

# QSFP-100G-LR4-SY

100GBASE-LR4 QSFP28, 1295.56/1300.05/1304.58/1309.14 nm, 10 km SMF TRANSCEIVER

## 1. FEATURES AND SPECIFICATIONS

- ▶ Form Factor: **QSFP28**
- ▶ Operating Data Rate: **100G**
- ▶ Protocol(s): **100GE**
- ▶ Fiber Type: **SMF**
- ▶ Technique: **LR4**
- ▶ Lane Count: **4**
- ▶ Wavelength(s)/Channel(s): **1295.56/1300.05/  
1304.58/1309.14 nm**
- ▶ Nominal Distance: **10 km**
- ▶ Nominal Power Budget: **6.2 dB**
- ▶ Connector: **LC duplex**
- ▶ Temperature Range: **0 to 70°C, -40 to 85°C**
- ▶ Compliance: **MSA QSFP28, IEEE 802.3ba,  
SFF-8636**
- ▶ Monitoring: **Digital diagnostic monitor interface**
- ▶ Laser Type: **EML**
- ▶ Receiver Type: **PIN**
- ▶ Power Dissipation: **4 W**

## 2. ABSOLUTE CHARACTERISTICS

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT
SIGNAL INPUT VOLTAGE	$V_{IN}$	-0.3	-	3.9	V
POWER SUPPLY VOLTAGE	$V_{CC}$	-0.5	-	3.6	V
OPERATING TEMPERATURE	$T_{CASE}$	0	-	70	°C
STORAGE TEMPERATURE	$T_S$	-40	-	85	°C

### 3. ELECTRICAL OPERATING CONDITIONS

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT
SUPPLY CURRENT	$I_{CC}$	-	-	1.1	A
SUPPLY VOLTAGE	$V_{CC}$	3.13	3.3	3.47	V

### 4. OPTICAL CHARACTERISTICS

#### RECEIVER

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT
OPTICAL WAVELENGTH	$\lambda_C$	1294.53/1299.02/ 1303.54/1308.09	1295.56/1300.05/ 1304.58/1309.14	1296.59/1301.09/ 1305.63/1310.19	nm
LOS HYSTERESIS	$LOS_H$	0.5	-	-	dB
LOS ASSERT	$LOS_A$	-26	-18	-	dBm
LOS DE-ASSERT	$LOS_D$	-	-15	-	dBm
RX MAX. SENSITIVITY	$P_{MIN}$	-	-	-10.5	dBm
DAMAGE THRESHOLD	$P_{MAX}$	4.5	-	-	dBm

#### TRANSMITTER

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT
OPTICAL WAVELENGTH	$\lambda_C$	1294.53/1299.02/ 1303.54/1308.09	1295.56/1300.05/ 1304.58/1309.14	1296.59/1301.09/ 1305.63/1310.19	nm
OPTICAL EXTINCTION RATIO	ER	4	-	-	dB
SIDE MODE SUPPRESSION RATIO	SMSR	30	-	-	dBm
SPECTRAL WIDTH	$\Delta\lambda$	-	-	1	dBm
OPTICAL TRANSMIT POWER	$P_{OUT}$	-4.3	-	4.5	dBm

## 5. ORDERING INFORMATION

PART NAME	DESCRIPTION
<b>QSFP-100G-LR4-SY</b>	100GBase LR4 QSFP28, 1295.56/1300.05/1304.58/1309.14 nm, 10 km over SMF, LC duplex, speeddy
<b>QSFP-100G-LR4-I-SY</b>	100GBase LR4 QSFP28, 1295.56/1300.05/1304.58/1309.14 nm, 10 km over SMF, LC duplex, Industrial temperature -40 to 85°C, speeddy

## 6. COMPATIBILITY

ACCEDIAN NETWORKS (7QN-000), ADTRAN (1445510F2C), ADVA (1061800720-01), ALCATEL-LUCENT ENT. (QSFP-100G-LR4), ARISTA NETWORKS (QSFP-100G-LR4), AVAYA/NORTEL (AA1405001-E6), AXON (QSFP28-LR4), BITTWARE (QSFP28-LR4), BROCADE (100G-QSFP28-LR4L-10KM), CHECK POINT (CPAC-TR-100LR), CHELSIO (QSFP28-LR4, SM100G-LR), CIENA (160-9401-900, 160-9401-901), CISCO SYSTEMS (ONS-QSFP28-LR4, QSFP-100G-LR4-S), CISCO/MERAKI (MA-QSFP-100G-LR4), CORIANT (ZXS-Q8L-4ZZZZ-00), CUMULUS NETWORKS (QSFP28-LR4), DELL (407-BBSL, 407-BCDH, QSFP28-100G-LR4), ECI (OTR100Q28\_LR4), EDGE CORE (ET7402-LR4, QSFP28-LR4), EXTREME (100G-LR4-QSFP10KM, 10403), F5 NETWORKS (OPT-0039-01), FORTINET (FG-TRAN-QSFP28-LR4), GIGAMON (Q28-503), GRASSVALLEY (QSFP28-LR4), HP H3C (JL275A), HUAWEI (QSFP28-100G-LR4, 02313URT), INFINERA (TOM-100G-Q-LR4, TOM-100G-Q-LR4L), JUNIPER (JNP-QSFP-100G-LR4, QSFP-100G-LR4-2, QSFP-100G-LR4-T2, QSFP-100GBASE-LR4), KEYSIGHT/IXIA (QSFP28-LR4), LENOVO (7G17A03540), MIKROTIK (XQ+31LC10D), MSA (QSFP-100G-LR4), NETAPP (X65405), NETGEAR (ACM762), NOKIA NETWORKS (3AL82074AA), NOKIA/ALCATEL-LUCENT (3HE10550AA), NOVIFLOW (400000515, 400000518), NVIDIA/MELLANOX (MMA1L10-CR), PACKETLIGHT (QSFP28-LR4-S-1102), PALO ALTO NETWORKS (PAN-QSFP28-100GBASE-LR4), PLANET (QSFP-100G-LR4), RAD (QSFP28-1D), SONICWALL (QSFP28-LR4), SPIRENT (ACC-6096A)

## 7. WARNINGS AND SECURITY INFORMATION



**CAUTION:** Class 1 visible laser radiation present. Long term viewing of the laser can be harmful to the human eye.



This equipment has been tested according to European legislation and has been found safe, non-intervening with other electronic devices and is not subject to interference from other electronic devices



Hazardous Goods; our products are fully compliant with Directive 2011/65/EU (RoHS II) and 2002/95 EC (RoHS I)

**Laser Class 1**

Our products comply with 21 CFR 1040.10 and 1040.11, except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007



Only (dis)connect the transceivers in an ESD Protected Area while using certified equipment and taking all necessary precautions as specified in IEC 61340-5-1.

## 8. DISCLAIMER AND LEGAL NOTICES

Speeddy makes no warranties or representations, expressed or implied, of any kind relative to the information or any portion thereof contained in this document or its adaptation or use, and assumes no responsibility or liability of any kind, including, but not limited to, indirect, special, consequential or incidental damages, for any errors or inaccuracies contained in the information or arising from the adaptation or use of the information or any portion thereof. The information in this document is subject to change without notice. Speeddy and the Speeddy logo are registered trademarks of renewtech B.V. All other trademarks are acknowledged as registered trademarks and proprietary to their respective owners. Copyright © 2023 renewtech B.V., Dutch Chamber of Commerce no. 75699877, all rights reserved. For more information visit [www.speeddy.com](http://www.speeddy.com)