



RiT QSFP-SR4-100G compatible 40GBASE-SR4 QSFP28 transceiver provides 100G throughput up to 70/100m over multi-mode fiber (MMF) using a wavelength of 850nm via an MPO-12 connector.

KEY APPLICATIONS

- 100G BASE-SR4 Ethernet Links
- Infiniband interconnects
- Breakout to 4x 25GBASE-SR Ethernet
- Data Centers Switches and Routers

STANDARDS COMPLIANT

- Compliant with QSFP28 MSA
- Compliant to IEEE 802.3bm
- Compliant to SFF-8636
- Compliant with RoHS

KEY FEATURES

- QSFP28 form factor
- Hot Pluggable
- Compliant to 100G Ethernet IEEE802.3bm and 100GBASE-SR4 Standard
- Compliant to QDR Infiniband data rates
- Supports 101.3Gb/s aggregate bit rate
- Digital diagnostic SFF-8436 compliant
- Single MPO-12 receptacle
- Operating case temperature: 0 to 70°C
- Maximum power consumption 2.5W
- Maximum link length of 70m links on OM3 multimode fiber or 100m links on OM4 multimode fiber



Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit	Notes
Storage Temperature	T _{STG}	-40	85	°C	
Power Supply Voltage	V _{CC}	-0.3	+3.6	V	
Relative Humidity (non-condensation)	Rh	5	90	%	
Input Voltage	V _{IN}	-0.3	V _{CC} +0.3	V	
Damaged Threshold per Lane	DT	3.0		dBm	

Recommended Operating Conditions and Power Supply Requirements

Parameter	Symbol	Min	Typical	Max	Unit	Notes
Operating Case Temperature	T _c	0		70	°C	
Operating Humidity	Rh	5		85	%	
Data Rate, per Lane	DR		25.78125		Gbps	
Power Consumption	P _w			2.5	W	

Electrical Characteristics

Parameter	Symbol	Min	Typical	Max	Unit	Notes
Power Supply Voltage	V _{CC}	3.13	3.3	3.47	V	
Power Supply Current	I _{CC}			750	mA	
Transmitter						
Input differential impedance	R _{in}		100		Ω	
Differential data input swing	V _{in,pp}	180		1000	mV	
Single ended input voltage tolerance	V _{inT}	-0.3		4.0	V	
Receiver						
Differential data output swing	V _{out,pp}	300		850	mV	
Single-ended output voltage		-0.3		4.0	V	

Optical Characteristics

Parameter	Symbol	Min	Typical	Max	Unit	Notes
Optical Transmitter Characteristics						
Center Wavelength	λ _{out}	840	850	860	nm	
Average Launch Power each lane	P _{out}	-8.4		2.4	dBm	
Spectral Width (RMS)	σ			0.6	nm	
Optical Power OMA, each Lane	P _{OMA}	-6.4		3	dBm	
Transmitter and dispersion eye closure (TDEC) each lane	TDEC			4.3	dB	
Optical Extinction Ratio	ER	2.0			dB	
Transmitter and Dispersion Penalty each lane	TDP			3.5	dB	
Optical Return Loss Tolerance	ORL			12	dB	
Average launch power of OFF transmitter, per lane				-30	dBm	
Transmitter eye mask definition {X1,X2,X3,Y1,Y2,Y3}		{0.3, 0.38, 0.45, 0.35, 0.41, 0.5}				1
Optical Receiver Characteristics						
Receiver Wavelength	λ _{in}	840		860	nm	
Average Receive Power per Lane	RXP _x	-10.3		2.4	dBm	
Stressed Receiver Sensitivity in OMA	SRS			-5.2	dBm	1
LOS Assert	LOSA	-30			dBm	
LOS De-Assert	LOSD			-10	dBm	
LOS Hysteresis		0.5			dB	
Receiver Reflectance	R _{fl}			-12	dB	

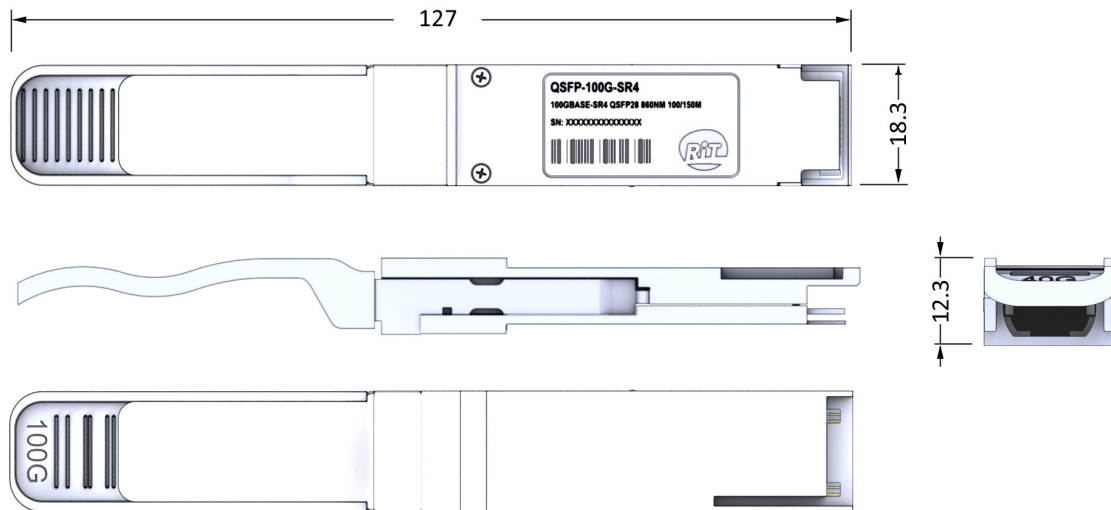
Notes:

1. Measured with a PRBS 2³¹-1 test pattern, @10.3125Gb/s, BER<5⁻⁵

Digital Diagnostic Functions

Parameter	Accuracy	Calibration	Note
Temperature	±3°C	Internal	0-70°C
Voltage	±3%	Internal	3.1-3.5V
Bias Current	±10%	Internal	Specified by normal value
TX Power	±3dB	Internal	-8.4-2.4dBm
RX Power	±3dB	Internal	-10.3-2.4dBm

Mechanical Dimensions



Ordering Information

P/N	DESCRIPTION
R8050101	100GBASE-SR4 QSFP28 MPO Transceiver