

# SFP10G-AOC

10GBASE, SFP+, ACTIVE COPPER CABLE ASSEMBLY



## Features

- Compliant with SFF-8431 and SFF-8432
- Supports data rates up to 11.1 Gb/s
- Power Level 1 : 0.5W per cable end
- 100 Ohm differential impedance
- Retractable pin latch
- EEPROM signature
- Pull to Release latch design
- 360°cable braid crimp
- Enhanced EMI skirt design
- Color options for strain relief and pull tab
- Linear design for use with EDCs
- AC-coupled inputs and outputs
- Lengths up to 10m
- 30AWG to 24AWG cable available

## Applications

- Networking – servers, routers and hubs
- Telecommunication equipment
- Network Interface Cards (NIC's)
- 10 Gigabit Ethernet and Gigabit Ethernet
- Fiber channel: 1, 2, 4 and 8 GFC
- Fiber Channel over Ethernet (FCoE)
- InfiniBand standard

## 1. Recommended Operation Condition

Parameter	Symbol	Min	Typ	Max	Unit
Operating Case Temperature	Topc	0	--	70	°C
Relative Humidity (non-condensation)	RS	35	-	60	%
Supply Voltage	Vcc3	3.15	3.30	3.45	V
Power Supply Current	Icc3	-	70	80	mA
Total Power Consumption	Pd	-	-	1	W
Differential Input Voltage Swing	V DIFF	100		1800	mVp-p

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Differential Output Voltage Swing	V DIFF			600	mVp-p
Data Output Rise Time/Fall Time	Tr,Tf			120	ps

### 2. Performance Specifications – Electrical

Parameter	Symbol	Min	Typ	Max	Unit	Note
<b>Transmitter</b>						
Reference Differential Input Impedance	Zd		100		Ω	
Termination Mismatch	ΔZ M			5	%	
Input AC Common Mode Voltage				25	mV (RMS)	
Differential Input S-parameter	SDD11	$< -12 + 2 \times \text{SQRT}(f)$ , with f in GHz.			dB	0.01-4.1GHz
		$< -6.3 + 13 \times \log_{10}(f/5.5)$ , with f in GHz			dB	4.1-11.1GHz
Reflected Differential to Common Mode Conversion	SCD11			-10	dB	0.01-11.1GHz
Total Jitter				0.40	UI	
Deterministic Jitter				0.15	UI	
<b>Receiver</b>						
Reference Differential Input Impedance	Zd		100		Ω	
Termination Mismatch	ΔZ M			5	%	
Output AC Common Mode Voltage				15	mV (RMS)	
Differential Output S-parameter	SDD22	$< -12 + 2 \times \text{SQRT}(f)$ , with f in GHz			dB	0.01-4.1GHz
		$< -6.3 + 13 \times \log_{10}(f/5.5)$ , with f in GHz			dB	4.1-11.1GHz
Common Mode Output Reflection Coefficient	SCC22	$< -7 + 1.6 \times f$ , with f in GHz.			dB	0.01-2.5GHz
				-3	dB	2.5-11.1GHz
Total Jitter				0.38	UI	
Deterministic Jitter				0.64	UI	

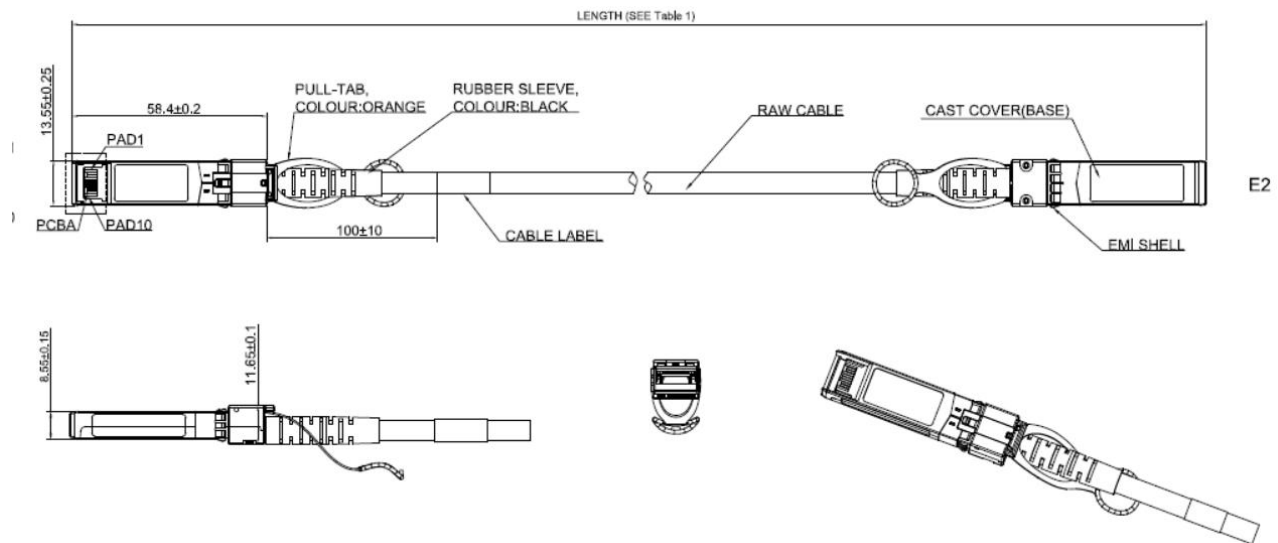
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## 3. Mechanical Specifications

