WTS10GT30

10G SFP+ Transceiver Copper 30m RJ-45



1. Product Overview

WTS10GT30 Copper Small Form Pluggable (SFP) transceivers are based on the SFP Multi Source Agreement (MSA). They are compatible with the 10Gbase-T / 5Gbase-T / 2.5Gbase-T / 1000base-T standards as specified in IEEE Std 802.3. SFP+-10GBASE-T uses the SFP's RX_LOS (must be pulled up on host) pin for link indication. If pull up or open SFP's TX_DISABLE pin, PHY IC be reset.

Features

- Support 10Gbase-T / 5Gbase-T / 2.5Gbase-T / 1000base-T
- Hot-pluggable SFP footprint
- Compact RJ-45 connector assembly
- RoHS compliant and lead-free
- Single +3.3V power supply
- 10 Gigabit Ethernet over Cat 6a cable
- Operating Case Temperature: 0°C to 70°C
- Cable Length
- SFP to Host Connector Pin Out
- 1. Circuit ground is connected to chassis ground
- 2. PHY disabled on TDIS > 2.0V or open, enabled on TDIS < 0.8V
- 3. 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.

Applications

- 10 Gigabit Ethernet

2. Absolute Maximum Ratings

Parameter	Symbol	Min	Typ	Max	unit	Notes/Conditions
Operating Temperature	Top	0		70	°C	Case temperature
Storage Temperature	Tsto	-40		85	°C	Ambient temperature

3. Pin Descriptions

Pin	Symbol	Name/Description	Ref.
1	VEET	Transmitter Ground (Common with Receiver Ground)	1
2	TFAULT	Transmitter Fault. Not supported.	

Pin	Symbol	Name/Description	Ref.
3	TDIS	Transmitter Disable. Laser output disabled on high or open.	2
4	MOD_DEF (2)	Module Definition 2. Data line for Serial ID.	3
5	MOD_DEF (1)	Module Definition 1. Clock line for Serial ID.	3
6	MOD_DEF (0)	Module Definition 0. Grounded within the module.	3
7	Rate Select	No connection required	
8	LOS	High indicates no linked. low indicates linked.	4
9	VEER	Receiver Ground (Common with Transmitter Ground)	1
10	VEER	Receiver Ground (Common with Transmitter Ground)	1
11	VEER	Receiver Ground (Common with Transmitter Ground)	1
12	RD-	Receiver Inverted DATA out. AC Coupled	
13	RD+	Receiver Non-inverted DATA out. AC Coupled	
14	VEER	Receiver Ground (Common with Transmitter Ground)	1
15	VCCR	Receiver Power Supply	
16	VCCT	Transmitter Power Supply	
17	VEET	Transmitter Ground (Common with Receiver Ground)	1
18	TD+	Transmitter Non-Inverted DATA in. AC Coupled.	
19	TD-	Transmitter Inverted DATA in. AC Coupled.	
20	VEET	Transmitter Ground (Common with Receiver Ground)	1

4. Additional Specifications

Standard	Cable	Reach	Host Port
10Gbase-T	CAT6A	30m	XFI
5Gbase-T/2.5Gbase-T	CAT5E	50m	5GBase-R/2.5GBase-X
1000base-T	CAT5E	100m	1000base-FX

5. Additional Specifications

Parameter	Symbol	Min	Typ	Max	unit	Notes/Conditions
Supply Current	Is		700	900	mA	3.0W max power over full range of voltage and temperature. See caution note below

Parameter	Symbol	Min	Typ	Max	unit	Notes/Conditions
Input Voltage	Vcc	3.13	3.3	3.47	V	Referenced to GND
Maximum Voltage	Vmax			4	V	
Surge Current	Isurge		Not specified		mA	Hot plug above steady state current. See caution note below

6. Additional Specifications

Parameter	Symbol	Min	Max	unit	Notes/Conditions
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

7. Additional Specifications

High-Speed Electrical Interface, Transmission Line-SFP	High-Speed Electrical Interface, Transmission Line-SFP	High-Speed Electrical Interface, Transmission Line-SFP	High-Speed Electrical Interface, Transmission Line-SFP	High-Speed Electrical Interface, Transmission Line-SFP	High-Speed Electrical Interface, Transmission Line-SFP	High-Speed Electrical Interface, Transmission Line-SFP
Parameter	Symbol	Min	Typ	Max	unit	Notes/Conditions
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

