

DATA SHEET

MODULETEK – DAC-QSFP28-QSFP28-P-x-xxAWG-aa.aaM-C0C0C

QSFP28 100G Passive Copper Cable Assembly

DAC-QSFP28-QSFP28-P-x-xxAWG-aa.aaM-C0C0C Overview

ModuleTek’s DAC-QSFP28-QSFP28-P-x-xxAWG-aa.aaM-C0C0C direct attach copper cables are suitable for very short distances and offer a highly cost-effective way to establish a 100Gigabit link between QSFP28 ports. QSFP28 are designed for a high density cabling interconnect system capable of delivering an aggregate data bandwidth of 100Gbps. This interconnect system is fully compliant with QSFP28 MSA.

Product Features

- Up to 100 Gb/s bi-directional data links
- Compliant with QSFP28 MSA specifications
- Fully Compliant with IEEE 802.3bj and Infiniband EDR specifications
- AC coupled inputs and outputs
- 100 Ohm differential impedance
- All-metal housing for superior EMI performance
- Single power supply 3.3V, low power consumption
- RoHS Compliant
- Operating temperature range: 0°C to 70°C

Applications

- 100Gigabit Ethernet
- Serial Data Transmission

Ordering Information

Part Number	Description	Gauge	Length
DAC-QSFP28-QSFP28-P-E-30AWG-aa.aaM-C0C0C	QSFP28 100G Passive Direct Attach Copper Cable Assembly,without MCU, aa.aa≤2	30AWG	≤2m
DAC-QSFP28-QSFP28-P-E-28AWG-aa.aaM-C0C0C	QSFP28 100G Passive Direct Attach Copper Cable Assembly,without MCU, 2<aa.aa≤3	28AWG	2m<length≤3m
DAC-QSFP28-QSFP28-P-E-26AWG-aa.aaM-C0C0C	QSFP28 100G Passive Direct Attach Copper Cable Assembly,without MCU, 3<aa.aa≤5	26AWG	3m<length≤5m
DAC-QSFP28-QSFP28-P-M-30AWG-aa.aaM-C0C0C	QSFP28 100G Passive Direct Attach Copper Cable Assembly,with MCU, aa.aa≤2	30AWG	≤2m

DAC-QSFP28-QSFP28-P-M-28AWG-aa.aaM-C0C0C	QSFP28 100G Passive Direct Attach Copper Cable Assembly,with MCU, $2 < aa.aa \leq 3$	28AWG	$2m < length \leq 3m$
DAC-QSFP28-QSFP28-P-M-26AWG-aa.aaM-C0C0C	QSFP28 100G Passive Direct Attach Copper Cable Assembly,with MUC, $3 < aa.aa \leq 5$	26AWG	$3m < length \leq 5m$
Note: 1. "aa.aa" indicates the cable length in meters. 2. The wire diameter of the products in the above list is the default value under different lengths. We can also provide other wire products to customers with special requirements.			
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General Specifications

Parameter	Symbol	Min	Typ	Max	Unit	Remarks
Bit Error Rate	BER			10^{-12}		
Operating Temperature	T_{OP}	0		70	$^{\circ}C$	1
Storage Temperature	T_{STO}	-40		85	$^{\circ}C$	2
Input Voltage	V_{CC}	3.14	3.3	3.46	V	3
Maximum Voltage	V_{MAX}	-0.5		4	V	3

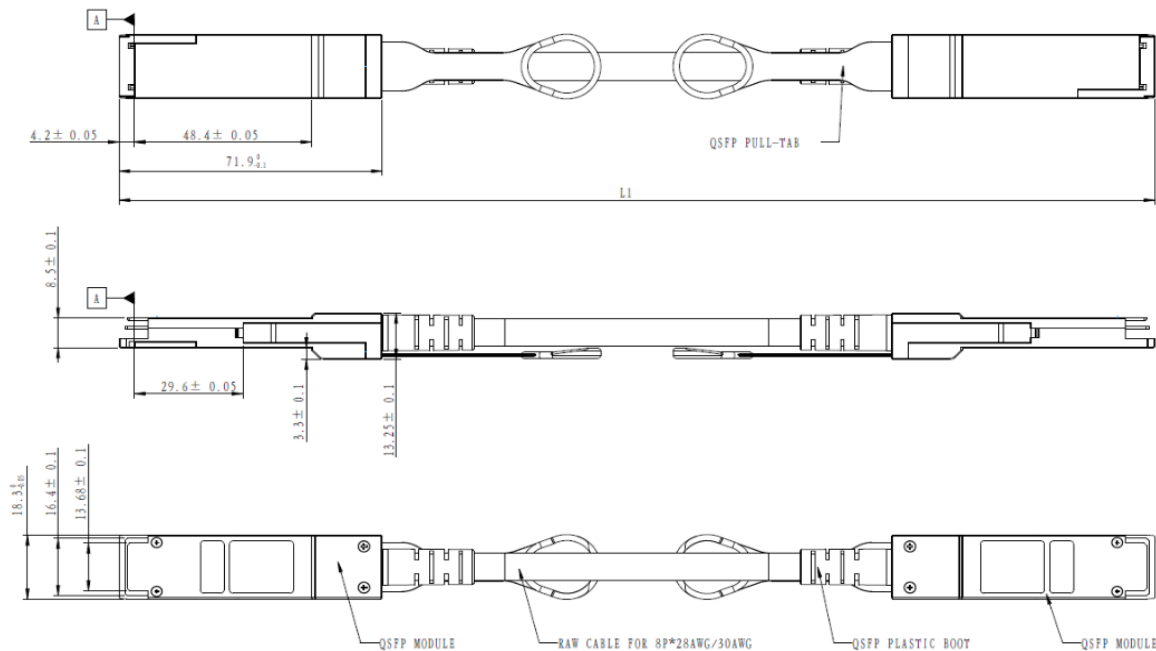
Notes:

