



# SFP100B3-MM / SFP100B3-MM-I

100Mbps SFP optical Transceiver, Multi-mode  
BIDI / 2KM, TX1310nm / RX1550nm

## Highlights

- Compliant with Fast Ethernet Standard
- Compliant with IEEE802.3ah 100Base-BX
- Differential LVPECL inputs and outputs
- TTL signal detect indicator
- Single power supply 3.3VDC



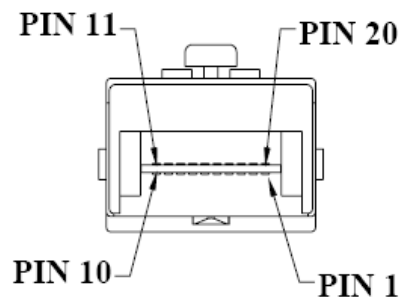
## Features

- RoHS compliant
- Compliant with Fast Ethernet standard
- Compliant with IEEE802.3ah 100Base-BX
- Industry standard small form pluggable (SFP) package
- Simplex LC connector
- Differential LVPECL inputs and outputs
- Single power supply 3.3V
- TTL signal detect indicator
- Hot Pluggable
- Class 1 laser product complies with EN 60825-1

## Application

- Distributed multi-processing
- Switch to switch interface
- High speed I/O for file server
- Bus extension application
- Channel extender, data storage

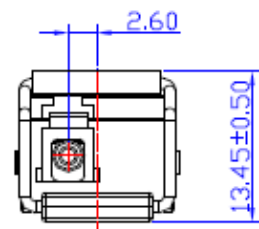
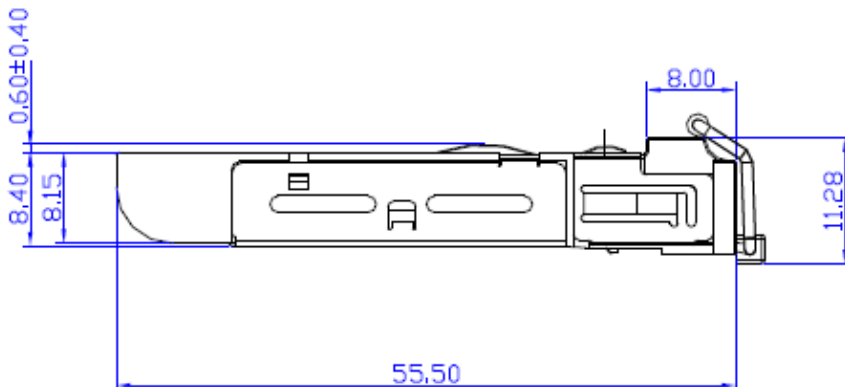
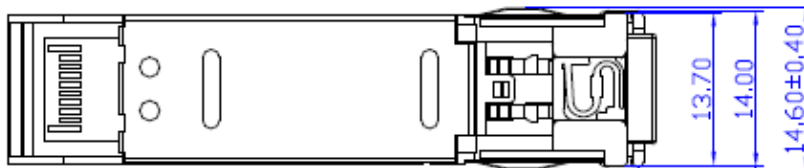
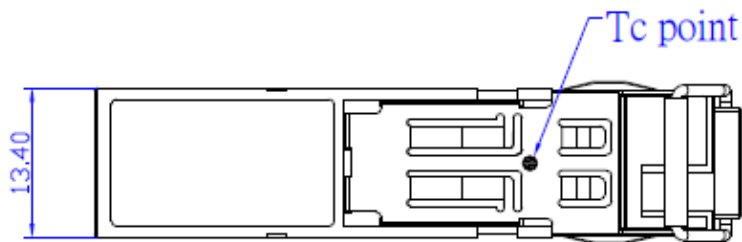
## Pin-Assignment