8. Additional Specifications

High-Speed Electrical Interface, Host-SFP	High-Speed Electrical Interface, Host-SFP	High-Speed Electrical Interface, Host-SFP	High-Speed Electrical Interface, Host-SFP	High-Speed Electrical Interface, Host-SFP	High-Speed Electrical Interface, Host-SFP	High-Speed Electrical Interface, Host-SFP
Parameter	Symbol	Min	Typ	Max	unit	Notes/Conditions
Single ended data input swing	Vinsing	250		1200	mV	Single ended

High-Speed Electrical Interface, Host-SFP	High-Speed Electrical Interface, Host-SFP	High-Speed Electrical Interface, Host-SFP	High-Speed Electrical Interface, Host-SFP	High-Speed Electrical Interface, Host-SFP	High-Speed Electrical Interface, Host-SFP	High-Speed Electrical Interface, Host-SFP
Single ended data output swing	Voutsing	350		800	mV	Single ended
Rise/Fall Time	Tr, Tf		175		psec	20%-80%
Tx Input Impedance	Zin		50		Ohm	Single ended
Rx Output Impedance	Zout		50		Ohm	Single ended

9. Additional Specifications

Parameter	Symbol	Min	Typ	Max	unit	Notes/Conditions
Data Rate	BR	1		10	Gb/sec	IEEE 802.3 compatible. See Notes 1,2 below

10. Additional Specifications

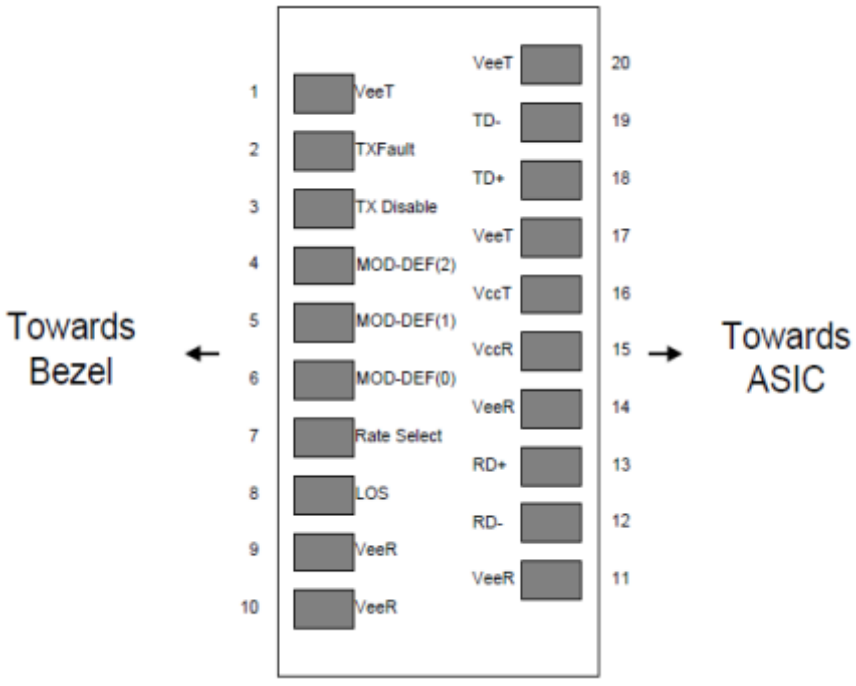
Addr	Field Size (Bytes)	Name of Field	HEX	Description
0	1	Identifier	03	SFP
1	1	Ext. Identifier	04	MOD4
2	1	Connector	22	RJ45
3-10	8	Transceiver	00 00 00 00 00 00 00 00	Transmitter Code
11	1	Encoding	06	64B66B
12	1	BR, nominal	67	10000M bps
13	1	Reserved	00	
14	1	Length (9um)-km	00	
15	1	Length (9um)	00	
16	1	Length (50um)	00	
17	1	Length (62.5um)	00	
18	1	Length (copper)	1E	30m
19	1	Reserved	00	
20-35	16	Vendor name	57 69 6E 63 6F 54 65 6B 20 20 20 20 20 20 20 20	WincoTek (ASCII)
36	1	Reserved	00	
37-39	3	Vendor OUI	00 00 00	
40-55	16	Vendor PN	57 54 53 31 30 47 54 33 30 20 20 20 20 20 20 20	WTS10GT30 (ASCII)
56-59	4	Vendor rev	31 2E 30 20	V1.0
60-61	2	Wavelength	00 00	Not applicable (copper)
62	1	Reserved	00	
63	1	CC BASE	XX	Check sum of byte 0~62

