WTXP-M85-02D(I)

SFP 10Gb/s 850nm Multi-mode 300m DDM

/ PRODUCT FEATURES

Temperature 0～70°C



1. Product Overview

The WTXP-M85-02D(I) Small Form Factor Pluggable (SFP) transceiver is SFP+ module for duplex optical data communications such as 10GBASE-SR and 10GBASE-SW. It is with the SFP+ 20-pin connector to allow hot plug capability. Digital diagnostic functions are available via an I2C. This module is designed for multi-mode fiber and operates at a nominal wavelength of 850nm.

The transmitter section uses a Vertical Cavity Surface Emitted Laser (VCSEL) and is a Class 1 laser compliant according to International Safety Standard IEC 60825. The receiver section uses an integrated GaAs detector preamplifier (IDP) mounted in an optical header and a limiting post-amplifier IC.

Features

- Up to 11.1Gbps Data Links
- 850nm VCSEL transmitter and GaAs PIN PD receiver
- Maximum link length of 300m via OM3 multimode Fiber (MMF)
- Compliant with IEEE 802.3ae 10GBASE-SR/SW
- Hermetic TOs package，high reliability
- Operating temperature range:
- Commercial: 0°C to +70°C
- Industrial: -40°C to +85°C

Applications

- Inter Rack Connection
- High-speed Servers
- 10GBASE-SW at 9.953Gbps/10GBASE-SR at 10.3125Gbps
- High-performance Computing Clusters
- SAN, Routers, Hubs, Load Balancer

2. Ordering Information

Part No	package	Data rate	Interface	Temp	Reach	other
WTXP-M85-02D	SFP+	11.1Gbps	LC	0～70°C	300m	DDM
WTXP-M85-02DI	SFP+	11.1Gbps	LC	-40～85°C	300m	DDM

3. Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Storage Temperature	Ts	-40	-	85	ºC	
Relative Humidity	RH	5	-	95	%	
Power Supply Voltage	VCC	-0.3	-	4	V	
Signal Input Voltage	VSI	Vcc-0.3	-	Vcc+0.3	V	

4. Recommended Operating Conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Power Supply Voltage	VCC	3.14	3.3	3.47	V	
Power Supply Current	ICC	-		300	mA	
Data Rate	BR		10.3125		Gbps	TX Rate/RX Rate
Transmission Distance	TD			300	m	OM3

5. Recommended Operating Conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Transmitter	Transmitter	Transmitter	Transmitter	Transmitter	Transmitter	Transmitter
Center wavelength	λ	840		860	nm	
RMS spectral width	Pm			0.45	nm	
Average optical power	Pavg	-8.2		-1	dBm	
Average launch power of OFF transmitter	Poff			-30	dBm	
Extinction ratio	ER	3			dB	
Transmitter Dispersion Penalty	TDP			3.9	dB	
Output Optical Eye		IEEE 802.3-2005 Compliant	IEEE 802.3-2005 Compliant	IEEE 802.3-2005 Compliant	IEEE 802.3-2005 Compliant	IEEE 802.3-2005 Compliant
Optical return loss tolerance					12	dB
Receiver	Receiver	Receiver	Receiver	Receiver	Receiver	Receiver
Center wavelength	λ	840	850	860	nm	
Damage threshold		3.4			dBm	
Receive power overload		-1			dBm	1
Receiver sensitivity				-9.9	dBm	1
LOS Assert	LOSA	-25			dBm	
LOS De-Assert	LOSD			-11.5	dBm	
LOS Hysteresis	LOSH	0.5			dB	

6. Recommended Operating Conditions

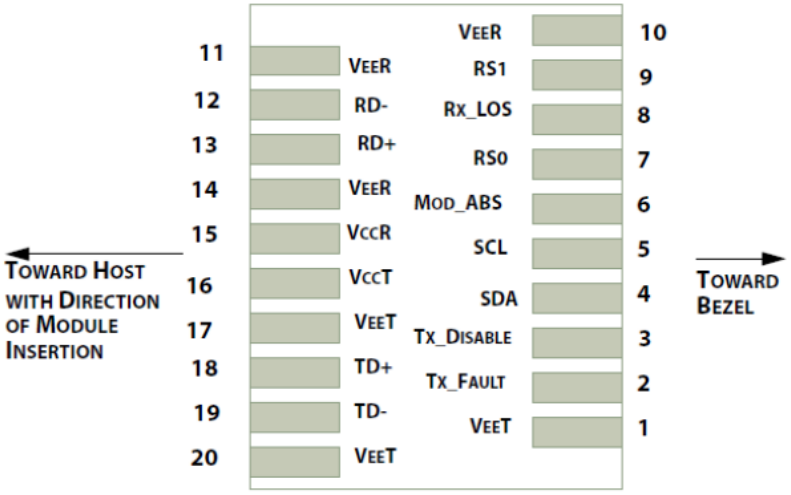
Parameter	Accuracy	Unit
Internally measured transceiver temperature	+/-3	deg.C
Internally measured transceiver supply voltage	+/-3	%
Measured Tx bias current	+/-10	%
Measured Tx output power	+/-3	dB

Parameter	Accuracy	Unit
Measured Rx received average optical power	+/-3	dB

7. Pin Descriptions

Version No.	Date	Description
1.0	June 24, 2021	Specification datasheet

8. Technical Figure 1



9. Technical Figure 2

PIN	Logic	Symbol	Name / Description
1		VeeT	Module Transmitter Ground
2	LVTTL-O	TX_Fault	Module Transmitter Fault
3	LVTTL-I	TX_Dis	Transmitter Disable; Turns off transmitter laser output
4	LVTTL-I/O	SDA	2-Wire Serial Interface Data Line
5	LVTTL-I	SCL	2-Wire Serial Interface Clock
6		MOD_DEF0	Module Definition, Grounded in the module
7	LVTTL-I	RS0	Receiver Rate Select
8	LVTTL-O	RX_LOS	Receiver Loss of Signal Indication Active LOW
9	LVTTL-I	RS1	Transmitter Rate Select (not used)
10		VeeR	Module Receiver Ground
11		VeeR	Module Receiver Ground
12	CML-O	RD-	Receiver Inverted Data Output
13	CML-O	RD+	Receiver Data Output
14		VeeR	Module Receiver Ground
15		VccR	Module Receiver 3.3 V Supply
16		VccT	Module Receiver 3.3 V Supply
17		VeeT	Module Transmitter Ground
18	CML-I	TD+	Transmitter Non-Inverted Data Input
19	CML-I	TD-	Transmitter Inverted Data Input
20		VeeT	Module Transmitter Ground

10. Revision History

Version	Date	Description	Prepared by
V6	2025	Unified WincoTek datasheet format	WincoTek
V6.1	2026-10-23	Engineering and format review	WincoTek