

# SFP-1G13M-SX2 Release Note:

## Multi-mode 1310 nm, 2 km SFP module

### Optical Specifications:

#### Transmitter Electro-Optical Interface

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Transmitter Differential Input Voltage	TD +/-	400		2400	mV	
Tx_Fault - High	V <sub>Fault_H</sub>	2		V <sub>cc</sub>	V	
Tx_Fault - Low	V <sub>Fault_L</sub>	V <sub>ee</sub>		V <sub>ee</sub> +0.8	V	
Tx_Disable - High	V <sub>Disable_H</sub>	2		V <sub>cc</sub>	V	
Tx_Disable - Low	V <sub>Disable_L</sub>	V <sub>ee</sub>		V <sub>ee</sub> +0.8	V	
Optical Output Power	P <sub>o</sub>	-9		-1	dBm	1
Optical Extinction Ratio	E <sub>R</sub>	9			dB	
Center Wavelength	λ <sub>c</sub>	1270	1310	1355	nm	
Spectral Width (RMS)	Δλ			4	nm	
Optical Rise / Fall Time	t <sub>r</sub> / t <sub>f</sub>			260	ps	2
Relative Intensity Noise	RIN			-117	dB/Hz	
Total Contributed Jitter	TJ			227	ps	
Coupled Power Ratio	CPR	9			dB	

#### Notes:

1. Coupling into a 50/125μm multimode fiber.
2. 20% to 80% value

#### Receiver Electro-Optical Interface

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Receiver Differential Output Voltage	RD +/-	400		2000	mV	
Receiver Overload	P <sub>IN</sub> MAX	-1				1
Receiver Sensitivity	P <sub>IN</sub> MIN			-19	dBm	1
Operating Center Wavelength	λ <sub>c</sub>	1260		1610	nm	
Return Loss	RL	12			dB	
Receiver Loss of Signal - TTL Low	P <sub>RX_LOSD</sub>			-19	dBm	
Receiver Loss of Signal - TTL High	P <sub>RX_LOSA</sub>	-35			dBm	
Receiver Loss of Signal - Hysteresis	P <sub>RX_LOSH</sub>	0.5			dB	

#### Notes:

1. With BER better than or equal to  $1 \times 10^{-12}$ , measured in the center of the eye opening with  $2^7 - 1$  PRBS

Operating Temperature: -40~+85°C