Addr	Field Size (Bytes)	Name of Field	HEX	Description
64-65	2	Options	00 1A	LOS, TX_DISABLE, TX_FAULT
66	1	BR, max	00	
67	1	BR, min	00	
68-83	16	Vendor SN	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	Unspecified
84-91	8	Vendor date code	XX XX XX 20	Year, Month, Day
92-94	3	Reserved	00	
95	1	CC_EXT	XX	Check sum of byte 64~94
96-255	160	Vendor specific		

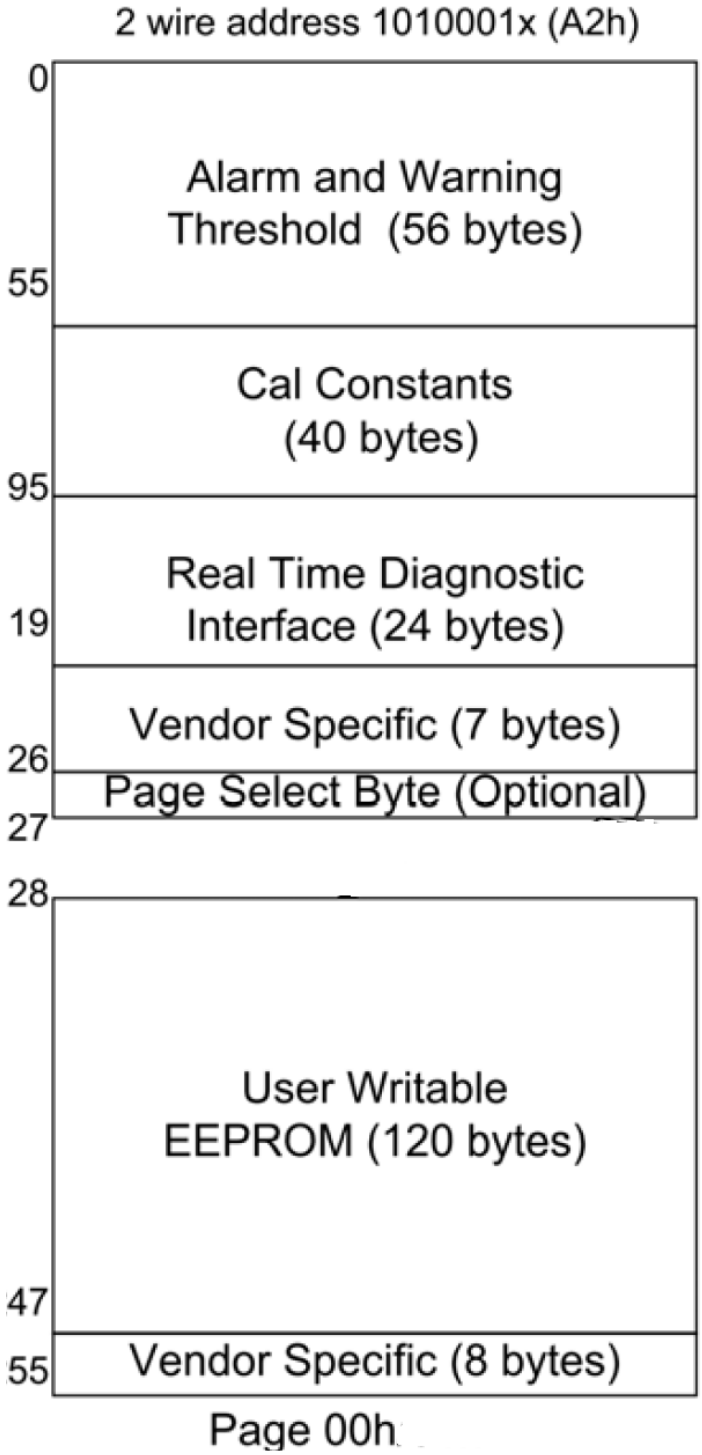
11. Additional Specifications

Parameter	Symbol	Min	Typ	Max	unit	Notes/Conditions
I 2C Clock Rate		0		200,000	Hz	