Pin	Signal Name	Description
1	T <sub>GND</sub>	Transmit Ground
2	TX_FAULT	Transmit Fault
3	TX_DISABLE	Transmit Disable
4	MOD_DEF (2)	SDA Serial Data Signal
5	MOD_DEF (1)	SCL Serial Clock Signal
6	MOD_DEF (0)	TTL Low
7	RATE SELECT	Open Circuit
8	RX_LOS	Receiver Loss of Signal, TTL High, open collector
9	R <sub>GND</sub>	Receiver Ground
10	R <sub>GND</sub>	Receiver Ground
11	R <sub>GND</sub>	Receiver Ground
12	RX-	Receiver Data Bar, Differential PECL, ac coupled
13	RX+	Receiver Data, Differential PECL, ac coupled
14	R <sub>GND</sub>	Receiver Ground
15	V <sub>CCR</sub>	Receiver Power Supply
16	V <sub>CCT</sub>	Tranmitter Power Supply
17	T <sub>GND</sub>	Transmit Ground
18	TX+	Transmit Data, Differential PCEL, ac coupled
19	TX-	Transmit Data Bar, Differential PCEL, ac coupled
20	T <sub>GND</sub>	Transmit Ground

## Dimension

Unit = mm



## Specifications

ABSOLUTE MAXIMUM RATINGS :						
Parameter	Symbol	Min	Max	Units		
Storage Temperature	Ts	-40	85	°C		
Supply Voltage	Vcc	-0.5	4.0	V		
Input Voltage	VIN	-0.5	Vcc	V		
Output Current	Io	-	50	mA		
Operating Current	IOP	-	400	mA		
RECOMMENDED OPERATING CONDITIONS :						
Parameter	Symbol	Min	Max	Units		
Case Operating Temperature	Tc	SFP100B3-MM = 0 SFP100B3-MM-I = -40	SFP100B3-MM = 70 SFP100B3-MM-I = 85	°C		
Supply Voltage	Vcc	3.1	3.5	V		
Supply Current	ITX + IRX	-	200	mA		
TRANSMITTER ELECTRO-OPTICAL CHARACTERISTICS : Vcc = 3.1V to 3.5V, Tc=0°C to 70°C (-40°C to 85°C)						
Parameter	Symbol	Min	Typ.	Max	Units	Note
Output Optical Power 9/125, 62.5/125 $\mu$ m fiber	POUT	-10	-	0	dBm	Average
Extinction Ratio	ER	8.2	-	-	dB	
Center Wavelength	$\lambda_c$	1261	1310	1360	nm	
Spectral Width (RMS)	$\Delta\lambda$	-	-	7	nm	
Rise / Fall Time, (10-90%)	Tr, f	-	1	2	ns	
Max. Pout TX-DISABLE Asserted	POFF	-	-	-45	dBm	
Output Eye	Compliant with Telcordia GR-253-CORE Issue 3 and ITU-T recommendation G-957					
Differential Input Voltage	VDIFF	0.4	-	2.0	V	
RECEIVER ELECTRO-OPTICAL CHARACTERISTICS : Vcc = 3.1V to 3.5V, Tc=0°C to 70°C (-40°C to 85°C)						
Parameter	Symbol	Min	Typ.	Max	Units	Note
Optical Input Power-maximum	PIN	0	-	-	dBm	BER < 10 <sup>-10</sup>
Optical Input Power-minimum (Sensitivity)	PIN	-	-	-28	dBm	BER < 10 <sup>-10</sup>
Operating Center Wavelength	$\lambda_c$	1480	-	1600	nm	
Optical Isolation	ISO	-	-	-40	dB	$\lambda = 1480\sim 1600$ nm
Loss of Signal-Asserted	PA	-	-	-28	dBm	
Loss of Signal-Deasserted	PD	-45	-	-	dBm	
Differential Output Voltage	VDIFF	0.5	-	1.6	V	
Data Output Rise, Fall Time (10-90%)	Tr, f	-	1	2	ns	
Receiver Loss of Signal Output Voltage-Low	RX_LOSL	0	-	0.5	V	
Receiver Loss of Signal Output Voltage-High	RX_LOSH	2.4	-	Vcc	V	

## Ordering Information

**SFP100B3-MM-A**

Code Definition	Additional Port Type
<b>Option</b>	-I: Industrial extended model for -40 ~ 85°C * Regular model : 0 ~ 70°C

	Model Name	Description	Operating Temperature
<b>Available Model</b>	<b>SFP100B3-MM</b>	100Mbps SFP optical Transceiver, Multi-mode BIDI / 2KM, TX1310nm / RX1550nm,	0 ~ 70°C
	<b>SFP100B3-MM-I</b>	100Mbps SFP optical Transceiver, Multi-mode BIDI / 2KM, TX1310nm / RX1550nm,	-40 ~ 85°C