

# SO-SFP-10GE-AOCxM

SFP+, AOC, 1m to 300m

## OVERVIEW

The SO-SFP-10GE-AOCxM Active Optical Cables are direct-attach fiber assemblies with SFP+ connectors with very good power consumption performance. Suitable for short distances instead of discrete transceivers and cables and offer a cost-effective way to connect within racks and across adjacent racks. SO-SFP-10GE-AOCxM length is up to 300 meters on OM3 MMF.

## PRODUCT FEATURES

- Low power consumption <0.35W per end
- Electrical interface compliant to SFF-8431
- Up to 300m on OM3 MMF
- 850nm VCSEL transmitter, PIN photo-detector receiver
- Operating case temperature 0 °C to +70°C
- 3.3V power supply voltage
- RoHS 6 compliant
- Hot Pluggable SFP+ form factor
- Good EMI performance

## APPLICATIONS

- 10 Gigabit Ethernet
- 1x InfiniBand QDR, DDR, SDR
- High-performance computing clusters
- 8/4G Fibre Channel Applications
- Servers, switches, storage, host card adapters and datacenter

## ORDERING INFORMATION

Part Number	Description
SO-SFP-10GE-AOC1M	SFP+, AOC, 1m
SO-SFP-10GE-AOC2M	SFP+, AOC, 2m
SO-SFP-10GE-AOC3M	SFP+, AOC, 3m
SO-SFP-10GE-AOC4M	SFP+, AOC, 4m
SO-SFP-10GE-AOC5M	SFP+, AOC, 5m
SO-SFP-10GE-AOC7M	SFP+, AOC, 7m
SO-SFP-10GE-AOC10M	SFP+, AOC, 10m
SO-SFP-10GE-AOCxm	SFP+, AOC, xm

\*Other lengths are available. Please contact sales@smaroptics.com for more details

Subject to change without notice.

For more information, visit smaroptics.com.

## ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Min	Max	Unit
Storage Temperature	Tst	-20	85	degC
Relative Humidity (non-condensation)	RH	-	85	%
Operating Case Temperature	TOPC	-	70	degC
Supply Voltage	VCC	-0.3	3.6	V
Input Voltage	Vin	-0.3	VCC +0.3	V

Notes:

The operation in excess of any absolute maximum ratings might cause permanent damage to this module.

## RECOMMENDED OPERATION CONDITIONS AND SUPPLY REQUIREMENTS

Parameter	Symbol	Min	Typical	Max	Unit
Operating Case Temperature	Topc	0		70	degC
Power Supply Voltage	VCC	3.13	3.3	3.47	V
Power Consumption (per end)		-		0.35	W
Data Rate	DR		10.3		Gbps
Data Speed Tolerance	ΔDR	-100		+100	ppm

## OPTICAL CHARACTERISTICS

All parameters are specified under the recommended operating conditions with PRBS31 data pattern unless otherwise specified.

Parameter	Symbol	Min	Typical	Max	Unit
<b>Transmitter</b>					
Center Wavelength	λC	840	850	860	nm
Average Optical Power	PAVG	-6			dBm
Rise/Fall Time	Tr/Tf			50	ps
Extinction Ratio	ER	3.5			dB
Relative Intensity Noise	Rin			-128	dB/Hz
Optical Return Loss Tolerance	TOL			12	dB
Transmitter Reflectance	RT			-12	dB

<b>Receiver</b>					
Center Wavelength	λC	840	850	860	nm
Overload, each lane	OVL	-			dBm
Receiver Sensitivity in OMA, each lane	SEN			-11	dBm