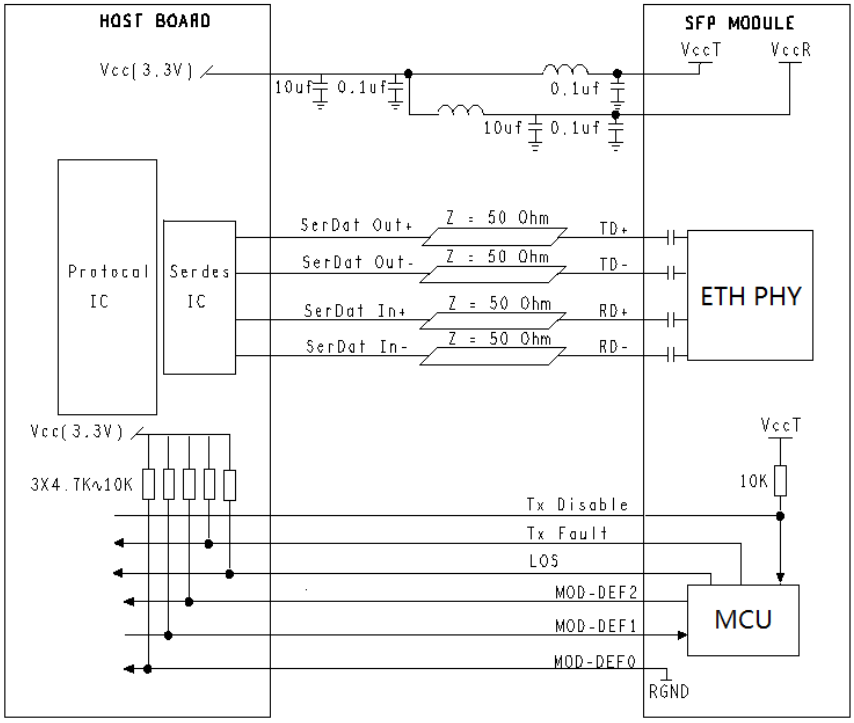
12. Pin Assignment



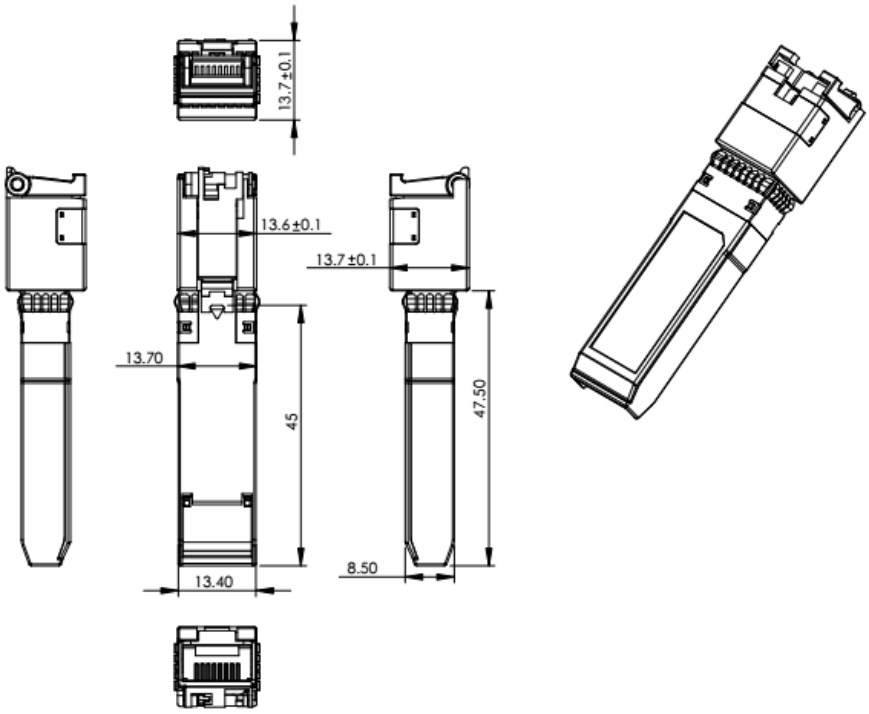
13. Digital Diagnostics Memory Map



14. Electrical Interface



15. Mechanical Specifications



16. Revision History

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