



SFP100B5-MM / SFP100B5-MM-I

**100Mbps SFP optical Transceiver, Multi-mode
BIDI / 2KM, TX1550nm / RX1310nm**

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



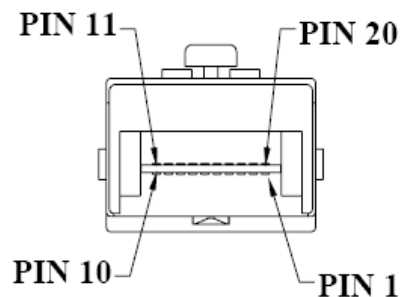
Features

- 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

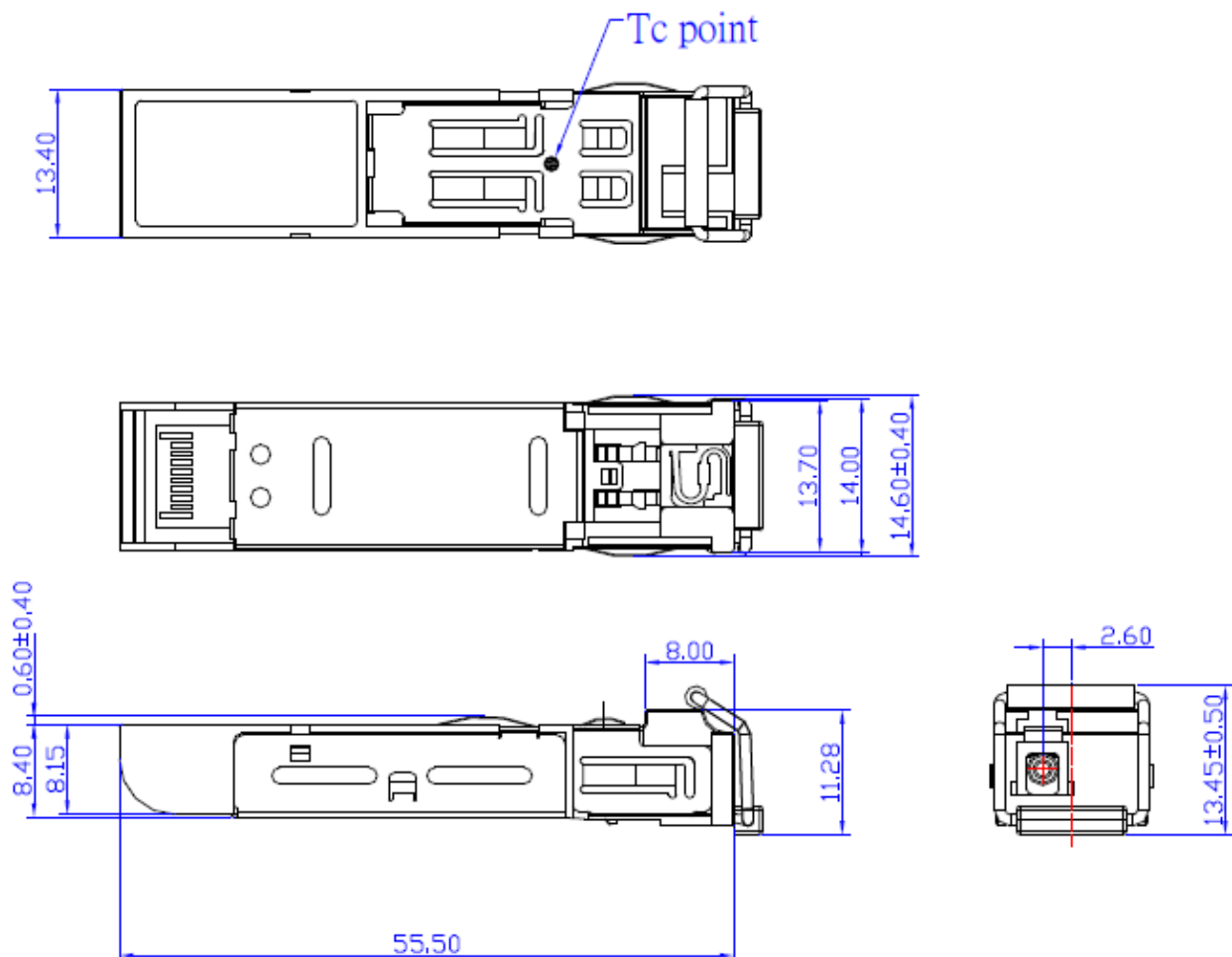
Pin-Assignment



Pin	Signal Name	Description
1	T _{GND}	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 _{GND}	Receiver Ground
10	R _{GND}	Receiver Ground
11	R _{GND}	Receiver Ground
12	RX-	Receiver Data Bar, Differential PECL, ac coupled
13	RX+	Receiver Data, Differential PECL, ac coupled
14	R _{GND}	Receiver Ground
15	V _{CCR}	Receiver Power Supply
16	V _{CCT}	Tranmitter Power Supply
17	T _{GND}	Transmit Ground
18	TX+	Transmit Data, Differential PCEL, ac coupled
19	TX-	Transmit Data Bar, Differential PCEL, ac coupled
20	T _{GND}	Transmit Ground

Dimension

Unit = mm



Specifications

ABSOLUTE MAXIMUM RATINGS :

Parameter	Symbol	Min	Max	Units
Storage Temperature	T _s	-40	85	°C
Supply Voltage	V _{CC}	-0.5	4.0	V
Input Voltage	V _{IN}	-0.5	V _{CC}	V
Output Current	I _O	-	50	mA
Operating Current	I _{OP}	-	400	mA

RECOMMENDED OPERATING CONDITIONS :

Parameter	Symbol	Min	Max	Units
Case Operating Temperature	T _C	SFP100B5-MM = 0 SFP100B5-MM-I = -40	SFP100B5-MM = 70 SFP100B5-MM-I = 85	°C
Supply Voltage	V _{CC}	3.1	3.5	V
Supply Current	I _{TX} + I _{RX}	-	200	mA

TRANSMITTER ELECTRO-OPTICAL CHARACTERISTICS : V_{CC} = 3.1V to 3.5V, T_C=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 μ m fiber	P _{OUT}	-10	-	0	dBm	Average
