OptiCin

Модуль SFP, 100Base-TX RJ45

Особенности:
-поддерживает100BASE-TX стандарт передачи данных по витой паре для 100Mbps SFP Slot порта
-Up to 100Mbps bi-direction data links
-Hot-pluggable SFP footprint
-Fully metallic enclosure for low EMI
-Compact RJ-45 connector assembly
-100m transmission over unshielded twisted pair(UTP) Category 5 Cable

Области применения:
-LAN 100Base-TX

Absolute Maximum Ratings

Parameter	Symbol	Min	Typ	Max
Storage Temperature	TS	-40		85

Normal operating condition

Parameter	Symbol	Min	Typ	Max	Units
Operating Temperature	Top	0		70	°C
Supply Voltage	Vcc	3.13	3.3	3.47	V

Electrical Characteristics

Parameter	Symbol	Min	Typ	Max	Units	Notes/Conditions
+3.3 Volt Electrical Power Interface						
Supply Current	Icc		170	300	mA	
Input Voltage	Vcc	3.13	3.3	3.47	V	
Surge Current	Isurge			30	mA	
Low-Speed Signals, Electronic Characteristics						
SFP Output LOW	VOL	0		0.5	V	4.7k to 10k pull-up to host_Vcc, measured at host side of connector
SFP Output HIGH	VOH	host_ Vcc - 0.5		host_ Vcc + 0.3	V	4.7k to 10k pull-up to host_Vcc, measured at host side of connector
SFP Input LOW	VIL	0		0.8	V	4.7k to 10k pull-up to Vcc, measured at SFP side of connector
SFP Input HIGH	VIH	2		Vcc + 0.3	V	4.7k to 10k pull-up to Vcc, measured at SFP side of connector
High-Speed Electrical Interface, Transmission Line-SFP						
Line Frequency	fL		125		MHz	5-level encoding, per IEEE 802.3
Tx Output impedance	Zout,TX		100		Ohm	Differential, for all frequencies between 1MHz and 125MHz

Rx Input Impedance	Zin,RX		100		Ohm	Differential, for all frequencies between 1MHz and 125MHz
High-Speed Electrical Interface, Host-SFP						
Single ended data input swing	Vin	250		1200	mV	Single ended
Single ended data output swing	Vout	300		1000	mV	Single ended
Rise/Fall Time	Tr,Tf		3		psec	20%-80%
Tx Input Impedance	Zin		50		Ohm	Single ended
Rx Output Impedance	Zout		50		Ohm	Single ended

General specifications

Parameter	Symbol	Min	Typ	Max	Units	Notes/Conditions
Datarate			100		Mbps	
Distance				100	m	Category 5 UTP. BER $<10^{-12}$

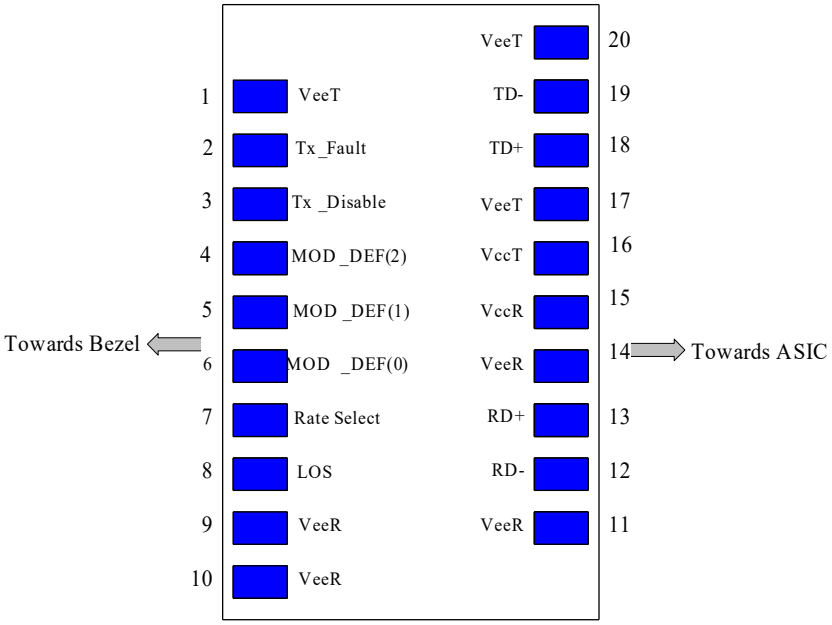
Pin Descriptions

Pin No.	Name	Function	Plug Seq.	Notes
1	VeeT	Transmitter Ground	1	
2	TX Fault	Transmitter Fault Indication	3	Not used
3	TX Disable	Transmitter Disable	3	1
4	MOD-DEF2	Module Definition 2	3	2
5	MOD-DEF1	Module Definition 1	3	2
6	MOD-DEF0	Module Definition 0	3	2
7	Rate Select	Not Connected	3	
8	LOS	Loss of Signal	3	Not Used
9	VeeR	Receiver Ground	1	
10	VeeR	Receiver Ground	1	
11	VeeR	Receiver Ground	1	
12	RD-	Inv. Received Data Out	3	
13	RD+	Received Data Out	3	
14	VeeR	Receiver Ground	1	
15	VccR	Receiver Power	2	
16	VccT	Transmitter Power	2	
17	VeeT	Transmitter Ground	1	
18	TD+	Transmit Data In	3	
19	TD-	Inv. Transmit Data In	3	
20	VeeT	Transmitter Ground	1	

1. PHY disabled on TDIS > 2.0V or open, enabled on TDIS < 0.8V,used to reset the module.

2. Should be pulled up with 4.7k – 10k Ohms on host board to a voltage between 2.0 V and 3.6 V.

   MOD_DEF(0) pulls line low to indicate module is plugged in.



Mechanical Specifications

Copper SFP transceivers are compliant with the dimensions defined by the SFP Multi-Sourcing Agreement (MSA).

Описание EEPROM:

SFP модуль содержит EEPROM. Это обеспечивает доступ к информации о идентификации, которая описывает способности модуля, стандарты интерфейса, наименование производителя и код модели. Последовательный интерфейс использует 2-х проводной последовательный CMOS EEPROM протокол, определенный для ATMEL AT24C01A/02/04 семейства микросхем. Когда последовательный протокол активизирован, Host производит последовательный сигнал Clock (SCL MOD_DEF1). Положительный сигнал clock data позволяет выбрать сегмент не защищенного от записи EEPROM в пределах памяти SFP модуля. Отрицательный сигнал позволяет считывать данные с SFP модуля. Последовательный сигнал данных (SDA MOD_DEF2) двунаправленный для последовательного протокола. Организация памяти – последовательные 8-и битовые слова, которые могут быть адресованы индивидуально или последовательно.