

NVSM550U

(1-P 1000Base-SX Mini-GBIC Module (SM, SFP)

More information:
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Product Specification

Features

- Single Mode 1G Fiber Module
- Compliant with IEEE802.3z Gigabit Ethernet Standard
- Compliant with Fiber Channel 100-SM-LC-L Standard
- Industry standard small form pluggable (SFP) package
- Duplex LC connector
- Differential LVPECL inputs and outputs
- TTL signal detect indicator
- Hot Pluggable
- Class 1 laser product complies with EN 60825-1

Application

- Distributed multi-processing
- Switch to switch interface
- High speed I/O for file server
- Bus extension application
- Channel extender, data storage

Specifications

Absolute Maximum Ratings

PARAMETER	SYMBOL	MIN	MAX	UNITS
Storage Temperature	T_S	−40	85	°C
Supply Voltage	*Vcc*	−0.5	4.0	V
Input Voltage	V_{IN}	−0.5	*Vcc*	V
Output Current	I_o	---	50	mA
Operating Current	I_{OP}	---	400	mA

Recommended Operating Conditions

PARAMETER	SYMBOL	MIN	MAX	UNITS
Case Operating Temperature	T_C	0	70	°C
		-40	85	°C
Supply Voltage	*Vcc*	3.1	3.5	V
Supply Current	$I_{TX} + I_{RX}$	---	250	mA

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Transmitter Electro-optical Characteristics

***Vcc* = 3.1 V to 3.5 V, T_C = 0 °C to 70 °C (-40 °C to 85 °C)**

PARAMETER	SYMBOL	MIN	TYP.	MAX	UNITS	NOTE
Output Optical Power 9/125 μm fiber	P_{out}	−9.5	---	−3	dBm	Average
Extinction Ratio	*ER*	9	---	---	dB	
Center Wavelength	λ_C	1270	1310	1355	nm	
Spectral Width (RMS)	$\Delta\lambda$	---	---	2.5	nm	
Rise/Fall Time, (20–80%)	$T_{r,f}$	---	---	260	ps	
Relative Intensity Noise	*RIN*	---	---	−120	dB/Hz	
Total Jitter	*TJ*	---	---	227	ps	
Output Eye			Compliant with IEEE802.3z			
Max. P_{out} TX-DISABLE Asserted	P_{OFF}	---	---	−45	dBm	
Differential Input Voltage	V_{DIFF}	0.4	---	2.0	V	

Receiver Electro-optical Characteristics

***Vcc* = 3.1 V to 3.5 V, T_C = 0 °C to 70 °C (-40 °C to 85 °C)**

PARAMETER	SYMBOL	MIN	TYP.	MAX	UNITS	NOTE
Optical Input Power-maximum	P_{IN}	−3	---	---	dBm	BER < 10^{-12}
Optical Input Power-minimum (Sensitivity)	P_{IN}	---	---	−20	dBm	BER < 10^{-12}
Operating Center Wavelength	λ_C	1260	---	1610	nm	
Optical Return Loss	*ORL*	12	---	---	dB	
Signal Detect-Asserted	P_A	---	---	−20	dBm	
Signal Detect-Deasserted	P_D	−35	---	---	dBm	
Stressed Receiver Sensitivity		---	---	−14.4	dBm	Note 1, 2
Differential Output Voltage	V_{DIFF}	0.5	---	1.2	V	
Data Output Rise, Fall Time (20–80%)	$T_{r,f}$	---	---	0.35	ns	
Receiver Loss of Signal Output Voltage-Low	RX_LOS_L	0	---	0.5	V	
Receiver Loss of Signal Output Voltage-High	RX_LOS_H	2.4	---	V_{CC}	V	

Note 1: Measured with conformance test signal at TP3 for BER = 10^{-12} at the eye center.

Note 2: Measured with a transmit signal having a 9 dB extinction ratio. If another extinction ratio is used, the Stressed receiver sensitivity should be corrected for the extinction ratio penalty.

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Eye Safety Mark

The series singlemode transceiver is a class 1 laser product. It complies with EN 60825-1 and FDA 21 CFR 1040.10 and 1040.11. In order to meet laser safety requirements the transceiver shall be operated within the Absolute Maximum Ratings. ***Caution*** **All adjustments have been done at the factory before the shipment of the devices. No maintenance and user serviceable part is required. Tampering with and modifying the performance of the device will result in voided product warranty.**	Required Mark **Class 1 Laser Product** **Complies with** **21 CFR 1040.10 and 1040.11**

Note : All information contained in this document is subject to change without notice.

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