1. Case temperature
2. Ambient temperature
3. For electrical power interface

Cable Mechanical Specifications

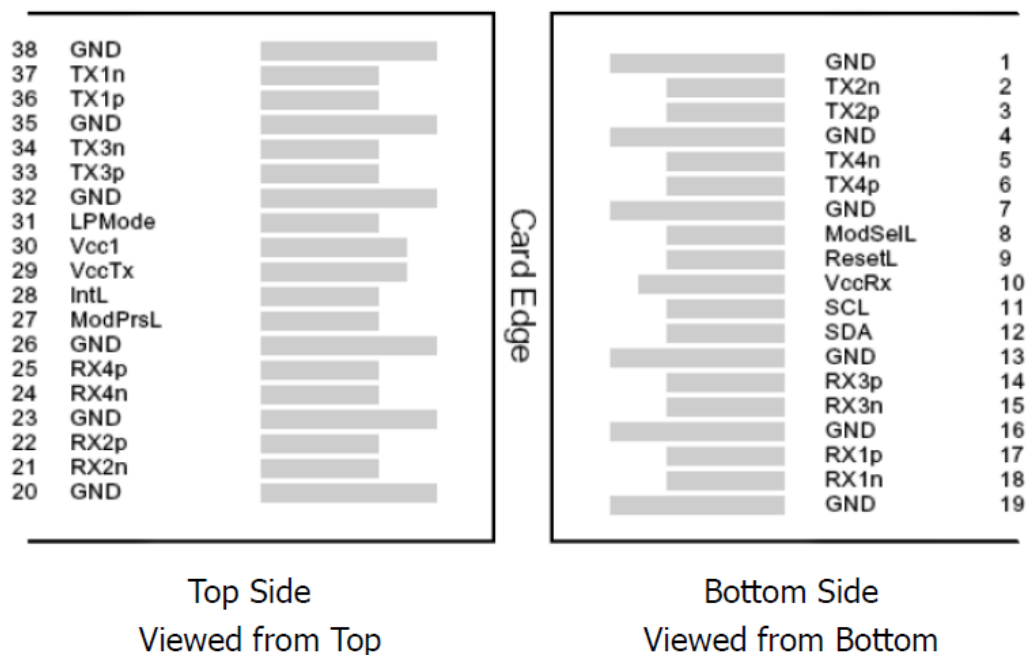
Parameter	Symbol	Min	Typ	Max	Unit	Remarks
Wire Gauge		30AWG		26AWG		
Cable Impedance	Z	95	100	105	Ohm	

Dimensions



ALL DIMENSIONS ARE 0.2mm UNLESS OTHERWISE SPECIFIED
UNIT: mm

Electrical Pad Layout



Pin Assignment

PIN #	Symbol	Description	Remarks
1	GND	Ground	
2	Tx2n	Transmitter Inverted Data Input	
3	Tx2p	Transmitter Non-Inverted Data Input	
4	GND	Ground	
5	Tx4n	Transmitter Inverted Data Input	
6	Tx4p	Transmitter Non-Inverted Data Input	
7	GND	Ground	
8	ModSelL	Module Select	
9	ResetL	Module Reset	
10	V _{CC} RX	+3.3V Power Supply Receiver	
11	SCL	2-wire serial interface clock	
12	SDA	2-wire serial interface data	
13	GND	Ground	
14	Rx3p	Receiver Non-Inverted Data Output	
15	Rx3n	Receiver Inverted Data Output	
16	GND	Ground	
17	Rx1p	Receiver Non-Inverted Data Output	
18	Rx1n	Receiver Inverted Data Output	
19	GND	Ground	
20	GND	Ground	
21	Rx2n	Receiver Inverted Data Output	
22	Rx2p	Receiver Non-Inverted Data Output	
23	GND	Ground	

24	Rx4n	Receiver Inverted Data Output	
25	Rx4p	Receiver Non-Inverted Data Output	
26	GND	Ground	
27	ModPrsL	Module Present	
28	IntL	Interrupt	
29	V _{CC} TX	+3.3V Power Supply transmitter	
30	V _{CC} 1	+3.3V Power Supply	
31	LPMODE	Low Power Mode	
32	GND	Ground	
33	Tx3p	Transmitter Non-Inverted Data Input	
34	Tx3n	Transmitter Inverted Data Input	
35	GND	Ground	
36	Tx1p	Transmitter Non-Inverted Data Input	
37	Tx1n	Transmitter Inverted Data Input	
38	GND	Ground	

References

1. IEEE standard 802.3bj. IEEE Standard Department.
2. SFF-8665
3. SFF-8436