

## Features

- Up to 1.25Gb/s Data Links
- Hot-Pluggable
- Single LC connector
- Up to 40 km on 9/125µm SMF
- 1490nm FP laser transmitter
- 1310nm PIN photo-detector
- Single +3.3V Power Supply
- Monitoring Interface Compliant with SFF-8472
- Maximum Power <1W
- Industrial operating temperature range: -40°C to 85°C
- RoHS compliant and Lead Free



## Applications

- 1000Base-EX Ethernet
- Metro/Access Networks
- 1×Fibre Channel
- Other Optical Links

## 1. Absolute Maximum Ratings

Operation in excess of any absolute maximum ratings might cause permanent damage to this module.

Parameter	Symbol	Min	Typ	Max	Units
Storage Temperature	TS	-40		+85	°C
Power Supply Voltage	VCC	-0.5		4	V
Relative Humidity	RH	0		85	%

## 2. Recommended Operating Environment

Parameter	Symbol	Min	Typ	Max	Unit
Case operating Temperature	TC	-40	85	°C	°C
Supply Voltage	VCC	3.135		3.465	V
Supply Current	Icc			300	mA

Inrush Current	I <sub>surge</sub>			I <sub>cc+30</sub>	mA
Maximum Power	P <sub>max</sub>			1	W

### 3. Electrical Characteristics

(TOP = -40 to 85°C, VCC = 3.135 to 3.465 Volts)

Parameter	Symbol	Min	Typ	Max	Unit	Note
<b>Transmitter Section:</b>						
Input differential impedance	R <sub>in</sub>	90	100	110		1
Single ended data input swing	V <sub>in PP</sub>	250		1200	mVpp	
Transmit Disable Voltage	VD	V <sub>cc</sub> -1.3		V <sub>cc</sub>	V	2
Transmit Enable Voltage	VEN	V <sub>ee</sub>		V <sub>ee</sub> +0.8	V	
Transmit Disable Assert Time	T <sub>dessert</sub>			10	us	
Parameter	Symbol	Min	Typ	Max	Unit	Note
<b>Receiver Section:</b>						
Single ended data output swing	V <sub>out,pp</sub>	300		800	mv	3
LOS Fault	V <sub>losfault</sub>	V <sub>cc</sub> -0.5		V <sub>CC_host</sub>	V	5
LOS Normal	V <sub>losnorm</sub>	V <sub>ee</sub>		V <sub>ee</sub> +0.5	V	5
Power Supply Rejection	PSR	100			mVpp	6

#### Notes:

1. AC coupled.
2. Or open circuit.
3. Into 100 ohm differential termination.
4. 20 – 80 %
5. LOS is LVTTTL. Logic 0 indicates normal operation; logic 1 indicates no signal detected.
6. All transceiver specifications are compliant with a power supply sinusoidal modulation of 20 Hz to 1.5MHz up to specified value applied through the power supply filtering network shown on page 23 of the Small Form-factor Pluggable (SFP) Transceiver Multi-Source Agreement (MSA), September 14, 2000.

## 4. Optical Parameters

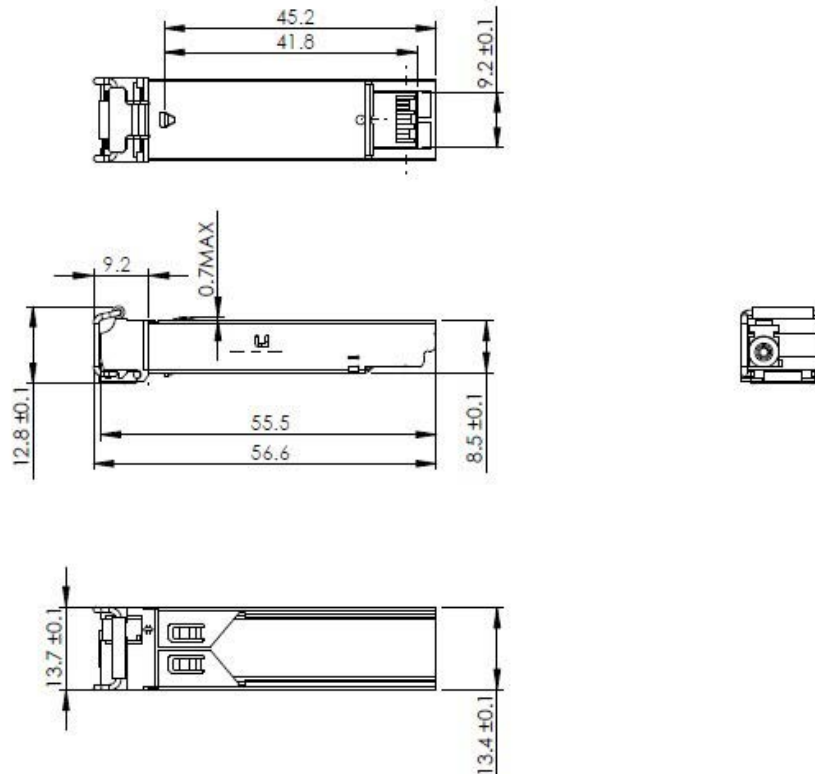
(TOP = -40 to 85°C, VCC = 3.135 to 3.465 Volts)

