

100G QSFP28 Active Optical Cable

FEATURES

- Four-channel full duplex active optical cable
- Multi-rate capability: 10 Gbps to 25.78125 Gbps per channel
- Low power consumption: < 2.5 W per cable end
- Single 3.3 V power supply
- Maximum link length of 70m on OM3 or 100m on OM4
- Built-in digital diagnostic functions, compliant with SFF-8636
- Hot pluggable
- Commercial operating case temperature range: 0 to 70°C
- RoHS compliant



APPLICATION

• 10/25/40/100G Ethernet

PRODUCT SELECTION

Parameter	Length (m)
2368650-1	1
2368650-2	2
2368650-3	3
2368650-4	5
2368650-5	10
2368650-6	15
2368650-7	20
2368650-8	30
Note: For availability of additional ca	able lengths, please contact TE.



1. ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Min	Max	Unit
Power Supply Voltage	Vcc	-0.5	3.6	V
Storage Temperature	Tst	-40	85	ōC
Case Operating Temperature	Тор	0	70	ōC
Relative Humidity (non-condensing)	RH	0	85	%

2. RECOMMENDED OPERATING CONDITIONS

Parameter	Symbol	Min	Тур	Max	Unit	Note
Power Supply Voltage	VCC	3.135	3.3	3.465	V	
Power Supply Current	ICC	-	-	750	mA	per cable end
Power Dissipation	Р	-	-	2.5	W	per cable end
Bit Rate	BR	-	25.78125	-	Gbps	each channel

3. GENERAL PRODUCT CHARACTERISTICS

Parameter	Value	Notes		
Module Form Factor	QSFP28			
Number of Lanes	4 Tx and 4 Rx			
Maximum Aggregate Data Rate	103.125 Gbps			
Maximum Data Rate per Lane	25.781 Gbps	Data rates other than 25.781 Gbps is available through request and customization		
Bit Error Ratio, Pre-FEC	5x10 ⁻⁵	Tested with PRBS31. Pre-FEC BER of 10 ⁻¹² supported through request and customization		
Standard Cable Lengths	1, 2, 3, 5, 10, 15, 20, 30	Other lengths may be available upon request		
Electrical Interface and Pin-out	38-pin edge connector	Pin-out as defined by QSFP28 MSA SFF-8679		
Standard Optical Cable Type	Multimode round fiber cable, OFNP rated cable may be Upon request OFNP rated cable may be Upon request			
Maximum Power Consumption per Cable End	2.5 W			
Management Interface	Serial, I2C-based, 400kHz maximum frequency	As defined by the QSFP28 MSA SFF- 8636		

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ELECTRICAL CHARACTERISTICS 4.

Low speed electrical specifications are compliant with SFF-8679 clause 5.

High speed electrical specifications are compliant with SFF-8679 clause 5, OIF CEI-VSR-28G/IEEE CAUI-4 over operating case temperature 0 to 70° C and VCC 3.3 ± 5% Volts.

Parameter	Min	Max	Unit	Note
	Module Electrica	al Input		
Overload Differential Voltage pk-pk	900	-	mV	
Common Mode Voltage (Vcm)	-350	2850	mV	1
Differential Termination Resistance Mismatch	-	10	%	
Differential Return Loss (SDD11)	CEI-VSR-28G Equation 13-19		dB	
Common Mode to Differential conversion and Differential to Common Mode conversion (SDC11, SCD11)	CEI-VSR-28G Equation 13-20		dB	
Stressed Input Test	CEI-VSR-28G Section 13.3.11.2.1			
	Module Electric	al Output		
Differential Voltage, pk-pk	-	900	mV	
Common Mode Voltage (Vcm)	-350	2850	mV	1
Common Mode Noise, RMS	-	17.5	mV	
Differential Termination Resistance Mismatch (at 1 MHz)	-	10	%	
Differential Return Loss (SDD22)	CEI-VSR-28G Equation 13-19		dB	
Common Mode to Differential conversion and Differential to Common Mode Conversion (SDC22, SCD22)	CEI-VSR-28G Equation 13-21		dB	
Common Mode Return Loss (SCC22) – from 250 MHz to 30 GHz	-	-2	dB	
Transition Time, 20 to 80%	9.5	-	ps	
Vertical Eye Closure (VEC)	-	5.5	dB	
Eye Width at 10-15 probability (EW15)	0.57	-	UI	
Eye Height at 10-15 probability (EH15)	228	_	mV	

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5. PIN ASSIGNMENT

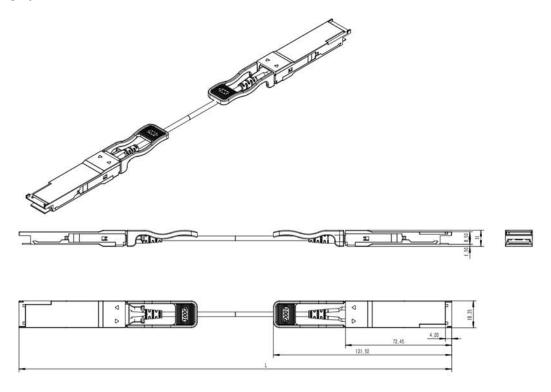
Pin assignment is compliant with SFF-8679.

6. MEMORY MAP

The memory map is compatible with SFF-8636, and customization can be supported.

7. MECHANICAL SPECIFICATIONS

Unit: mm



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