

10Gbps SFP+ Active Optical Cables

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
- 4G and 8G Fibre Channel Applications
- Servers, switches, storage , host card adapters and datacenter

Description

The SINOVO' S SFP+ Active Optical Cables are direct-attach fiber assemblies with SFP+ connectors. They have very good power consumption performance .They are suitable for very short distances and offer a cost-effective way to connect within racks and across adjacent racks. SINOVO SFP+ Active Optical Cables' s length is up to 300 meters on OM3 MMF.

Absolute Maximum Ratings

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

Parameter	Symbo	Mi	M	Unit	Not
Storage Temperature	TST	-	85	deg	
Relative Humidity(non-condensing)	RH	0	85	%	
Operating Case Temperature	TOP	0	70	deg	
Supply Voltage	VCC	-0.3	3.6	V	
Input Voltage	Vi	-0.3	Vcc+0.	V	

Recommended Operating Conditions and Supply Requirements

Parameter	Symb	Min	Typical	Max	Un
Operating Case Temperature	TOPC	0		70	deg
Power Supply Voltage	VCC	3.13	3.3	3.47	V
Power Consumption(per end)		-		0.35	W
Data Rate	DR		10.3		Gbp
Data Speed Tolerance	Δ DR	-100		+100	ppm

Optical Characteristics

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

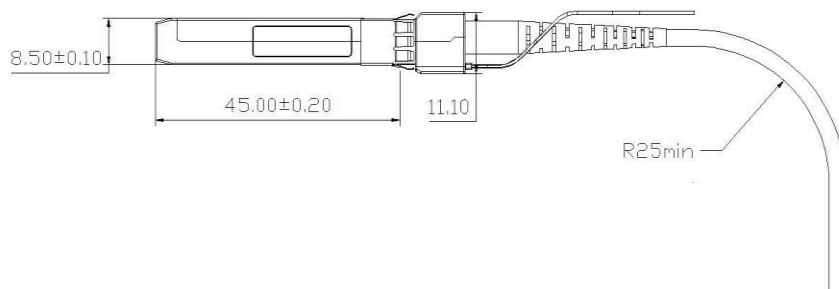
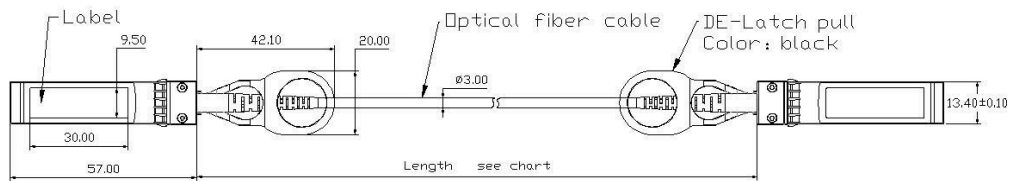
Parameter	Symbol	Min	Typical	Max	Unit	Notes
Transmitt						
Center Wavelength	λ	84	850	860	nm	
Average optical Power	PAVG	-6			dBm	
Rise/Fall Time	Tr/Tf			50	ps	
Extinction Ratio	E	3.			dB	
Relative Intensity Noise	Rin			-	dB/H	
Optical Return Loss Tolerance	TOL			12	dB	
Transmitter Reflectance	R			-12	dB	

Receiv						
Center Wavelength	λ	84	850	86	nm	
Overload, each lane	OV	-			dBm	
Receiver Sensitivity in OMA, each Lane	SE N			- 11	dBm	

Electrical Specifications

Parameter	Symbo	Min	Typical	Max	Unit
Differential input impedance	Zin	90	100	110	ohm
Differential Output impedance	Zout	90	100	110	ohm
Differential input voltage amplitude aAmplitude	ΔV_{in}	100		1800	mVp-p
Differential output voltage amplitude	ΔV_{out}	400		800	mVp-p
Bit Error Rate	BR				E-
Input Logic Level High	V _{IH}	2.0		V _{CC}	V
Input Logic Level Low	V _{IL}	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.



Order Information

Part Number	Product Description
SOAC-10G-A01M	1 meter SFP+ Active Optical Cable
SOAC-10G-A02M	2 meter SFP+ Active Optical Cable
SOAC-10G-A07M	7 meter SFP+ Active Optical Cable
SOAC-10G-A10M	10 meter SFP+ Active Optical Cable
SOAC-10G-AA1M	100 meter SFP+ Active Optical Cable

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