



25Gb/s SFP28 AOC

APCO02-BBCxxx



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Passive cables may require host pre-emphasis and equalization to reach at the longer lengths.

Product Features

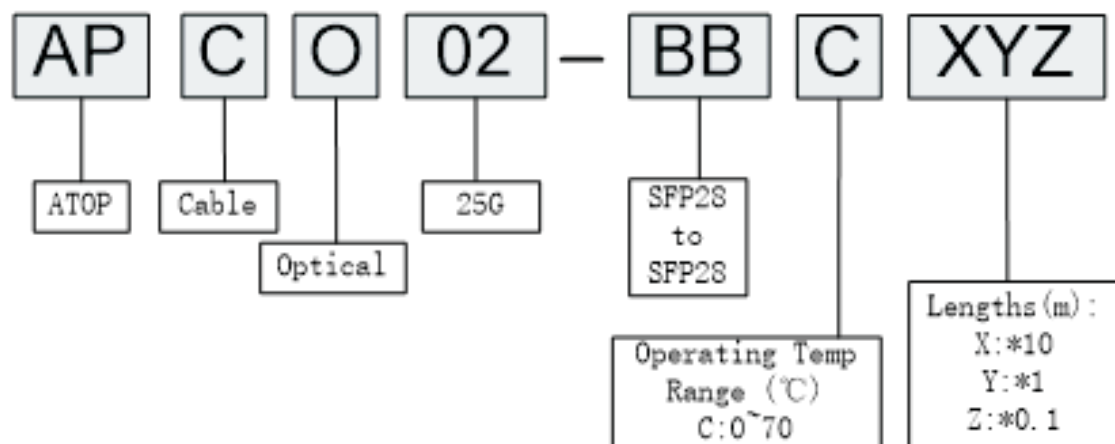
- ✓ Supports 25Gbps data rate
- ✓ Support hot-pluggable
- ✓ Maximum link length of 70m on OM3 MMF and 100m on OM4 MMF
- ✓ Excellent ESD protection
- ✓ Single 3.3V power supply
- ✓ Power dissipation < 1.0W (Per side)
- ✓ RoHS Compliant and Lead-Free

Applications

- ✓ 25GBASE-SR Ethernet
- ✓ Data Center



Product Selection

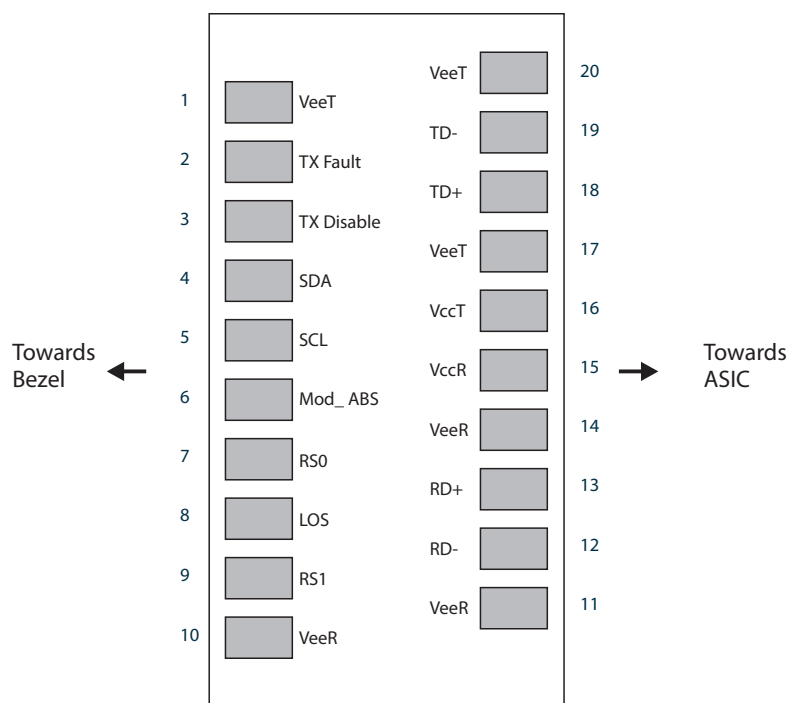


Part Number	Lengths
APCO02-BBC010	1m
APCO02-BBC020	2m
APCO02-BBC030	3m
APCO02-BBC050	5m
APCO02-BBC070	7m
APCO02-BBC100	10m
APCO02-BBC150	15m
APCO02-BBC200	20m
APCO02-BBC250	25m
APCO02-BBC300	30m
APCO02-BBC400	40m
APCO02-BBC500	50m

*For availability of additional cable lengths, please contact ATOP.

