

SF-MM85055-GP

**Multi-Mode 850nm 1xFC /GBE
Duplex SFP Transceiver
RoHS6 Compliant**

Features

- ◆ Operating Data Rate up to 1.25Gbps
- ◆ 850nm VCSEL Laser Transmitter
- ◆ 550m with 50/125µm MMF
300m on 62.5/125µm 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
- ◆ Operating Case Temperature
Standard: 0°C ~+70°C
Industrial: -40°C ~+85°C
- ◆ Compliant with SFP MSA Specification

Applications

- ◆ Gigabit Ethernet
- ◆ Fiber Channel
- ◆ Switch to Switch Interface
- ◆ Other Optical Links

Ordering Information

Part No.	Description
SF-MM85055-GP	SFP 1.25Gbps SX 850nm LC MMF 550m
SF-MM85055D-GP	SFP 1.25Gbps SX 850nm LC DDM MMF 550m

Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit
Storage Temperature	T_s	-40	+85	°C
Supply Voltage	V_{CC}	-0.5	3.6	V
Operating Relative Humidity		-	95	%

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

Recommended Operating Conditions

Parameter	Symbol	Min.	Typical	Max.	Unit
Operating Case Temperature	T_c	SF-MM85055-GP	0	+70	°C
		SF-MM85055DI-GP	-40	+85	
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
	FC		1.063		

Performance Specifications - Electrical

Parameter	Symbol	Min.	Typ.	Max	Unit	Notes
Transmitter						
LVPECL Inputs(Differential)	V_{in}	500		2000	mVpp	AC coupled inputs ^{*(note3)}
Input Impedance (Differential)	Z_{in}	85	100	115	ohm	$R_{in} > 100$ kohm @ DC
TX Disable	Disable	2		V_{CC}	V	
	Enable	0		0.8		
TX FAULT	Fault	2		$V_{CC}+0.3$	V	
	Normal	0		0.5		
Receiver						
LVPECL Outputs (Differential)	V_{out}	370		2000	mVpp	AC coupled output ^{*(note3)}
Output Impedance (Differential)	Z_{out}	85	100	115	ohms	
RX_LOS	LOS	2		$V_{CC}+0.3$	V	
	Normal	0		0.8	V	
MOD_DEF (2:0)	VoH	2.5			V	With Serial ID
	VoL	0		0.5	V	

Optical and Electrical Characteristics

Parameter	Symbol	Min.	Typical	Max.	Unit
50µm Core Diameter MMF	L		550		m
Data Rate			1.063/1.25		Gbps
Transmitter					
Center Wavelength	λ_c	830	850	860	nm
Spectral Width (RMS)	$\Delta\lambda$			0.85	nm
Average Output Power ^{*(note4)}	P _{out}	-9.5		-3	dBm
Extinction Ratio ^{*(note5)}	ER	9			dB
Rise/Fall Time(20%~80%)	tr/tf			260	ps
Total Jitter ^{*(note5)}	TJ			0.43	UI
Output Optical Eye ^{*(note5)}	IEEE802.3z and ANSI Fiber Channel Compliant ^{*(note7)}				
TX Disable Assert Time	t _{off}			10	us
Receiver					
Center Wavelength	λ_c	760		860	nm
Receiver Sensitivity ^{*(note6)}	P _{min}			-17	dBm
Receiver Overload	P _{max}	-3			dBm
Return Loss		12			dB
LOS De-Assert	LOSD			-18	dBm
LOS Assert	LOSA	-35			dBm
LOS Hysteresis ^{*(note8)}		1			dB

Note3: LVPECL logic, internally AC coupled.

Note4: Output is coupled into a 62.5/125 mm multi-mode fiber.

Note5: Filtered, measured with a PRBS 2⁷-1 test pattern @1.25Gbps

Note6: Minimum average optical power measured at BER less than 1E-12, with a 2⁷-1 PRBS and ER=9 dB.

GBC PHOTONICS

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Mechanical Specifications

