

### DAC-SFP-25G-2.5M-AT

Universally Coded MSA Compliant 25Gb/s SFP28 Direct Attach Cable Copper, Passive, 2.5m

#### **FEATURES**

- Up to 25.78125 Gbps data rate
- Up to 5-meter transmission
- Hot-pluggable SFP 20PIN footprint
- Improved Pluggable Form Factor (IPF)
- Compliant for enhanced EMI/EMC performance
- Compatible to SFP28 MSA
- Compatible to SFF-8402 and SFF-8432
- Temperature Range: 0 ~ 70 °C
- RoHS Compatible
- Cost-effective copper solution
- Lowest total system power solution
- Lowest total system EMI solution
- Optimized design for Signal Integrity

#### **APPLICATIONS**

- Storage Area Networks (SAN), Network Attached Storage and Storage Servers
- 25G Ethernet
- Switched fabric I/O such as ultra-high bandwidth switches and routers
- Data center cabling infrastructure
- High density connections among network equipment

#### **DESCRIPTION**

ATGBICS® Universally Coded MSA Compliant DAC-SFP-25G-2.5M-AT SFP28 Copper cable assembly is a high-performance, cost effective I/O solution for 25Gb Ethernet applications. It allows hardware manufacturers to achieve high port density, configurability and utilisation at a very low cost and to reduce power budget. The high-speed cable assemblies meet and exceed the performance and reliability requirements stipulated by Gigabit Ethernet and Fibre Channel industry standard.



### **High Speed Characteristics:**

Parameter	Symbol	Min	Typical	Max	Unit	Note
Differential Impedance	TDR	90	100	110	Ω	
Insertion loss	SDD21	-22.48			dB	At 12.8906 GHz
Differential Return Loss	SDD11			See 1	dB	At 0.05 to 4.1 GHz
	SDD22			See 2	dB	At 4.1 to 19 GHz
Common-mode to common- mode output return loss	SCC11 SCC22			-2	dB	At 0.2 to 19 GHz
Differential to common mode return loss	SCD11 SCD22			See 3	dB	At 0.01 to 12.89 GHz
				See 4		At 12.89 to 19 GHz
Differential Assessment March	SCD21-IL			-10		At 0.01 to 12.89 GHz
Differential to common Mode Conversion Loss				See 5	dB	At 12.89 to 15.7 GHz
CONVENSION LOSS				-6.3		At 15.7 to 19 GHz

### Notes:

- 1. Reflection Coefficient given by equation SDD11(dB) < -16.5 + 2 × SQRT (f), with f in GHz
- 2. Reflection Coefficient given by equation SDD11(dB) < -10.66 + 14 × log10(f/5.5), with f in GHz
- 3. Reflection Coefficient given by equation SCD11(dB) < -22 + (20/25.78) \* f, with f in GHz
- 4. Reflection Coefficient given by equation SCD11(dB) < -15 + (6/25.78) \* f, with f in GHz
- 5. Reflection Coefficient given by equation SCD21(dB) < -27 + (29/22) \* f, with f in GHz

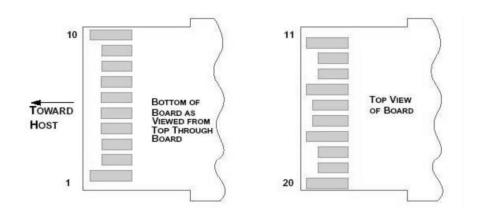


#### **SFP28 Pin Function Definition**

Pin	Logic	Symbol	Name/Description	Notes
1		VeeT	Transmitter Ground	
2	LV-TTL-O	TX_Fault	N/A	1
3	LV-TTL-I	TX_DIS	Transmitter Disable	2
4	LV-TTL-I/O	SDA	Tow Wire Serial Data	
5	LV-TTL-I	SCL	Tow Wire Serial Clock	
6		MOD_DEF0	Module present, connect to VeeT	
7	LV-TTL-I	RS0	N/A	1
8	LV-TTL-O	LOS	LOS of Signal	2
9	LV-TTL-I	RS1	N/A	1
10		VeeR	Receiver Ground	
11		VeeR	Receiver Ground	
12	CML-O	RD-	Receiver Data Inverted	
13	CML-O	RD+	Receiver Data Non-Inverted	
14		VeeR	Receiver Ground	
15		VccR	Receiver Supply 3.3V	
16		VccT	Transmitter Supply 3.3V	
17		VeeT	Transmitter Ground	
18	CML-I	TD+	Transmitter Data Non-Inverted	
19	CML-I	TD-	Transmitter Data Inverted	
20		VeeT	Transmitter Ground	

### Note:

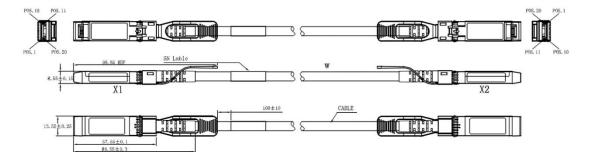
- 1. Signals not supported in SFP+ Copper pulled down to VeeT with 30K ohms resistor
- 2. Passive cable assemblies do not support LOS and TX\_DIS





### **Mechanical Information**

The connector is compatible with the SFF-8432 specification





### **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	FCC Class B	Compliant with Standards	
(EMI)	CENELEC EN55022 Class B		
	CISPR22 ITE Class B		
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 (EU) 2015/863	RoHS (EU) 2015/863 compliant	
REACH Compliance	REACH Regulation (EC) No 1907/2006	REACH (EC) No 1907/2006 compliant	

### **AWG Information**

Reach @ 10Gb/s (m)	AWG
0.5	30
1	30
3	30
5	26