Pin Descriptions

Pin	Symbol	Name	Ref.
1	VeeT	Transmitter Ground (Common with Receiver Ground)	
2	TX Fault	Transmitter Fault. LVTTTL-O	
3	TX Disable	Transmitter Disable. Laser output disabled on high or open. LVTTTL-I	
4	SDA	2-Wire Serial Interface Data Line (Same as MOD-DEF2 in INF-8074i). LVTTTL-I/O	
5	SCL	2-Wire Serial Interface Data Line (Same as MOD-DEF2 in INF-8074i). LVTTTL-I	
6	Mod_ABS	Module Absent, Connect to VeeT or VeeR in Module.	
7	RS0	Rate Select 0, optionally controls SFP+ module receiver LVTTTL-I	
8	LOS	Loss of Signal indication. Logic 0 indicates normal operation. LVTTTL-O	
9	RS1	Rate Select 1, optionally controls SFP+ module transmitter. LVTTTL-I	
10	VeeR	Receiver Ground (Common with Transmitter Ground)	
11	VeeR	Receiver Ground (Common with Transmitter Ground)	
12	RD-	Receiver Inverted DATA out. AC Coupled. CML-O	
13	RD+	Receiver Non-inverted DATA out. AC Coupled. CML-O	
14	VeeR	Receiver Ground (Common with Transmitter Ground)	
15	VccR	Receiver Power Supply	
16	VccT	Transmitter Power Supply	
17	VeeT	Transmitter Ground (Common with Receiver Ground)	
18	TD+	Transmitter Non-Inverted DATA in. AC Coupled. CML- I	
19	TD-	Transmitter Inverted DATA in. AC Coupled. CML- I	
20	VeeT	Transmitter Ground (Common with Receiver Ground)	



Pin-out of Connector Block on Host Board

Absolute Maximum Ratings

Parameter	Symbol	Min	Typ	Max	Unit	Ref.
Maximum Supply Voltage	Vcc	-0.5		+4.0	V	
Storage Temperature	TS	-5		+75	°C	
Case Operating Temperature	Tc	0		+70	°C	
Operating Humidity	RH	0		85	%	

Recommended Operating Conditions

Parameter	Symbol	Min	Typ	Max	Unit	Ref.
Power Supply Voltage	Vcc	3.13	3.30	3.47	V	
Power Supply Current	Icc			300	mA	Per side

