

Features

- Supports 9.95 to 11.3Gb/s bit rates
- Hot-Pluggable
- Duplex LC connector
- 1550nm cooled CML transmitter, APD photo-detector
- SMF links up to 120km
- 2-wire interface for management specifications compliant with SFF 8472 digital diagnostic monitoring interface
- Power Supply :+3.3V
- Power consumption<1.8W
- Temperature Range: 0~ 70°C
- RoHS compliant



Applications

- 10GBASE-ZR/ZW Ethernet
- SONET OC-192 / SDH
- 10G Fiber channel

1. Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit
Storage Temperature	TS	-40		+85	°C
Case Operating Temperature	TA	0		70	°C
Maximum Supply Voltage	Vcc	-0.5		4	V
Relative Humidity	RH	0		85	%

2. Electrical Characteristics

(TOP = 0 to 70 °C, VCC = 3.135 to 3.465 Volts)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Supply Voltage	Vcc	3.135		3.465	V	
Supply Current	Icc			500	mA	
Power Consumption	P			1.8	W	

Transmitter						
Input differential impedance	Rin		100		Ω	1
Tx Input Single Ended DC Voltage Tolerance (Ref VeeT)	V	-0.3		4	V	
Differential input voltage swing	Vin,pp	180		700	mV	2
Transmit Disable Voltage	VD	2		Vcc	V	3
Transmit Enable Voltage	VEN	Vee		Vee+0.8	V	
Receiver						
Single Ended Output Voltage Tolerance	V	-0.3		4	V	
Rx Output Diff Voltage	Vo	300		850	mV	
Rx Output Rise and Fall Time	Tr/Tf	30			ps	4
LOS Fault	VLOS fault	2		VccHOST	V	5
LOS Normal	VLOS norm	Vee		Vee+0.8	V	5

Notes:

1. Connected directly to TX data input pins. AC coupling from pins into laser driver IC.
2. Per SFF-8431 Rev 3.0
3. Into 100 ohms differential termination.
4. 20%~80%
5. LOS is an open collector output. Should be pulled up with 4.7k – 10kΩ on the host board. Normal operation is logic 0; loss of signal is logic 1. Maximum pull-up voltage is 5.5V.

3. Optical Parameters

(TOP = 0 to 70°C, VCC = 3.135 to 3.465 Volts)