Extinction Ratio	ER	8.2	-	-	dB	
Center Wavelength	λ_C	1480	1520	1580	nm	
Spectral Width (RMS)	$\Delta\lambda$	-	-	7	nm	
Rise / Fall Time, (10-90%)	T _{r, f}	-	1	2	ns	
Max. P _{out} TX-DISABLE Asserted	P _{OFF}	-	-	-45	dBm	
Output Eye	Compliant with Telcordia GR-253-CORE Issue 3 and ITU-T recommendation G-957					
Differential Input Voltage	V _{DIFF}	0.4	-	2.0	V	

RECEIVER ELECTRO-OPTICAL CHARACTERISTICS : V_{CC} = 3.1V to 3.5V, T_C=0°C to 70°C (-40°C to 85°C)

Parameter	Symbol	Min	Typ.	Max	Units	Note
Optical Input Power-maximum	P _{IN}	0	-	-	dBm	BER < 10 ⁻¹⁰
Optical Input Power-minimum (Sensitivity)	P _{IN}	-	-	-28	dBm	BER < 10 ⁻¹⁰
Operating Center Wavelength	λ_C	1260	-	1360	nm	
Optical Isolation	ISO	-	-	-40	dB	$\lambda = 1480 \sim 1600$ nm
Loss of Signal-Asserted	P _A	-	-	-28	dBm	
Loss of Signal-Deasserted	P _D	-45	-	-	dBm	
Differential Output Voltage	V _{DIFF}	0.5	-	1.6	V	
Data Output Rise, Fall Time (10-90%)	T _{r, f}	-	1	2	ns	
Receiver Loss of Signal Output Voltage-Low	RX_LOS _L	0	-	0.5	V	
Receiver Loss of Signal Output Voltage-High	RX_LOS _H	2.4	-	V _{CC}	V	

Ordering Information

SFP100B5-MM-A

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

Available Model	Model Name	Description	Operating Temperature
	SFP100B5-MM	100Mbps SFP optical Transceiver, Multi-mode BIDI / 2KM, TX1550nm / RX1310nm,	0 ~ 70°C
	SFP100B5-MM-I	100Mbps SFP optical Transceiver, Multi-mode BIDI / 2KM, TX1550nm / RX1310nm,	-40 ~ 85°C

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