Parameter	Symbol	Min	Typ	Max	Unit	Notes
<b>Transmitter Section:</b>						
Center Wavelength	$\lambda_c$	1470	1490	1510	nm	
Spectral Width	$\sigma$			1	nm	
Side Mode Suppression Ratio	SSRmin	30			dB	
Optical Output Power	Pout	-5		0	dBm	1
Extinction Ratio	ER	9			dB	
Optical Rise/Fall Time	tr / tf			260	ps	2
Relative Intensity Noise	RIN			-120	dB/Hz	
Total Jitter Contribution	TX $\Delta$ TJ			0.284	UI	3
Output Eye Mask	Compliant with IEEE802.3 z (class 1 laser safety)					
<b>Receiver Section:</b>						
Optical Input Wavelength	$\lambda_c$	1270	1310	1600	nm	
Receiver Overload	Pol	-3			dBm	4
RX Sensitivity	Sen			-25	dBm	4
RX_LOS Assert	LOS A	-40			dBm	
RX_LOS De-assert	LOS D			-24	dBm	
RX_LOS Hysteresis	LOS H	0.5			dB	
Parameter	Symbol	Min	Typ	Max	Unit	Notes
<b>General Specifications:</b>						
Data Rate	BR		1.25		Gb/s	
Bit Error Rate	BER			10-12		
Max. Supported Link Length on 9/125 $\mu$ m SMF@1.25Gb/s	LMAX		40		km	
Total System Budget	LB	21			dB	

### Notes:

1. The optical power is launched into SMF.
2. 20-80%.
3. Jitter measurements taken using Agilent OMNIBERT 718 in accordance with GR-253.
4. Measured with PRBS 2<sup>7-1</sup> at 10<sup>-12</sup> BER

## 5. Mechanical Diagram



**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.

## 6. Ordering Information

OEM	Part Number	OEM	Part Number
Accedian	7SU-40K-A	Cisco	GESFP-B49-40-CSC
Adtran	1442140G1-A	Cisco	GLC-BX40-DA-I-A
Adva	61003019-A	Cisco	GESFP-B31-40-CSC
Adva	1061705875-01-A	Dell	407-BBOO-43-40-A
Alcatel	3FE65571AB-A	Extreme	MGBIC-BX40-D-A
Alcatel	3HE04324AB-A	Juniper	EX-SFP-GE40KT14R13-A
Alcatel	SFP-GIG-BX-D-40-A	Juniper	QFX-SFP-GE40KT14R13-A
Brocade	E1MG-BXD-40-A	Juniper	SFP-GE40KT14R13-A
Calix	100-01671-A	Juniper	SRX-SFP-GE40KT14R13-A
Ciena	XCVR-040U55-43-A	Juniper	EX-SFP-GE40KT14R13-C1
Ciena	XCVR-A40U49-A	MSA Champion ONE	1000SFP43B40L-H
Ciena	GESFP-B49-40I-CIE	MSA Generic	AN-SFP-BX43-40-I

Ciena	GESFP-B49-40-CIE	Netgear	AGM732F-BX-D-40-A
Ciena	GESFP-B31-40-CIE	OnePort	OP-SFP-BX43-40
Ciena	GESFP-B31-40I-CIE	Palo Alto	PAN-SFP-BX-D-40-A
Cisco	GLC-BX40-D-I-A	Ubiquiti Networks	UF-SM-1G-S-43-40K-A

## 7. Contact Information

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