

Technical Specifications

TL-1GSFP-MM550

Features at a Glance

- Operating Data Rate up to 1.25Gbps
- 550m with 50/125 μm SMF
- Single 3.3V Power Supply and LVTTTL Logic Interface
- Hot-Pluggable SFP Footprint Duplex LC Connector Interface
- Class 1 FDA and IEC60825-1 Laser Safety Compliant
- Built-in digital diagnostic functions, including optical power monitoring
- Commercial Temperature Range: 0~+70°C
- Compliant with MSA SFP Specification



The TL-1GSFP-MM550 multi-mode transceivers are small form factor pluggable module for bi-directional serial optical data communications such as Gigabit Ethernet 1000BASESX and Fiber Channel FC-PH-2 for 100-M5-SN-1 and 100-M6-SN-1. It features a SFP 20-pin connector to allow hot plug capability. This module is designed for multi-mode fiber and operates at a nominal wavelength of 850nm.

The transmitter section uses a Vertical Cavity Surface Emitted Laser (VCSEL) which is a Class 1 laser compliant according to International Safety Standard IEC 60825. The receiver section uses an integrated GaAs detector preamplifier (IDP) mounted in an optical header and a limiting post-amplifier IC.

Basic Specifications	
Form Type	SFP
Max Data Rate	1000Mbps
Wavelength	850nm
Max Cable Distance	550m over OM2 MMF
Interface	LC duplex
Optical Components	VCSEL 850nm
Cable Type	MMF
DOM Support	Yes
TX Power	-9.5 ~ - 3dBm
Receiver Sensitivity	< -17dBm
Commercial Temperature Range	0 to 70°C (32 to 158°F)
Protocols	SFP MSA, IEEE 802.3z

Specifications

General Product Characteristics					
Parameter	Symbol	Min	Typ.	Max	Unit
Bit Rate	BR			1.25	Gbps
Max. Supported Link Length	L _{MAX}			550	m
Absolute Maximum Ratings					
Parameter	Symbol	Min	Typ.	Max	Unit
Storage Temperature	T _S	-40		+85	°C
Supply Voltage	V _{CC}	-0.5		3.6	V
Operating Relative Humidity		-		95	%
Optical and Electrical Characteristics					
Parameter	Symbol	Min	Typ.	Max	Unit
9μm Diameter MMF	L		550		km
Power Supply Voltage	V _{CC}	3.15	3.3	3.45	V
Power Supply Current	I _{CC}			300	Ma
Data Rate GBE			1.25		Gbps
Data Rate FC			1.063		Gbps
Transmitter					
Parameter	Symbol	Min	Typ.	Max	Unit
Center Wavelength	λ _C	830	850	860	nm
Spectral Width (RMS)	Δλ			0.85	nm
Average Output Power	P _{out}	-9.5		-3	dBm
Extinction Ratio	ER	9			dB
Rise/Fall Time (20%~80%)	tr/tf			260	ps
Total Jitter	TJ			0.43	UI
Output Optical Eye	IEEE 802.3z and ANSI Fiber Channel Compliant				
TX_Disable Assert Time	t _{off}			10	μs
Receiver					
Parameter	Symbol	Min	Typ.	Max	Unit
Center Wavelength	λ _C	760		860	nm
Receiver Sensitivity	P _{MIN}			-17	dBm
Receiver Overload	P _{MAX}	-3			dBm
Return Loss		12			dB
LOS De-Assert	LOSD			-18	dB
LOS Assert	LOSA	-35			dBm
LOS Hysteresis		1			dB
Other					
Warranty	Three years				

Dimensional Drawings

