach Cable (DAC)
7m DOM



1. Product Overview

QSFP+ Direct Attach Cables are compliant with the SFF-8436 specifications. SFP+ Direct Attach Cables are compliant with the SFF-8431, SFF-8432 and SFF-8472 specifications. Various choices of wire gauge are available from 30 to 24 AWG with various choices of cable length (up to 7m).

Applications l Benefits

40G Ethernet

Features

- Compliant with SFF- 8436, SFF-8431, SFF-8432 and SFF-8472
- Up to 10. 3125Gbps data rate per channel
- Up to 7m transmission
- Operating temperature: 0~70℃
- Single 3.3V power supply
- RoHS compliant
- Pin Function Definition
- QSFP+ Pin Function Definition
- SFP+ Pin Function Definition
- General Product Characteristics
- High Speed Characteristics
- Mechanical Specifications

Applications

2. Absolute Maximum Ratings

Q-4SFP+ DAC Specifications	
Number of Lanes	Tx & Rx
Channel Data Rate	10.3125 Gbps
Operating Temperature	0 to + 70°C
Storage Temperature	-40 to + 85°C
Supply Voltage	3.3 V nominal
Electrical Interface	38 pins edge connector (QSFP+) 20 pins edge connector(SFP+)
Management Interface	Serial, I2C

3. Pin Descriptions

Pin	Logic	Symbol	Description
1		GND	Ground
2	CML-I	Tx2n	Transmitter Inverted Data Input
3	CML-I	Tx2p	Transmitter Non-Inverted Data Input
4		GND	Ground
5	CML-I	Tx4n	Transmitter Inverted Data Input
6	CML-I	Tx4p	Transmitter Non-Inverted Data Input
7		GND	Ground
8	LVTTL-I	ModSelL	Module Select
9	LVTTL-I	ResetL	Module Reset
10		Vcc Rx	+3.3V Power Supply Receiver
11	LVCMOS- I/O	SCL	2-wire serial interface clock
12	LVCMOS- I/O	SDA	2-wire serial interface data
13		GND	Ground
14	CML-O	Rx3p	Receiver Non-Inverted Data Output
15	CML-O	Rx3n	Receiver Inverted Data Output
16		GND	Ground
17	CML-O	Rx1p	Receiver Non-Inverted Data Output
18	CML-O	Rx1n	Receiver Inverted Data Output
19		GND	Ground
20		GND	Ground
21	CML-O	Rx2n	Receiver Inverted Data Output
22	CML-O	Rx2p	Receiver Non-Inverted Data Output
23		GND	Ground
24	CML-O	Rx4n	Receiver Inverted Data Output
25	CML-O	Rx4p	Receiver Non-Inverted Data Output
26		GND	Ground
27	LVTTL-O	ModPrsL	Module Present
28	LVTTL-O	IntL	Interrupt
29		Vcc Tx	+3.3V Power supply transmitter
30		Vcc1	+3.3V Power supply
31	LVTTL-I	LPMode	Low Power Mode
32		GND	Ground
33	CML-I	Tx3p	Transmitter Non-Inverted Data Input
34	CML-I	Tx3n	Transmitter Inverted Data Input
35		GND	Ground

Pin	Logic	Symbol	Description
36	CML-I	Tx1p	Transmitter Non-Inverted Data Input
37	CML-I	Tx1n	Transmitter Inverted Data Input
38		GND	Ground

4. Pin Descriptions

Pin	Logic	Symbol	Description
1		VeeT	Module Transmitter Ground
2	LVTTL-O	Tx_Fault	Module Transmitter Fault
3	LVTTL-I	Tx_Disable	Transmitter disable; Turns off transmitter laser output
4	LVTTL-I/O	SDA	2-wire Serial Interface Data Line (Same as MOD-DEF2 in INF-8074i)
5	LVTTL-I/O	SCL	2-wire Serial Interface Clock (Same as MOD-DEF1 in INF-8074i)
6		Mod_ABS	Module Absent, connected to VeeT or VeeR in the module
7	LVTTL-I	RS0	Rate Select 0, optionally controls SFP+ module receiver
8	LVTTL-O	Rx_LOS	Receiver Loss of Signal Indication (In FC designated as Rx_LOS and in Ethernet designated as Signal Detect)
9	LVTTL-I	RS1	Rate Select 1, optionally controls SFP+ module transmitter
10		VeeR	Module Receiver Ground
11		VeeR	Module Receiver Ground
12	CML-O	RD-	Receiver Inverted Data Output
13	CML-O	RD+	Receiver Non-Inverted Data Output
14		VeeR	Module Receiver Ground
15		VccR	Module Receiver 3.3 V Supply
16		VccT	Module Transmitter 3.3 V Supply
17		VeeT	Module Transmitter Ground
18	CML-I	TD+	Transmitter Non-Inverted Data Input
19	CML-I	TD-	Transmitter Inverted Data Input
20		VeeT	Module Transmitter Ground