Parameter	Minimum	Typical	Maximum	Unit
Cable Diameter (24 AWG)		0.255		Inches
Bend Radius (24 AWG)	1.25			Inches
Cable Diameter (28 AWG)		0.185		Inches
Bend Radius (28AWG)	0.8			Inches
Cable Diameter (30 AWG)		0.175		Inches
Bend Radius (30 AWG)	0.7			Inches
Within Pair Skew			120	ps/10m
Cable Insertion Loss		10		dB/10m
Bulk Cable Crosstalk			1	%
Bulk Cable Time Delay			4.3	ns/m
Cable Capacitance (intra-pair)			43	pF/m
Bulk Cable Impedance	95	100	105	Ohms

## 4. Mechanical Diagram



**Note:** External physical characteristics are subject to variation. This may include, but is not limited to, external case designs, pull tab colors and/or shapes, removal latch styles or colors, and label sizes and placement. These variations do not affect the function or characteristics of the transceivers.

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### 5. Ordering Information

OEM	Part Number	OEM	Part Number
Arista	AOC-S-S-10G-1M-L	Juniper	JNP-10G-AOC-2M-L
Arista	AOC-S-S-10G-2M-L	Juniper	JNP-10G-AOC-3M-L
Arista	AOC-S-S-10G-3M-L	Juniper	JNP-10G-AOC-4M-L
Arista	AOC-S-S-10G-4M-L	Juniper	JNP-10G-AOC-5M-L
Arista	AOC-S-S-10G-5M-L	Juniper	JNP-10G-AOC-7M-L
Arista	AOC-S-S-10G-7M-L	Juniper	JNP-10G-AOC-10M-L
Arista	AOC-S-S-10G-10M-L	Juniper	JNP-10G-AOC-15M-L
Arista	AOC-S-S-10G-15M-L	Juniper	JNP-10G-AOC-20M-L
Arista	AOC-S-S-10G-20M-L	Juniper	JNP-10G-AOC-25M-L
Arista	AOC-S-S-10G-25M-L	Juniper	JNP-10G-AOC-30M-L
Arista	AOC-S-S-10G-30M-L	Lenovo	00YL64312-L
Arista	AOC-S-S-10G-12M-L	Lenovo	00YL634-L
Avago/Broadcom	AFBR-2CAR01Z-L	Lenovo	00YL6342-L
Avago/Broadcom	AFBR-2CAR02Z-L	Lenovo	00YL637-L
Avago/Broadcom	AFBR-2CAR03Z-L	Lenovo	00YL6374-L
Avago/Broadcom	AFBR-2CAR04Z-L	Lenovo	00YL640-L
Avago/Broadcom	AFBR-2CAR05Z-L	Lenovo	00YL643-L
Avago/Broadcom	AFBR-2CAR07Z-L	Lenovo	00YL64310-L
Avago/Broadcom	AFBR-2CAR10Z-L	Lenovo	00YL646-L
Avago/Broadcom	AFBR-2CAR15Z-L	Lenovo	00YL649-L
Avago/Broadcom	AFBR-2CAR20Z-L	Lenovo	00YL64925-L
Avago/Broadcom	AFBR-2CAR25Z-L	Lenovo	00YL64930-L
Avago/Broadcom	AFBR-2CAR30Z-L	Mellanox	SFP10G-MX-AOC-12M-L
Avago/Broadcom	AFBR-2CAR12Z-L	Mellanox	SFP10G-MX-AOC-30M-L
Brocade	10G-SFPP-AOC-0101-L	Mellanox	SFP10G-MX-AOC-5M-L
Brocade	10G-SFPP-AOC-0201-L	Mellanox	SFP10G-MX-AOC-4M-L
Brocade	10G-SFPP-AOC-0301-L	Mellanox	SFP10G-MX-AOC-7M-L
Brocade	10G-SFPP-AOC-0401-L	Mellanox	SFP10G-MX-AOC-25M-L
Brocade	10G-SFPP-AOC-0501-L	Mellanox	SFP10G-MX-AOC-20M-L
Brocade	10G-SFPP-AOC-0701-L	Mellanox	SFP10G-MX-AOC-3M-L
Brocade	10G-SFPP-AOC-1001-L	Mellanox	SFP10G-MX-AOC-1M-L

