NoviConnect™ 533 100G QSFP28 ER Transceiver

NoviConnect 533. This Industry Standard 100GBase-ER4 QSFP28 Transceiver offers up to 40km transmission on SMF, is certified for optimal performance with NoviFlow switching products, and is fully compliant with MSA (Multi-Source Agreement) standards. All NoviConnect products from NoviFlow are 100% functionally tested to ensure trouble-free installation and operation when used with NoviFlow's NoviSwitch network products.

NoviConnect Transceivers are factory programmed with specific configuration data required for seamless networking compliance and for optimal network performance when used with NoviFlow switching products. These transceivers can be mixed and connected to devices with MSA industry standard compliant transceivers, for outstanding network performance.

NoviFlow Inc.™ aims to change the traditional approach to networking by making switching smarter. The company was founded to deliver upon the promise of SDN. Our SDN data plane products combine the benefits of virtualization and programmability with network processors that can handle complex flows, making it possible for data center and network operators to keep up with today's exponentially growing networking demand. In order to ensure the highest levels of network performance, seamless compatibility and trouble-free upgrades with our NoviSwitch and products, NoviFlow offers a complete line of high-performance and cost-effective SFP transceiver modules.

PRODUCT DESCRIPTION

The NoviConnect 533 100G QSFP28 ER4 Transceiver (40 Gbps over fiber) is a high performance, cost effective module supporting 100 Gigabit Ethernet and up to 40km transmission distance with single-mode fiber (SMF). Digital optical monitoring (DOM) support is also present to allow access to real-time operating parameters.

Key Features:

- SFF-8665 Compliance
- Duplex LC Connector
- Commercial Temperature 0 to 70 Celsius • Single-mode Fiber
- Hot Pluggable
- Excellent ESD Protection
- Metal with Lower EMI

Regulatory Compliance:

- ESD to the Electrical PINs: compatible with MIL-STD-883E Method 3015.4
- ESD to the LC Receptacle: compatible with IEC 61000-4-3
- EMI/EMC compatible with FCC Part 15 Subpart B Rules, EN55022:2010
- Laser Eye Safety compatible with FDA 21CFR, EN60950-1& EN (IEC) 60825-1,2
- RoHS compliant with EU RoHS 2.0 directive 2015/863/EU

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Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit
Storage Temperature	T_s	-40		85	°C
Operating Case Temperature	T_{op}	0	25	70	°C
Power Supply Voltage	Vcc	-0.5		4.0	V
Relative Humidity	RH	5		95	%
Data Rate PER Channel			25.78125		Gb/s

Electrical Characteristics

Parameter	Symbol	Min	Typ	Max	Unit	Notes
Supply Voltage	Vcc	3.135	3.3	3.465	V	
Module Supply Current	Icc			TBD	mA	
Power Dissipation	P_D			TBD	mW	
Transmitter						
Single-ended Input Voltage Tolerance		-0.3		4.0	V	
Input Differential Impedance	Z_{IN}		100		Ω	
Differential Data Input Swing	$V_{IN, P-P}$	190		700	mV_{P-P}	
AC Common Mode Input Voltage Tolerance		15			mV	
Differential Input Voltage Swing Threshold			50		mVpp	
Receiver						
Single-ended Output Voltage		-0.3		4.0	V	
Output Differential Impedance	Z_O	90	100	110	Ω	
Differential Data Output Swing	$V_{OUT, P-P}$	300		850	mV_{P-P}	
AC Common Mode Output Voltage				7.5	mV	

NOTES:

1. The optical power is launched into SMF.
2. Measured with a PRBS 2^{31}-1 test pattern @25.78125Gbps.
3. Measured with PRBS 2^{31}-1 test pattern, 25.78125Gb/s, BER 1.0E-12

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Optical Characteristics

Parameter	Symbol	Min	Typical	Max	Unit	Notes
Transmitter						
Launch Optical Power per lane	Po	-2.9		+2.9	dBm	1
Total Launch Optical Power	Po			+8.9	dBm	1
Center Wavelength Range	L1	1294.53	1295.56	1296.59	nm	
	L2	1299.02	1300.05	1301.09	nm	
	L3	1303.54	1304.58	1305.63	nm	
	L4	1308.09	1309.14	1310.19	nm	
Extinction Ratio	EX	8.0			dB	2
Spectral width(-20dB)	Δλ			1	nm	
Side Mode Suppression Ratio	SMSR	30			dB	
Optical Return Loss Tolerance	ORLT			20	dB	
Pout @TX-Disable Asserted	Poff			-30	dBm	1
Eye Mask {X1, X2, X3, Y1, Y2, Y3}		{0.25, 0.4, 0.45, 0.25, 0.28, 0.4}				
Receiver						
Center Wavelength	L1	1294.53	1295.56	1296.59	nm	
	L2	1299.02	1300.05	1301.09	nm	
	L3	1303.54	1304.58	1305.63	nm	
	L4	1308.09	1309.14	1310.19	nm	
Sensitivity per Channel (OMA)	S			-20.5	dBm	1
Overload (each channel)	POL	-7.0			dBm	1
Damage Threshold(each channel)	Pdamage	-6.0			dBm	
Receiver Reflectance	Rf			-26	dB	
LOS De-Assert	LOSD			-21.0	dBm	
LOS Assert	LOSA	-26.0			dBm	
LOS Hysteresis		0.5			dB	

Notes:

1. Module circuit ground is isolated from module chassis ground with in the module.
2. Open collector; should be pulled up with 4.7k-10k ohms on host board to a voltage between 3.15V and 3.6V.

ORDERING INFORMATION MODEL NUMBER 400-000-533

FOR MORE INFORMATION

www.noviflow.com | contact@noviflow.com

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