

Technical Specifications TL-1GSFP-MM550

Features at a Glance

- Operating Data Rate up to 1.25Gbps
- 550m with 50/125 μm MMF
- 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 OM2/3/4/5 MMF, 275m over OM1 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
9 μ m 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)	$\Delta\lambda$			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	μ s
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

