

## Features

- Up to 1.25Gb/s data links
- DFB laser transmitter and APD receiver
- Up to 160km on 9/125µm SMF
- Hot-pluggable SFP footprint
- Duplex LC/UPC type pluggable optical interface
- Low power dissipation
- Metal enclosure, for lower EMI
- RoHS compliant and lead-free
- Support Digital Diagnostic Monitoring interface
- Single +3.3V power supply
- Compliant with SFF-8472
- Available operating temperature ranges:
  - Commercial: 0°C to +70°C
  - Extended: -10°C to +80°C
  - Industrial: -40°C to +85°C



## Applications

- Switch to Switch Interface
- Gigabit Ethernet
- Switched Backplane Applications
- Router/Server Interface
- Other Optical Links

## 1. Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Storage Temperature	Ts	-40		85	°C	
Relative Humidity	RH	5		95	%	
Power Supply Voltage	VCC	-0.5		4	V	
Signal Input Voltage		-0.3		Vcc+0.3	V	
Receiver Damage Threshold		5			dBm	

## 2. Recommended Operating Conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Case Operating Temperature	Tcase	0		70	°C	
Power Supply Voltage	VCC	3.13	3.3	3.47	V	
Power Supply Current	ICC			300	mA	
Data Rate			1250/1250		Mbps	TX Rate/RX Rate
Transmission Distance				160	KM	
Coupled Fiber	9/125um Single mode fiber					

## 3. Specification of Transmitter

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Average Output Power	POUT	1		6	dBm	1
Extinction Ratio	ER	9			dB	
Center Wavelength	$\lambda_C$	1530	1550	1570	nm	DFB Laser
Side Mode Suppression Ratio	SMSR	30			dB	
Spectrum Bandwidth(-20dB)	$\sigma$			1	nm	
Transmitter OFF Output Power	POff			-45	dBm	

## 4. Specification of Receiver

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Input Optical Wavelength	$\lambda_{IN}$	1270		1610	nm	APD
Receiver Sensitivity	PIN			-33	dBm	1
Input Saturation Power (Overload)	PSAT	-6			dBm	
LOS De-assert	LOSD			-34	dBm	
LOS Assert	LOSA	-45			dBm	1
LOS Hysteresis		0.5	2	6	dB	

### Notes:

1. Measured with Light source 1550nm, ER=9dB; BER = <math>10^{-12}</math> @PRBS=2<sup>7</sup>-1 NRZ
2. When LOS de-asserted, the RX data+/- output is High-level (fixed)

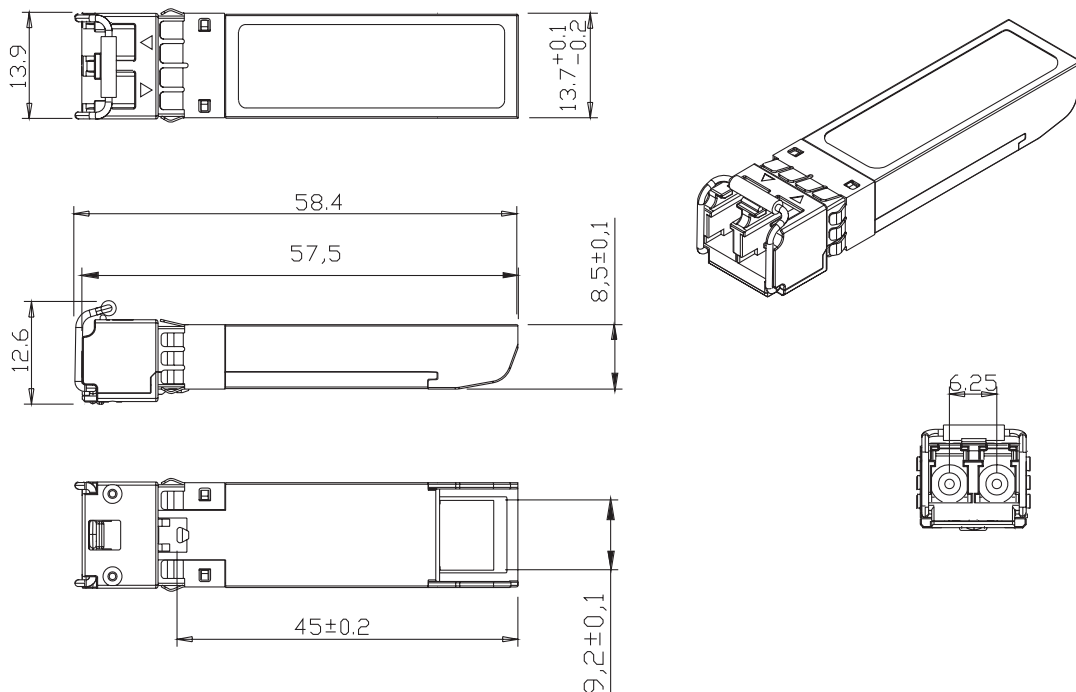
## 5. Electrical Interface Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
<b>Transmitter</b>						
Total Supply Current	ICC			A	mA	1
Transmitter Disable Input-High	VDISH	2		V <sub>cc</sub> +0.3	V	
Transmitter Disable Input-Low	VDISL	0		0.8	V	
Transmitter Fault Input-High	VTxFH	2		V <sub>cc</sub> +0.3	V	
Transmitter Fault Input-Low	VTxFL	0		0.8	V	
<b>Receiver</b>						
Total Supply Current	ICC			B	mA	1
LOSS Output Voltage-High	VLOSH	2		V <sub>cc</sub> +0.3	V	LVTTL
LOSS Output Voltage-Low	VLOSL	0		0.8	V	

**Note 1:** A (TX) + B (RX) = 300mA (Not include termination circuit)

## 6. 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.

## 7. Ordering Information

OEM	Part Number	OEM	Part Number
Alcatel-Lucent	3HE01389AA-160-A	Comtrend	3190042-A
Alcatel-Lucent	3HE00029AA-160-A	Juniper	SFP-1GE-LH-160-A
Arista	SFP-1G-ZX-160-A	MSA	AN-SFP-ZX-160
Ciena	XCVR-080Y55-160-A	OnePort	OP-SFP-ZXD-160
Cisco	GLC-ZX-SM-160-A	Transition Networks	TN-SFP-LX16-A
Cisco	GLC-ZX-SMD-160-A	MSA Champion ONE	1000SFP160

## 8. Contact Information

Tel: 800.590.9535

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