

Features

- Operating Data Rate up to 1.25Gbps
- 1590nm DFB Tx/1490nm Rx
- APD-TIA Receiver
- Single 3.3V Power Supply
- Hot-Pluggable SFP Footprint single LC Connector Interface
- Power Dissipation < 1.0W
- Operating Temperature:
Industrial: -40°C ~ 85°C



Applications

- Fiber Channel Links
- Switch to Switch interface
- Switched backplane application
- Other Optical Links

Standard

- Compliant with SFF-8472
- Compliant with MSA SFP Specification
- Class 1 FDA and IEC60825-1 Laser Safety Compliant

1. Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit
Storage Temperature	TS	-40	+85	°C
Maximum Supply Voltage	VCC	-0.5	3.6	V
Operating Relative Humidity	RH	5	85	%

Note: Exceeding any one of these values may destroy the device immediately.

2. Recommended Operating Conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit
Operating Case Temperature	TC	-40		+85	°C
Power Supply Voltage	VCC	3.15	3.3	3.47	V

Power Supply Current	ICC			300	mA
Data Rate	GBE		1.25		Gbps
	FC		1.063		

3. Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit
Transmitter					
Center Wavelength	λ_C	1570	1590	1610	nm
Spectral Width (-20dB)	$\Delta\lambda$		1	nm	
Side Mode Suppression Ratio	SMSR	30		dB	
Average Output Power*(Note1)	Pout	0	5	dBm	
Extinction Ratio	ER	9		dB	
Rise/Fall Time (20% ~ 80%)	tr/tf		0.26	ns	
Output Optical Eye*(Note2)		Compliant with IEEE 802.3			
Pout@TX Disable Asserted	Pout		-45	dBm	
Receiver					
Center Wavelength	λ_C	1470	1490	1510	nm
Receiver Sensitivity*(Note3)	Pmin		-32	dBm	
Receiver Overload	Pmax	-9		dBm	
LOS De-Assert	LOSD		-33	dBm	
LOS Assert	LOSA	-40		dBm	
LOS Hysteresis		1		dB	

Note:

1. Output power is power coupled into a 9/125 μ m single-mode fiber.
2. Filtered, measured with a PRBS 27-1 test pattern @1250Mbps.
3. Minimum average optical power, measured at BER less than 1E-12, with 27-1 PRBS and ER=9dB.

4. Electrical Characteristics

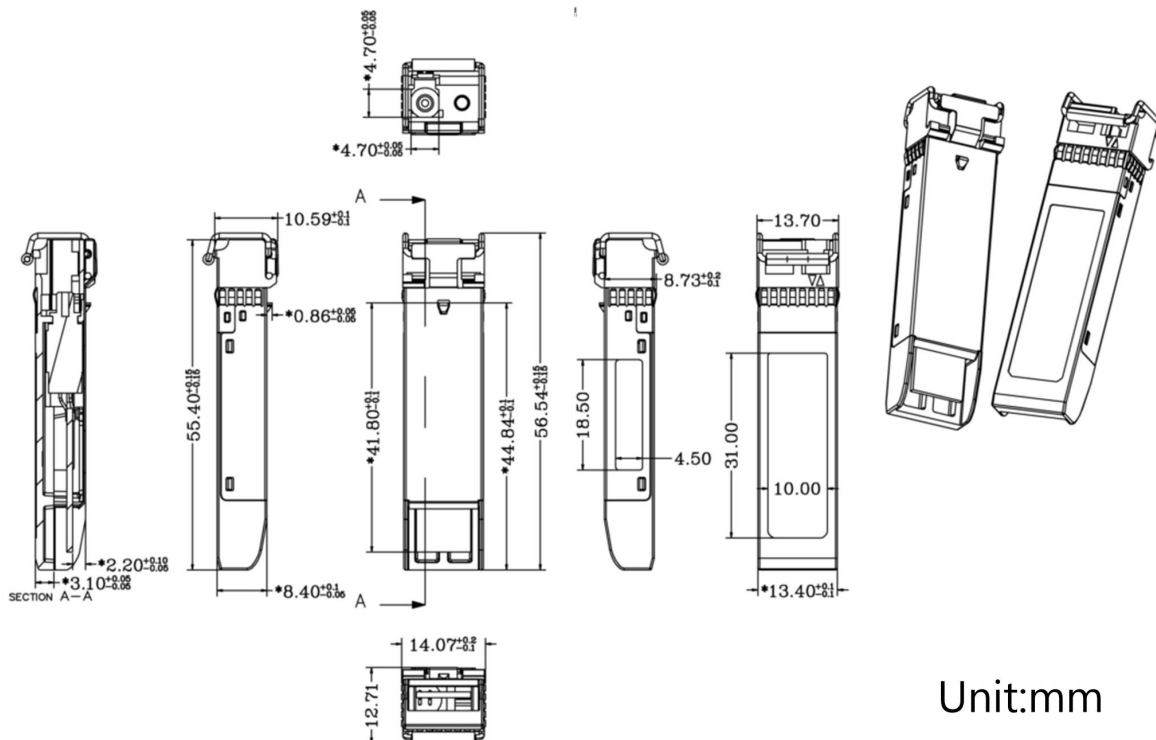
Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Transmitter Section:						
LVPECL Inputs (Differential)	Vin	400		1800	mVpp	AC Coupled Inputs*(Note4)
Input Impedance (Differential)	Zin	90	100	110	ohms	Rin > 100 kohms @ DC

TX_Dis	Disable	2		Vcc+0.3	V	
	Enable	0		0.8		
TX_FAULT	Fault	2		Vcc+0.3	V	
	Normal	0		0.8		
Receiver Section:						
LVPECL Outputs (Differential)	Vout	400		2000	mVpp	AC Coupled Outputs*(Note4)
Output Impedance (Differential)	Zout	90	100	110	ohms	
TX_Disable Assert Time	t_off			10	us	
RX_LOS	LOS	2		Vcc+0.3	V	
	Normal	0		0.8		
MOD_DEF (0:2)	VoH	2.5		Vcc+0.3	V	With Serial ID
	VoL	0		0.5		

Note:

4. LVPECL logic, internally AC coupled.

5. 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.

6. Ordering Information

OEM	Part Number	OEM	Part Number
Cisco	GES-B59-120-CSC	MSA Generic	AN-SFP-BX594-120-I
MSA Champion ONE	1000SFP59B120L-H	MSA Champion ONE	1000SFP59B120L

7. Contact Information

Tel: 800.590.9535

Web: <http://www.approvednetworks.com>