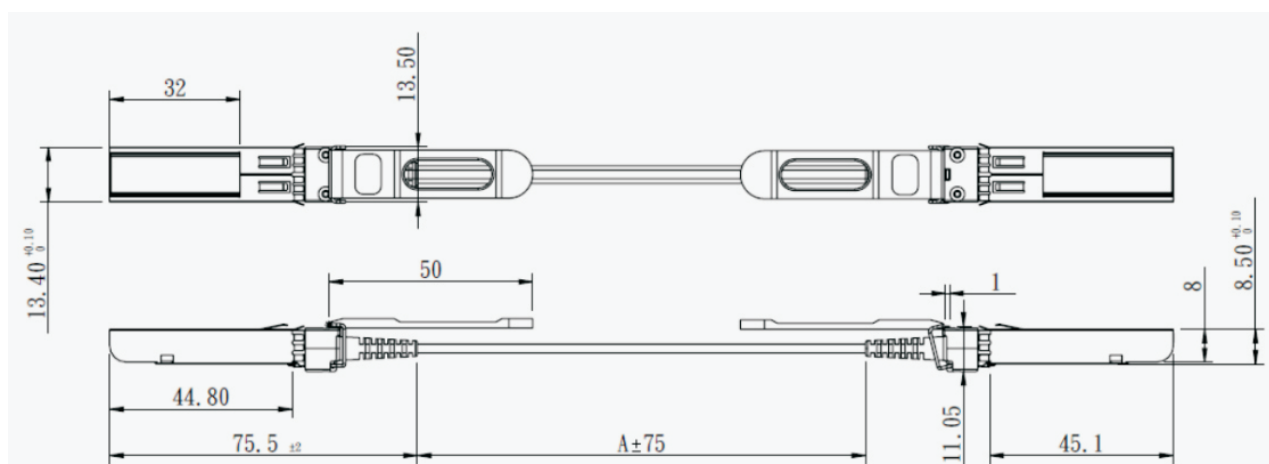
Electrical Characteristics

Parameter	Symbol	Min	Typ	Max	Unit	Ref.
Data Rate	BR		25.78		Gb/s	
Bit Error Ratio	BER			10^{-8}		1
Transmitter						
Input differential impedance	Rin	90	100	110	Ω	
Differential data input swing	Vin, pp	150		700	mV	
TX Disable-High		Vcc-1.3		Vcc+ 0.3	V	
TX Disable-Low		Vee		Vee+ 0.8	V	
TX Fault-High		Vcc-1.3		Vcc+ 0.3	V	
TX Fault-Low		Vee		Vee+ 0.8	V	
Receiver						
Differential data output swing	Vout, pp	300		850	mV	
Rx Output Diff Impedance	Zo	90	100	110	Ω	
LOS-High		Vcc-1.3		Vcc+ 0.3	V	
LOS-Low		Vee		Vee+ 0.8	V	

Notes:

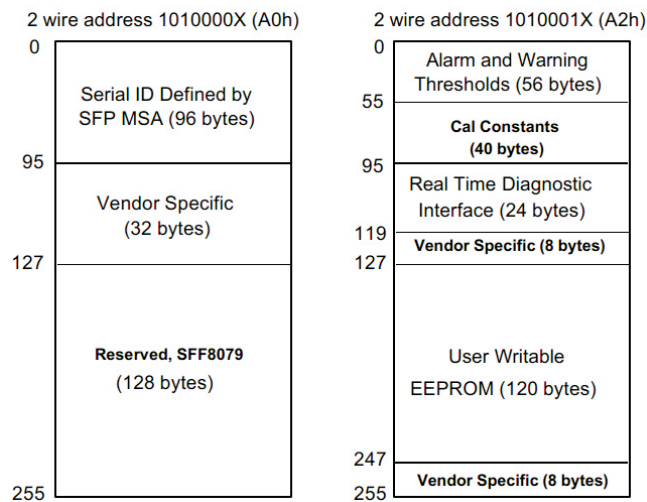
1. Pre-FEC, tested with a PRBS $2^{31} - 1$.

Mechanical Specifications



EEPROM Information

- EEPROM memory map specific data field description is as below:



Regulatory Compliance

- ESD to the Electrical PINs: compatible with MIL-STD-883 Method 3015
- ESD to the Duplex LC Receptacle: compatible with EN 61000-4-2
- Immunity compatible with EN 61000-4-3
- EMI compatible with FCC Part 15 Class B
- Laser Eye Safety compatible with FDA 21CFR 1040.10 and 1040.11 IEC 60950, IEC60825-1,2
- RoHS compliant with RoHS 2.0(2015/863/EU)-amending

Revision History

Revision	Initiated	Reviewed	Approved	DCN	Release Date
Version1.0	Chuck.Chen	Tang.Zhiqing	Ding zheng	New Released.	Dec 18, 2017
Version1.1	Litao	Tangzhiqiang	Ding zheng	Update the consumption 、 ICC、 input/output swing、 storage temp and BER test standard	Nov.15.2018
Version1.2	Litao	Tangzhiqiang	Ding zheng	update Cable Mechanical Specifications	Jan.28.2019
Version1.3	Tangzhiqiang	Litao	Ding zheng	Update the new template	Dec 19, 2019



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