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Brocade	10G-SFPP-AOC-1501-L	Mellanox	SFP10G-MX-AOC-2M-L
Brocade	10G-SFPP-AOC-2001-L	Mellanox	SFP10G-MX-AOC-15M-L
Brocade	10G-SFPP-AOC-2501-L	Mellanox	SFP10G-MX-AOC-10M-L
Brocade	10G-SFPP-AOC-3001-L	MSA	LN-SFP10G-AOC-10M
Brocade	10G-SFPP-AOC-1201-L	MSA	LN-SFP10G-AOC-12M
Cisco	SFP-10G-AOC2M-L	MSA	LN-SFP10G-AOC-15M
Cisco	SFP-10G-AOC3M-L	MSA	LN-SFP10G-AOC-1M
Cisco	SFP-10G-AOC4M-L	MSA	LN-SFP10G-AOC-20M
Cisco	SFP-10G-AOC5M-L	MSA	LN-SFP10G-AOC-25M
Cisco	SFP-10G-AOC7M-L	MSA	LN-SFP10G-AOC-2M
Cisco	SFP-10G-AOC20M-L	MSA	LN-SFP10G-AOC-30M
Cisco	SFP-10G-AOC25M-L	MSA	LN-SFP10G-AOC-3M
Cisco	SFP-10G-AOC30M-L	MSA	LN-SFP10G-AOC-4M
Cisco	SFP-10G-AOC10M-L	MSA	LN-SFP10G-AOC-5M
Cisco	SFP-10G-AOC12M-L	MSA	LN-SFP10G-AOC-7M
Cisco	SFP-10G-AOC15M-L	MSA	SFP10G-AOC-1M-L
Cisco	SFP-10G-AOC1M-L	MSA	SFP10G-AOC-2M-L
Dell	AOC-SFP-10G-1M-L	MSA	SFP10G-AOC-3M-L
Dell	AOC-SFP-10G-2M-L	MSA	SFP10G-AOC-4M-L
Dell	AOC-SFP-10G-3M-L	MSA	SFP10G-AOC-5M-L
Dell	AOC-SFP-10G-4M-L	MSA	SFP10G-AOC-7M-L
Dell	AOC-SFP-10G-5M-L	MSA	SFP10G-AOC-10M-L
Dell	AOC-SFP-10G-7M-L	MSA	SFP10G-AOC-15M-L
Dell	AOC-SFP-10G-10M-L	MSA	SFP10G-AOC-20M-L
Dell	AOC-SFP-10G-15M-L	MSA	SFP10G-AOC-25M-L
Dell	AOC-SFP-10G-20M-L	MSA	SFP10G-AOC-30M-L
Dell	AOC-SFP-10G-25M-L	Palo Alto	PAN-SFP-PLUS-AOC-12M-L
Dell	AOC-SFP-10G-30M-L	Palo Alto	PAN-SFP-PLUS-AOC-1M-L
Dell	470-ABLT-L	Palo Alto	PAN-SFP-PLUS-AOC-2M-L
Dell	470-ABLU-L	Palo Alto	PAN-SFP-PLUS-AOC-3M-L
Dell	470-ABLV-L	Palo Alto	PAN-SFP-PLUS-AOC-4M-L
Dell	470-ABLZ-L	Palo Alto	PAN-SFP-PLUS-AOC-5M-L
Dell	470-ABMD-L	Palo Alto	PAN-SFP-PLUS-AOC-7M-L