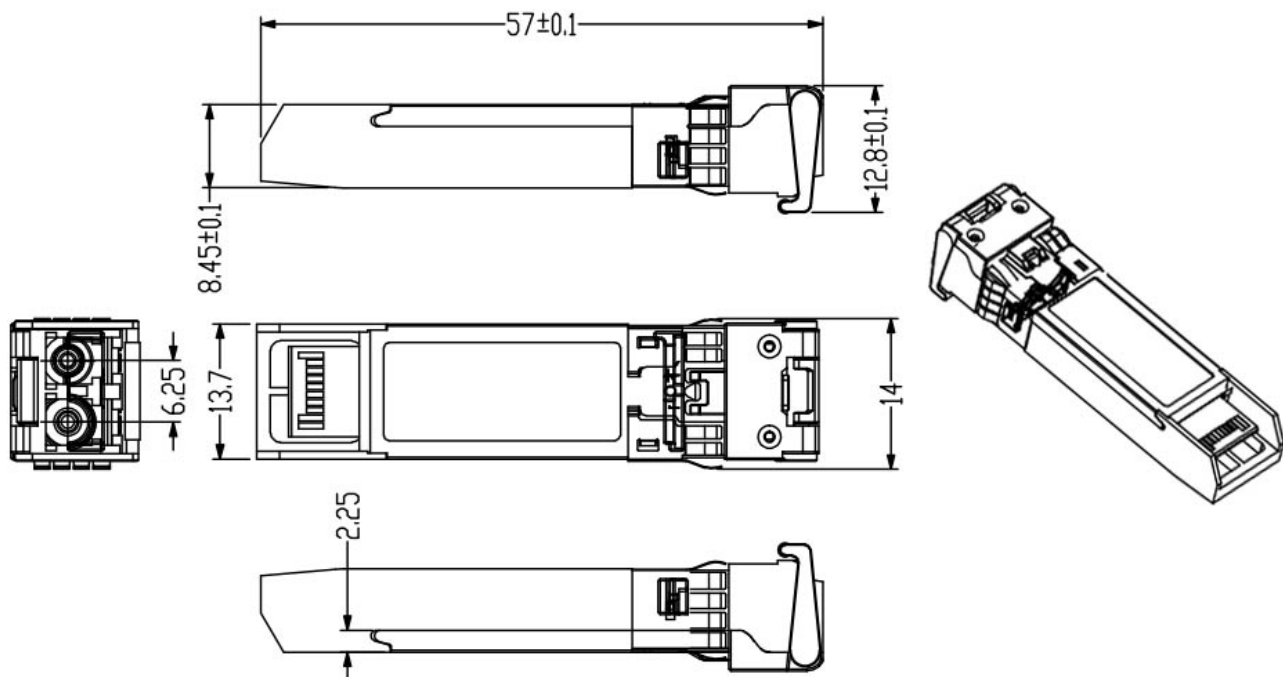
Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Transmitter Section:						
Center Wavelength	λt	1530	1550	1565	nm	
spectral width	Δλ			0.3	nm	
Average Optical Power	Pavg	0		+5	dBm	1
Optical Power OMA	Poma	-2.1			dBm	
Laser Off Power	Poff			-30	dBm	
Extinction Ratio	ER	8.2			dB	
Transmitter Dispersion Penalty	TDP			3.0	dB	2
Relative Intensity Noise	Rin			-128	dB/Hz	3
Optical Return Loss Tolerance		21			dB	

Receiver Section:						
Center Wavelength	λ_r	1260		1600	nm	
Receiver Sensitivity	Sen			-24	dBm	4
Los Assert	LOSA	-34		-	dBm	
Los Dessert	LOSD			-24	dBm	
Los Hysteresis	LOSH	0.5			dB	
Overload	Sat	-7			dBm	5
Receiver Reflectance	Rrx			-26	dB	

Notes:

1. Average power figures are informative only, per IEEE802.3ae.
2. TWDP figure requires the host board to be SFF-8431compliant. TWDP is calculated using the Matlab code provided in clause 68.6.6.2 of IEEE802.3ae.
3. 12dB reflection.
4. Conditions of stressed receiver tests per IEEE802.3ae. CSRS testing requires the host board to be SFF-8431 compliant.
5. Receiver overload specified in OMA and under the worst comprehensive stressed condition.

4. 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.

5. Ordering Information

OEM	Part Number	OEM	Part Number
Accedian	7SP-402-120KM-A	Cisco	DS-SFP-FC8G-ZR-120-A
Alcatel-Lucent Nokia	3HE14649AA-A	Cisco	SFP-10G-ZR-120KM-C1
Alcatel-Lucent Nokia	3HE05894AA-120-A	Extreme	10310-120-A
Alcatel-Lucent Nokia	3HE09329AA-120-A	Juniper	SFP-10GE-ZR-120KM-A
Arista	SFP-10G-ZR-AN-120KM-A	Juniper	EX-SFP-10GE-ZR-120KM-A
Brocade	10G-SFPP-ZR-120KM-A	Juniper	SFPP-10GE-ZR-120KM-A
BTI	BTI-10GZR120-DD-SFP+-A	MSA	AN-SFP10G-ZR-120
Calix	100-01971-120KM-A	MSA Champion ONE	10GESFPP-ZR100-JUN
Ciena	XCVR-S80V55-120-A	OnePort	OP-SFP10G-ZR-120
Cisco	SFP-10G-ZR-120KM-A		

6. Contact Information

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