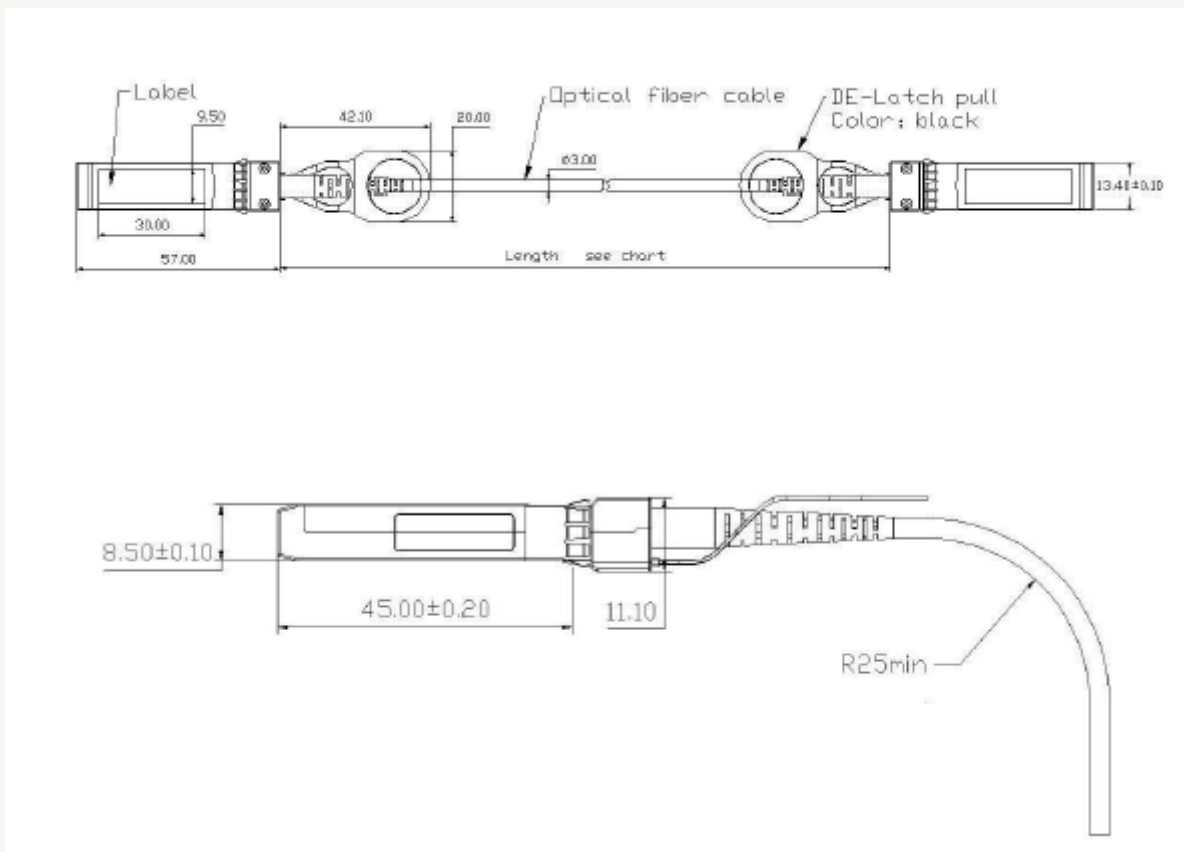
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## ELECTRICAL SPECIFICATIONS

Parameter	Symbol	Min	Typical	Max	Unit
Differential Input Impedance	Zin	90	100	110	ohm
Differential Output Impedance	Zout	90	100	110	ohm
Differential Input Voltage Amplitude	$\Delta V_{in}$	100		1800	mVp-p
Differential Output Voltage Amplitude	$\Delta V_{out}$	400		800	mVp-p
Bit Error Rate	BR				E-12
Input Logic Level High	V <sub>IH</sub>	2.0		VCC	V
Input Logic Level Low	V <sub>IL</sub>	0		0.8	V

## MECHANICAL DIMENSIONS



## ESD

This transceiver is specified as ESD threshold 1KV for high speed data pins and 2KV for all others electrical input pins, tested per MIL-STD-883, Method 3015.4 /JESD22-A114-A (HBM). However, normal ESD precautions are still required during the handling of this module. This transceiver is shipped in ESD protective packaging. It should be removed from the packaging and handled only in an ESD protected environment.

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