

RiT QSFP-SR4-40G compatible 40GBASE-SR4 QSFP+ transceiver provides 40G throughput up to 100/150m over single-mode fiber (SMF) using a wavelength of 850nm via an MPO-12 connector.

KEY APPLICATIONS

- 40G BASE-SR4 Ethernet Links
- Infiniband QDR interconnects
- Breakout to 4x 10GBASE-SR Ethernet
- Data Centers Switches and Routers

STANDARDS COMPLIANT

- Compliant to IEEE 802.3ba
- Compliant to SFF-8436
- RoHS Compliant

KEY FEATURES

- QSFP+ form factor
- Hot Pluggable
- Compliant to 40G Ethernet IEEE802.3ba and 40GBASE-SR4 Standard
- Compliant to QDR Infiniband data rates
- Multi-rate capability 1.06Gb/s to 10.5Gb/s per channel
- Digital diagnostic SFF-8436 compliant
- Single MPO-12 receptacle
- Operating case temperature: 0 to 70°C
- Maximum power consumption 1.5W
- Maximum link length of 100m links on OM3 multimode fiber or 150m links on OM4 multimode fiber

Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit	Notes
Storage Temperature	T _s	-40	85	°C	
Power Supply Voltage	V _{cc}	-0.3	4.0	V	
Relative Humidity (non-condensation)	RH	5	95	%	
Signal Input Voltage		V _{cc} -0.3	V _{cc} +0.3	V	

Recommended Operating Conditions and Power Supply Requirements

Parameter	Symbol	Min	Typical	Max	Unit	Notes
Case Operating Temperature	T _{case}	0		70	°C	Without air flow
Power Supply Voltage	V _{CC}	3.13	3.3	3.47	V	
Power Supply Current	I _{CC}			450	mA	
Data Rate	BR		10.3125		Gbps	Each channel
Transmission Distance	TD			100	m	OM3 MMF
				150	m	OM4 MMF

Electrical Characteristics

Parameter	Test Point	Min	Typical	Max	Unit	Notes
Supply Voltage	V _{cc}	3.13	3.3	3.47	V	
Supply Current	I _{cc}			450	mA	
Transmitter						
Input differential impedance	R _{in}		100		Ω	
Differential data input swing	V _{in,pp}	600		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
Transmitter						
Center Wavelength	λ _{out}	840		860	nm	
Average Launch Power each lane		-7.6		2.4	dBm	
Spectral Width (RMS)	σ			0.65	nm	
Optical Extinction Ratio	ER	3			dB	
Transmitter and Dispersion Penalty each lane	TDP			3.5	dB	
Optical Return Loss Tolerance	ORL			12	dB	
Transmitter eye mask definition{X1, X2, X3, Y1, Y2, Y3}		0.23, 0.34, 0.43, 0.27, 0.35, 0.4				
Receiver						
Receiver Wavelength	λ _{in}	840		860	nm	
Receiver sensitivity in OMA	SOMA			-11.5	dBm	1
LOS Assert	LOSA	-30			dBm	
LOS De-Assert	LOSD			-12	dBm	
LOS Hysteresis		0.5			dB	
Input Saturation Power (Overload)	Psat	2.4			dBm	
Receiver Reflectance	R _r			-12	dB	

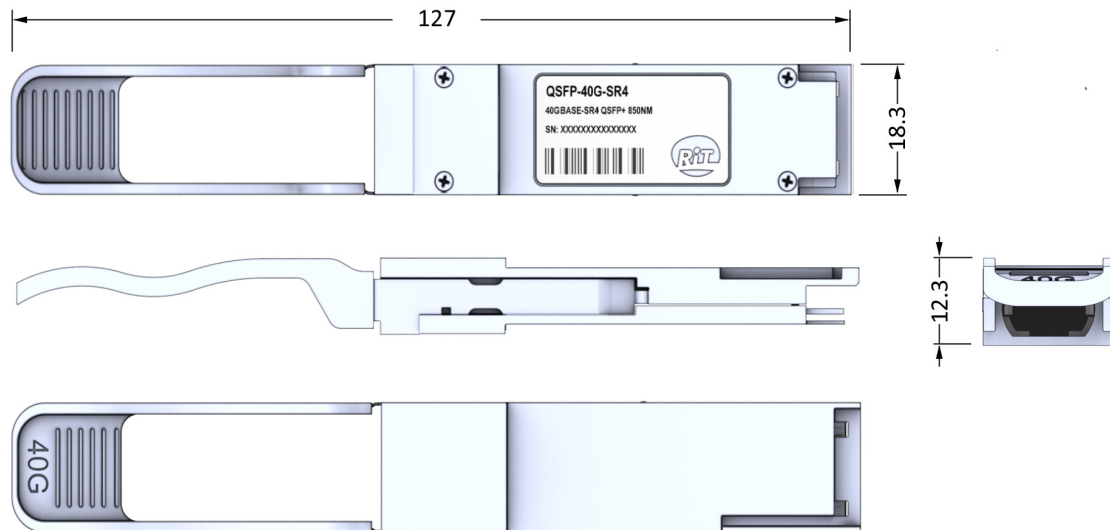
Notes:

1. Measured with a PRBS 2³¹-1 test pattern, @10.3125Gb/s, BER<10⁻¹²

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	±2dB	Internal	-7.6-2.4dBm
RX Power	±2dB	Internal	-18-2.4dBm

Mechanical Dimensions



Ordering Information

P/N	DESCRIPTION
R8040101	40GBASE-SR4 QSFP+ MPO Transceiver