

## Features

- 25.78 Gbps serial optical interface
- 1310nm DFB transmitter and PIN PD receiver
- Superior eye performances
- Up to 10km on 9/125 um SMF
- 80nm high sensitivity PIN-TIA receiver
- SFP28 MSA compliant
- Built-in digital diagnostic functions
- Operating case temperature: 0 to +70 °C
- RoHS 6 Compliant

## Application

- 25GBASE-LR
- eCPRI , CPRI
- Ethernet Switches
- High-speed Servers
- High-performance Computing Clusters



## Overview

WTSFP28 CWDM transceivers are designed for 24.33Gbps and 25.78Gbps data rate over SMF and support up to 10km link length. They are compliant to IEEE802.3ba, SFF-8402, SFF-8432. Digital diagnostic monitoring interface compliant to SFF-8472 is available via an I2C interface.

## Order Information

Part No.	Data Rate	Laser	Fiber Type	Distance	Optical Interface	Temp	DDM I
WT-SFP28-CWDM-1271-10 L	24.33Gbps 25.78Gbps	1271nm	SMF	10km	LC	0~70C	Y
WT-SFP28-CWDM-1291-10 L	24.33Gbps 25.78Gbps	1291nm	SMF	10km	LC	0~70C	Y
WT-SFP28-CWDM-1311-10 L	24.33Gbps 25.78Gbps	1311nm	SMF	10km	LC	0~70C	Y
WT-SFP28-CWDM-1331-10 L	24.33Gbps 25.78Gbps	1331nm	SMF	10km	LC	0~70C	Y

## ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Conditions	Min.	Max.	Unit
Storage Temperature	T <sub>Storage</sub>		0	70	°C
Relative Humidity	RH		0	+85	%



**RECOMMENDED OPERATING CONDITIONS** (T=25°C, unless noted)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Ref.
Case Temperature	T <sub>C</sub>	-40		85	°C	
Power Supply Voltage	V <sub>CC</sub>	3.15	3.30	3.45	V	
Signaling Rate each Channel			25.78125		Gbps	
Bit Error Rate	BER			5E(-5)		
Fiber Length	L			10	Km	

**ELECTRICAL CHARACTERISTICS** (T=25°C, unless noted)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Ref.
Power Consumption				1	W	
Supply Current	I <sub>cc</sub>			400	mA	

**TRANSMITTER CHARACTERISTICS**

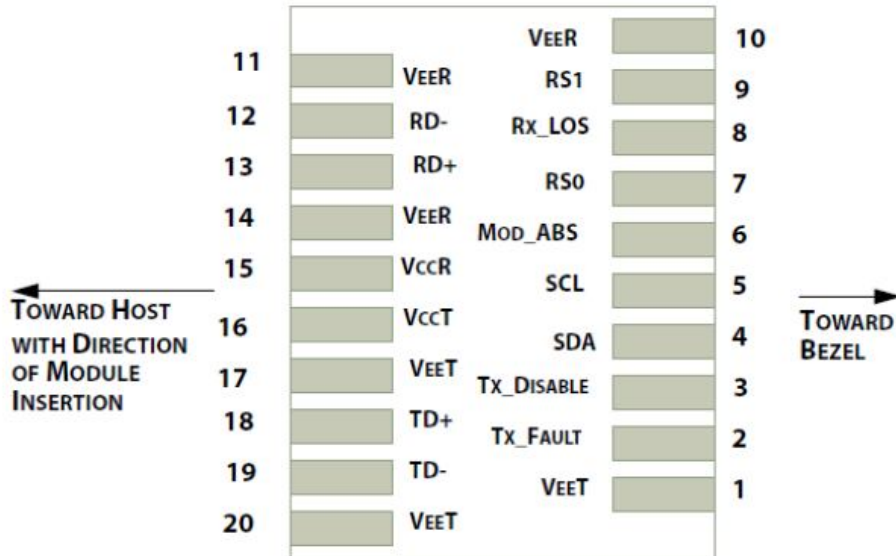
Parameter	Symbol	Min.	Typ.	Max.	Unit	Ref.
Center Wavelength	$\lambda$	$\lambda-6.5$	$\lambda$	$\lambda+6.5$	nm	*1
Side-mode Suppression Ratio	SMSR	30			dB	
Average Optical Power, 25.78Gb/s	P <sub>avg</sub>	-7.0		+3.0	dBm	
Transmitter and Dispersion Penalty	TDP			3	dB	
Average Launch Power of OFF Transmitter	P <sub>off</sub>			-20	dBm	
Extinction Ratio	ER	3.5			dB	
Optical Return Loss Tolerance				20	dB	
Transmitter Reflectance				-12	dB	

\*1 :The center wavelength ( $\lambda$ ) are 1271nm, 1291nm, 1311 nm and 1331nm

**RECEIVER CHARACTERISTICS** (T=25°C, unless noted)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Ref.
Center Wavelength	$\lambda$	1260		1370	nm	
Damage Threshold		3.5			dBm	
Receive Power Overload				3.5	dBm	
Receiver Reflectance				-12	dB	
Receiver Sensitivity (OMA) @5E-5 BER, KR4 FEC, 25.78 Gb/s	S <sub>OMA</sub>			-11.3	dBm	
LOS Assert	LOS <sub>A</sub>			-17	dBm	
LOS De-Assert	LOS <sub>D</sub>	-30			dBm	
LOS Hysteresis		0.5			dB	

## PIN ASSIGNMENT



## PIN DESCRIPTION

PIN	Logic	Symbol	Name / Description
1		VeeT	Module Transmitter Ground
2	LVTTTL-O	TX_Fault	Module Transmitter Fault
3	LVTTTL-I	TX_Dis	Transmitter Disable; Turns off transmitter laser output
4	LVTTTL-I/O	SDA	2-Wire Serial Interface Data Line
5	LVTTTL-I	SCL	2-Wire Serial Interface Clock
6		MOD_DEF0	Module Definition, Grounded in the module
7	LVTTTL-I	RS0	Receiver Rate Select
8	LVTTTL-O	RX_LOS	Receiver Loss of Signal Indication Active LOW
9	LVTTTL-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



## OUTLINE DIMENSIONS

