



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

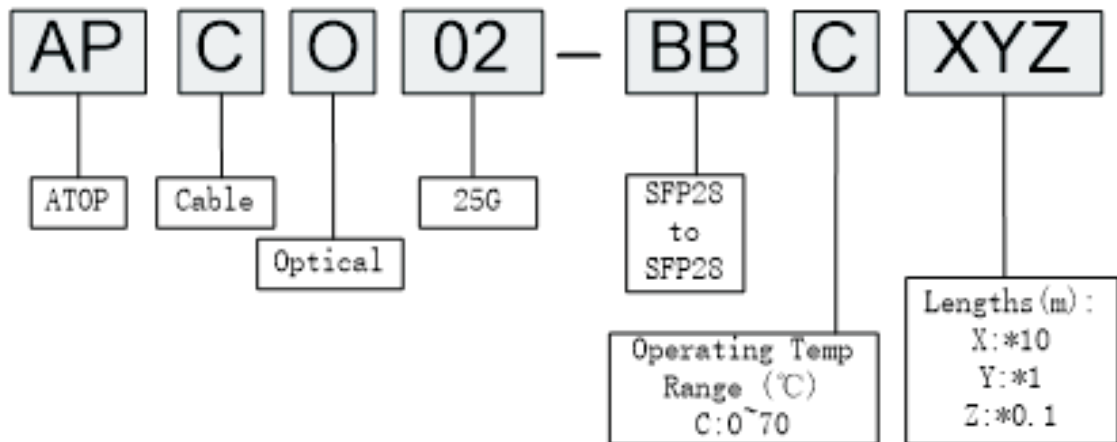
- ✓ Supports 25Gbps data rate
- ✓ Support hot-pluggable
- ✓ Maximum link length of 70m on OM3 MMF and 100m on OM4 MMF
- ✓ Excellent ESD protection
- ✓ Single 3.3V power supply
- ✓ Power dissipation < 1.0W (Per side)
- ✓ RoHS Compliant and Lead-Free

Applications

- ✓ 25GBASE-SR Ethernet
- ✓ Data Center



Product Selection

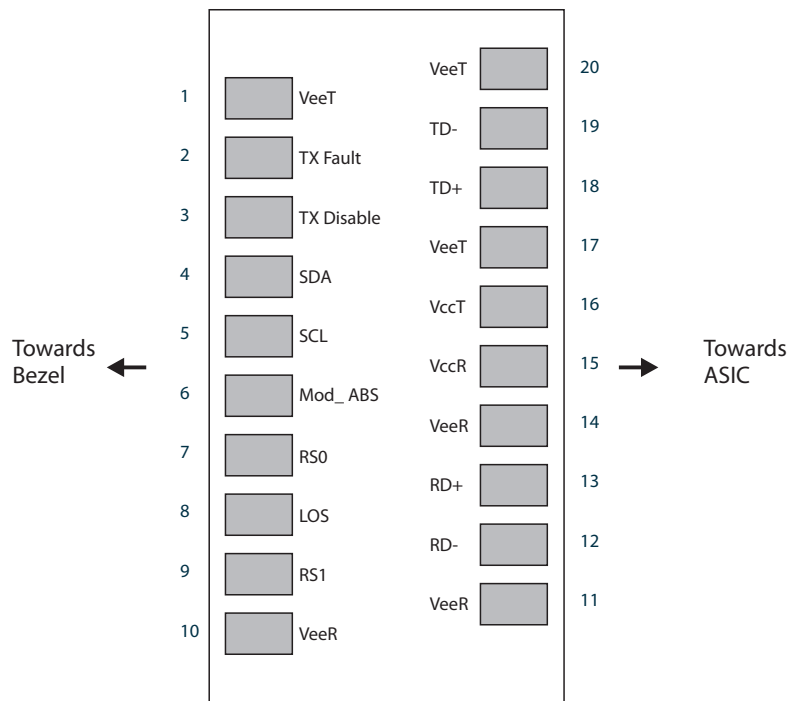


Part Number	Lengths
APCO02-BBC010	1m
APCO02-BBC020	2m
APCO02-BBC030	3m
APCO02-BBC050	5m
APCO02-BBC070	7m
APCO02-BBC100	10m
APCO02-BBC150	15m
APCO02-BBC200	20m
APCO02-BBC250	25m
APCO02-BBC300	30m
APCO02-BBC400	40m
APCO02-BBC500	50m

*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

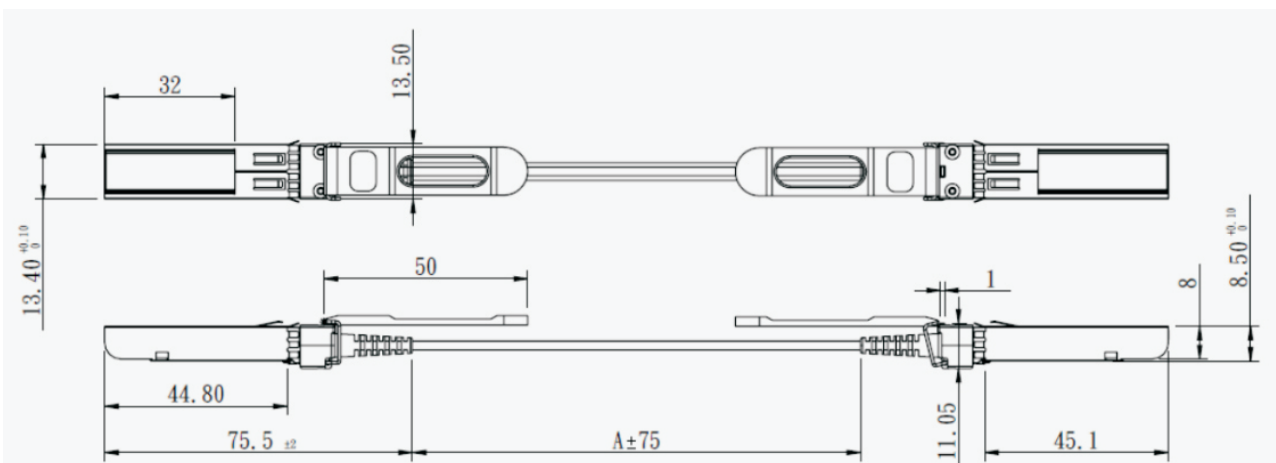
Electrical Characteristics

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:

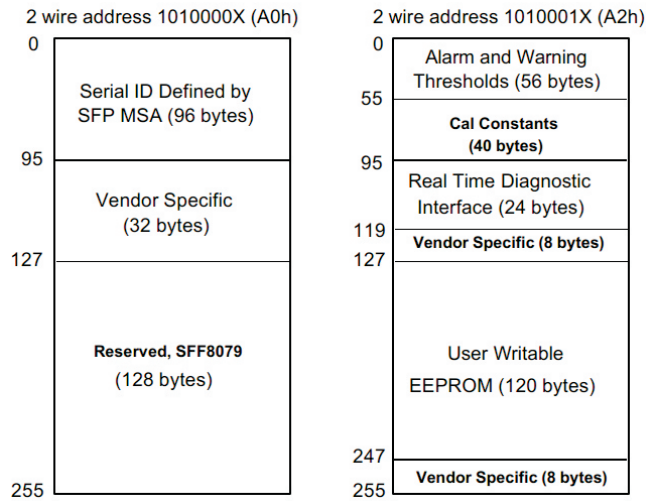
1. Pre-FEC, tested with a PRBS $2^{31} - 1$.

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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