

Features

- Support up to 40Gb/s bit rates
- Hot-pluggable QSFP+ footprint, Built-in digital diagnostic
- Maximum link length of 100m OM3 MMF and 150m OM4 MMF
- 850VCSEL laser and PIN photodiode
- QSFP+ MSA package with MPO connector
- +3.3V power supply
- Power dissipation < 1.5W
- Temperature range 0°C~70°C
- RoHS Compliant



Applications

- 40GBASE-SR4
- 40G-IB-QDR
- Parallel optical links

1. Absolute Maximum Ratings

These values represent the damage threshold of the module. Stress in excess of any of the individual absolute maximum ratings can cause immediate catastrophic damage to the module even if all other parameters are within recommended Operating conditions.

Parameter	Symbol	Min.	Max.	Unit	Notes
Storage Temperature	Ts	-40	85	°C	-
Operating Case Temperature	Top	0	70	°C	-
Power supply Voltage	Vcc	0	3.6	V	-
Relative Humidity	RH	0	85	%	-
Maximum Optical Input Power	Pin	3.4		dBm	-

2. Recommended Operating Conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit
Operating Case Temperature	TC	0		+70	°C
Power Supply Voltage	Vcc	3.14	3.3	3.47	V
Power Supply Current	ICC			430	mA
Power Dissipation	PD			1.5	W

Data Rate per Lane	DR		10.3125		Gbps
Link Distance on OM3 MMF				100	m
Link Distance on OM4 MMF				150	m

3. Transmitter Specifications (Electrical)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Differential Data Input Voltage Swing	V _{in} , p-p	500		1600	mV
Input Differential Impedance	R _{in}		100		Ω
Input High Voltage (ResetL - LPMode)	V _{IH}	+2.0		VCC	V
Input LOW Voltage (ResetL - LPMode)	V _{IL}	0		+0.8	V
Output High Voltage (IntL)	V _{OH}	VCC-0.5		VCC	V
Output LOW Voltage (IntL)	V _{OL}	0		+0.4	V

4. Transmitter Specifications (Optical)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Data Rate, each lane			10.3125	11.2		Gbps
Center wavelength	λ _C	840	850	860	nm	
RMS spectral width	Δλ			0.65	nm	10.3125Gps, PRBS2^31-1, NRZ
Extinction Ratio	ER	3	5		dB	
Average launch power	PO,AVG	-7.6		2.4	dBm	
Optical Modulation Amplitude (OMA)	PO,OMA	-5.6		3.0	dBm	
Difference in launch power between any two lanes (OMA)				4	dB	
Peak power	PO,PEAK			4	dBm	
Launch power in OMA minus TDP		-6.5			dBm	
Transmitter and Dispersion penalty (TDP)	TDP			3.5	dB	
Extinction Ratio	ER	3			dB	
Optical return loss tolerance				12	dB	
Average launch power of OFF transmitter	POFF			-30	dBm	
Encircled Flux		>86% at 19um <30% at 4.5um				

5. Receiver Specifications (Optical)

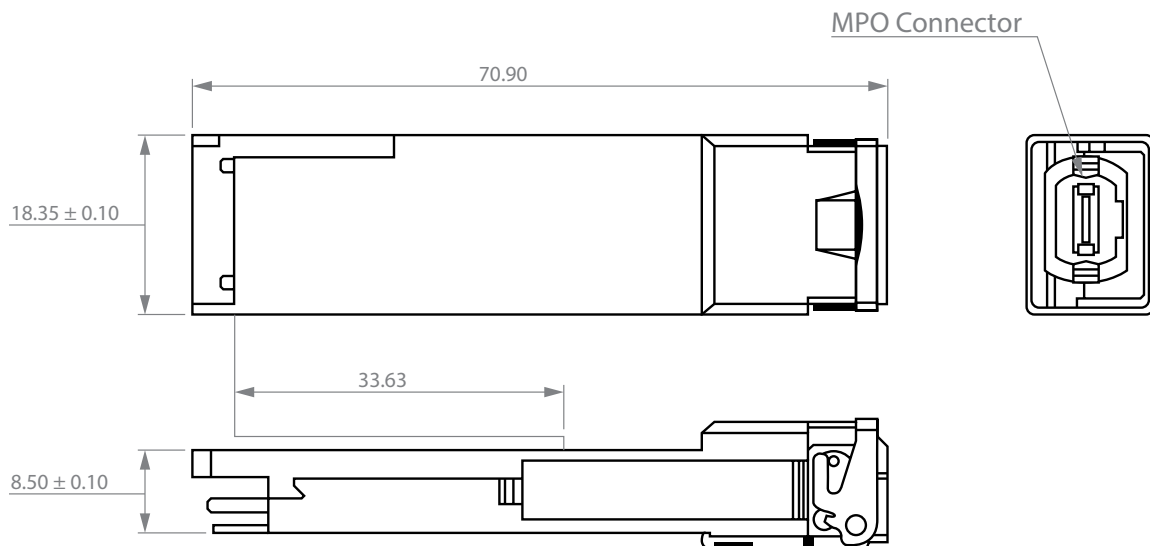
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Average receiver power	Pin, AVG	-9.5		2.4	dBm	
Receiver reflectance				-12	dBm	
Receiver power (OMA)	Pin, OMA			3	dBm	
Stressed receiver sensitivity (OMA)				-5.4	dBm	
Peak power	PO, PEAK			4	dBm	
LOS Assert	LOS	-30			dBm	
LOS De-assert	LOSD			-22	dBm	
LOS Hysteresis	LOSH	0.5			dBm	