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Dell	470-ABMJ-L	Palo Alto	PAN-SFP-PLUS-AOC-10M-L
Dell	470-ABML-L	Palo Alto	PAN-SFP-PLUS-AOC-15M-L
Dell	AOC-SFP-10G-12M-L	Palo Alto	PAN-SFP-PLUS-AOC-20M-L
Extreme	10G-AOC-SFP1M -L	Palo Alto	PAN-SFP-PLUS-AOC-25M-L
Extreme	10G-AOC-SFP1M-L	Palo Alto	PAN-SFP-PLUS-AOC-30M-L
Extreme	10G-AOC-SFP2M-L	Siemon	S1S10F-V12.0M13-L
Extreme	10G-AOC-SFP3M-L	Siemon	S1S10F-V04.0M13-L
Extreme	10G-AOC-SFP4M-L	Siemon	S1S10F-V01.0M13-L
Extreme	10G-AOC-SFP5M-L	Siemon	S1S10F-V02.0M13-L
Extreme	10G-AOC-SFP7M-L	Siemon	S1S10F-V03.0M13-L
Extreme	10G-AOC-SFP10M-L	Siemon	S1S10F-V05.0M13-L
Extreme	10G-AOC-SFP15M-L	Siemon	S1S10F-V07.0M13-L
Extreme	10G-AOC-SFP20M-L	Siemon	S1S10F-V10.0M13-L
Extreme	10G-AOC-SFP25M-L	Siemon	S1S10F-V15.0M13-L
Extreme	10G-AOC-SFP30M-L	Siemon	S1S10F-V20.0M13-L
Finisar	FCBG110SD1C01-L	Siemon	S1S10F-V25.0M13-L
Finisar	FCBG110SD1C02-L	Siemon	S1S10F-V30.0M13-L
Finisar	FCBG110SD1C03-L	Supermicro	CBL-SFP+AOC-12M-L
Finisar	FCBG110SD1C04-L	Supermicro	CBL-SFP+AOC-1M-L
Finisar	FCBG110SD1C05-L	Supermicro	CBL-SFP+AOC-2M-L
Finisar	FCBG110SD1C07-L	Supermicro	CBL-SFP+AOC-3M-L
Finisar	FCBG110SD1C20-L	Supermicro	CBL-SFP+AOC-4M-L
Finisar	FCBG110SD1C25-L	Supermicro	CBL-SFP+AOC-5M-L
Finisar	FCBG110SD1C30-L	Supermicro	CBL-SFP+AOC-7M-L
Finisar	FCBG110SD1C10-L	Supermicro	CBL-SFP+AOC-10M-L
Finisar	FCBG110SD1C12-L	Supermicro	CBL-SFP+AOC-15M-L
Finisar	FCBG110SD1C15-L	Supermicro	CBL-SFP+AOC-20M-L
Intel	SFP10G-IN-AOC-1M-L	Supermicro	CBL-SFP+AOC-25M-L
Intel	SFP10G-IN-AOC-2M-L	Supermicro	CBL-SFP+AOC-30M-L
Intel	SFP10G-IN-AOC-3M-L	Ubiquiti	SFP10G-U-AOC-12M-L
Intel	SFP10G-IN-AOC-4M-L	Ubiquiti	SFP10G-U-AOC-1M-L
Intel	SFP10G-IN-AOC-5M-L	Ubiquiti	SFP10G-U-AOC-2M-L
Intel	SFP10G-IN-AOC-7M-L	Ubiquiti	SFP10G-U-AOC-3M-L

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Intel	SFP10G-IN-AOC-10M-L	Ubiquiti	SFP10G-U-AOC-4M-L
Intel	SFP10G-IN-AOC-15M-L	Ubiquiti	SFP10G-U-AOC-5M-L
Intel	SFP10G-IN-AOC-20M-L	Ubiquiti	SFP10G-U-AOC-7M-L
Intel	SFP10G-IN-AOC-25M-L	Ubiquiti	SFP10G-U-AOC-10M-L
Intel	SFP10G-IN-AOC-30M-L	Ubiquiti	SFP10G-U-AOC-15M-L
Intel	SFP10G-IN-AOC-12M-L	Ubiquiti	SFP10G-U-AOC-20M-L
Juniper	JNP-10G-AOC-12M-L	Ubiquiti	SFP10G-U-AOC-25M-L
Juniper	JNP-10G-AOC-1M-L	Ubiquiti	SFP10G-U-AOC-30M-L