5. Additional Specifications

Parameter	Symbol	Min	Typ	Max	Units	Notes
Differential Impedance	Zd	90	100	110	Ω	

Parameter	Symbol	Min	Typ	Max	Units	Notes
Differential Input Return Loss	SDDXX	<-12+2* SQRT (f) with f in GHz	<-12+2* SQRT (f) with f in GHz	<-12+2* SQRT (f) with f in GHz	dB	0.01~4.1GHz
Differential Input Return Loss	SDDXX	<-6.3+13* Log10(f/5.5) with f in GHz	<-6.3+13* Log10(f/5.5) with f in GHz	<-6.3+13* Log10(f/5.5) with f in GHz	dB	4.1~11.1GHz
Common Mode Output Return Loss	SCCXX	< -7+1.6*f with f in GHz	< -7+1.6*f with f in GHz	< -7+1.6*f with f in GHz	dB	0.01~2.5GHz
Common Mode Output Return Loss	SCCXX			-3	dB	2.5~11.1GHz
Difference Waveform Distortion Penalty	dWDPc			6.75	dB	
VMA Loss	L			4.4	dB	
VMA Loss to Crosstalk Ratio	VCR	32.5			dB	

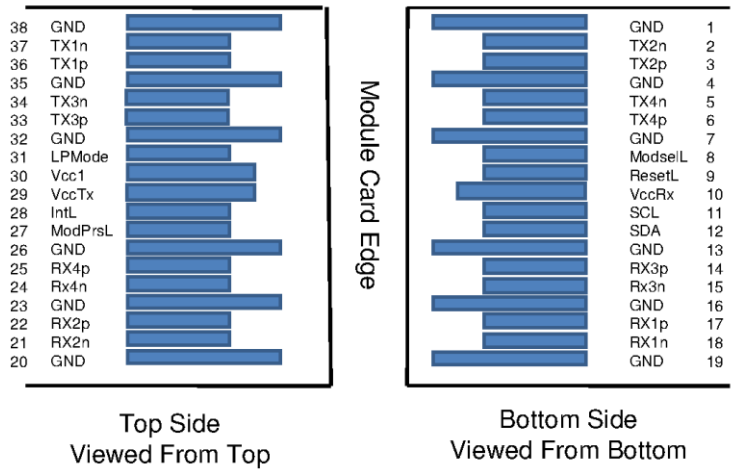
6. Additional Specifications

Length (m)	Cable AWG
1	30/28
2	30/28
3	30/28
4	28
5	28/24
6	24
7	24

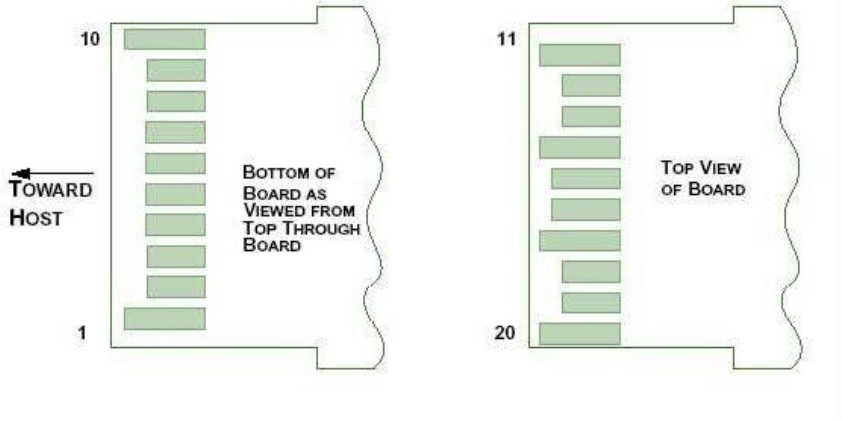
7. Regulatory Compliance

Feature	Test Method	Performance
Electrostatic Discharge (ESD) to the Electrical Pins	MIL-STD-883C Method 3015.7	Class 1(>2000 Volts)
Electromagnetic Interference (EMI)	FCC Class B	Compliant with Standards
Electromagnetic Interference (EMI)	CENELEC EN55022 Class B	Compliant with Standards
Electromagnetic Interference (EMI)	CISPR22 ITE Class B	Compliant with Standards
RF Immunity (RFI)	IEC61000-4-3	Typically Show no Measurable Effect from a 10V/m Field Swept from 80 to 1000MHz
RoHS Compliance	RoHS Directive 2011/65/EU and it's Amendment Directives 6/6	RoHS 6/6 compliant

8. Technical Figure 1



9. Technical Figure 2



10. Revision History

Version	Date	Description	Prepared by
V6	2025	Unified WincoTek datasheet format	WincoTek
V6.1	2026-10-23	Engineering and format review	WincoTek