6. Receiver Specifications (Electrical)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Differential Data Output Voltage Swing	Vout, p-p	200	800	mV		
Output Differential Impedance	Rout		100	Ω		

7. Mechanical Diagram

(Unit: MM)



Note: External physical characteristics are subject to variation. This may include, but is not limited to, external case designs, pull tab colors and/or shapes, removal latch styles or colors, and label sizes and placement. These variations do not affect the function or characteristics of the transceivers.

8. Ordering Information

OEM	Part Number	OEM	Part Number
Alcatel	QSFP-40G-SR-A	Force10	GP-QSFP-40GE-1SR-A
Allied Telesis	AT-QSFPSR-A	Fortinet	FG-TRAN-QSFP-SR-A
Arista	QSFP-40G-SR4-AN-A	Gigamon	QSF-502-A
Arista	QSFP-SR4-A	HP	JH231A-A
Avago	AFBR-79EIPZ-A	HP	40GEQ-SR4-HP
Avaya	AA1404005-E6-A	Huawei	QSFP-40G-ISR4-A
Blade Networks	BN-CKM-QS-SR-A	Huawei	QSFP-40G-SR4-HU-A
Brocade-Foundry	40G-QSFP-SR4-A	IBM	49Y7884-A
Brocade-Foundry	40G-QSFP-SR4-INT-A	Infinera	TOM-40G-Q-SR4-A
Cisco	FET-40G-A	Intel	E40GQSFP-SR-A
Cisco	QSFP-40G-SR4-A	Intel	40GEQ-SR4-INT
Cisco	QSFP-40G-SR4-S-A	Ixia	QMM850-PLUS-A
Cisco	QSFP-40G-SR4-C1	Juniper	QFX-QSFP-40G-SR4-A
Cisco	40GEQ-SR4-CSC	Juniper	QSFPP-4X10GE-SR-A
Citrix	3013936-E2-A	Juniper	QSFPP-40GBASE-SR4-A
Dell	407-BBBY-A	Juniper	QSFPP-4X10GE-SR-C1
Dell	407-BBOZ-A	Mellanox	MC2210411-SR4-A
Dell	430-4593-A	Mellanox	MMA1B00-B150D-A
Dell	40GEQ-SR4-DLL	MSA Generic	AN-QSFP-SR4
Edgecore	ET6401-SR4-A	MSA OnePort	OP-QSFP-SR4
Enterasys	40G-SR4-QSFP-A	NetApp	X65402-A
Enterasys	40GB-SR4-QSFP-A	NoviFlow	400000509-A
Extreme	10319-A	Palo Alto	PAN-QSFP-40GBASE-SR4-A
Extreme	40GEQ-SR4-EXN	Palo Alto	40GEQ-SR4-PAN
F5 Networks	F5-UPG-QSFP+-A	Plexxi	PX-CBL-SR4-40G-QSFP-100M-A
F5 Networks	F5-UPG-QSFP+SR4-A	Plexxi	PX-CBL-OP-QSFP-4LC-10M-A
Finisar	FTL410QE2C-A	Pure Storage	FA-40GB-ETH-SFP-SR-A
Finisar	FTL410QE3C-A	Ruckus Wireless	E40G-QSFP-SR4-A
Finisar	FTL410QE4C-A	MSA Champion ONE	40GQSFP+E-SR4

9. Contact Information

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