



Light Optics

Building a brighter future

LO-DG39-20D

1.25Gbps SFP Optical Transceiver, 20km Reach

Features :

- Dual data-rate of 1.25Gbps/1.063Gbps operation
- 1310nm FP laser and PIN photodetector for 20km transmission
- Compliant with SFP MSA and SFF-8472 with duplex LC receptacle
- Digital Diagnostic Monitoring: Internal Calibration or External Calibration
- Compatible with SONET OC-24-LR-1
- Compatible with RoHS
- +3.3V single power supply
- Operating case temperature: 0 to +70°C

Applications :

- Gigabit Ethernet
- Fiber Channel
- Switch to Switch interface
- Switched backplane applications
- Router/Server interface
- Other optical transmission systems

Description :

The SFP transceivers are high performance, cost effective modules supporting dual data-rate of 1.25Gbps/1.0625Gbps and 20km transmission distance with SMF.

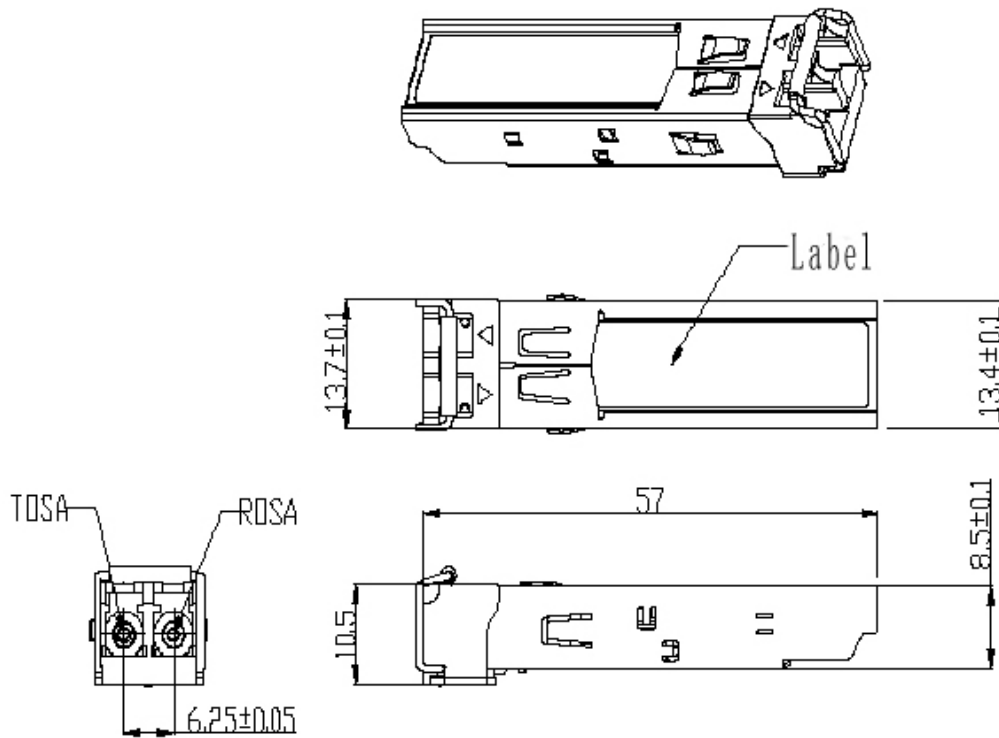
The transceiver consists of three sections: a FP laser transmitter, a PIN photodiode integrated with a trans-impedance preamplifier (TIA) and MCU control unit. All modules

satisfy class I laser safety requirements.

The transceivers are compatible with SFP Multi-Source Agreement (MSA). For further information, please refer to SFP MSA.



Mechanical Dimensions



Absolute Maximum Ratings:

Parameter	Symbol	Min.	Max.	Unit
Supply Voltage	Vcc	-0.5	4.5	V
Storage Temperature	TS	-40	+85	°C
Operating Humidity		5	85	%

Recommended Operating Conditions:

Parameter	Symbol	Min.	Typical	Max.	Unit
Operating Temperature	Tc	0		+70	°C
Power Supply Voltage	VCC	3.13	3.3	3.47	V
Power Supply Current	ICC			300	mA
Data Rate			1.25		Gbps



Optical and Electrical Characteristics:

Parameter		Symbol	Min.	Typical	Max.	Unit
TRANSMITTER						
Centre Wavelength		λ_C	1260	1310	1360	nm
Spectral Width (RMS)		$\Delta\lambda$			4	nm
Average Output Power		P_{out}	-9		-3	dBm
Extinction Ratio		ER	9			dB
Optical Rise/Fall Time (20%~80%)		tr/tf			0.26	ns
Data Input Swing Differential		V_{in}	400		1800	mV
Input Differential Impedance		Z_{in}	90	100	110	Ω
TX_Disable	Disable		2.0		V _{cc}	V
	Enable		0		0.8	V
TX Fault	Fault		2.0		V _{cc}	V
	Normal		0		0.8	V
RECEIVER						
Center Wavelength		λ_c	1260		1580	nm
Receiver Sensitivity					-23	dBm
Receiver Overload			0			dBm
LOS De-Assert		LOSD			-24	dBm
LOS Assert		LOSA	-35			dBm
LOS Hysteresis			1		4	dB
Data Output Swing Differential		V_{out}	400		1800	mV
LOS	High		2.0		V _{cc}	V
	LOW				0.8	V

