

SFP28 25G 10km LR Transceiver

P/N: WST-S28-LR-x



Applications:

- 25G Ethernet
- 5G Application

Features:

- Compliant with SFF-8402 SFP28 MSA
- 25.78 Gbps serial optical interface
- 1310nm DFB transmitter and PIN PD receiver
- Superior eye performances
- Up to 10km on 9/125 um SMF
- Low power consumption
 - Max. 1.0W for WST-S28-LR-C
 - Max. 1.5W for WST-S28-LR-I
- Operating temperature range:
 - 0°C to 70°C operation: WST-S28-LR-C
 - 40°C to +85°C operation: WST-S28-LR-I
- Class 1 Laser International Safety Standard IEC-60825 Compliant
- eCPRI Specification V2.0

Absolute Maximum Ratings

Parameter	Symbol	Conditions	Min.	Max.	Unit
Storage Temperature	T _{Storage}		-40	+85	°C
Relative Humidity	RH		0	+85	%

Recommended Operating Conditions (T_c=25°C, unless noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Case Temperature	T _c	WST-S28-LR-C	0		70	°C
		WST-S28-LR-I	-40		85	°C
Power Supply Voltage	V _{cc}		3.15	3.30	3.45	V
Signaling Rate each Channel				25.78125		Gbps

Electrical Characteristics (Tc within operating temperature range, unless noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Power Consumption		WST-S28-LR-C			1	W
		WST-S28-LR-I			1.5	W
Supply Current	I _{cc}	WST-S28-LR-C			300	mA
		WST-S28-LR-I			360	mA

TRANSMITTER CHARACTERISTICS (Tc within operating temperature range, unless noted)

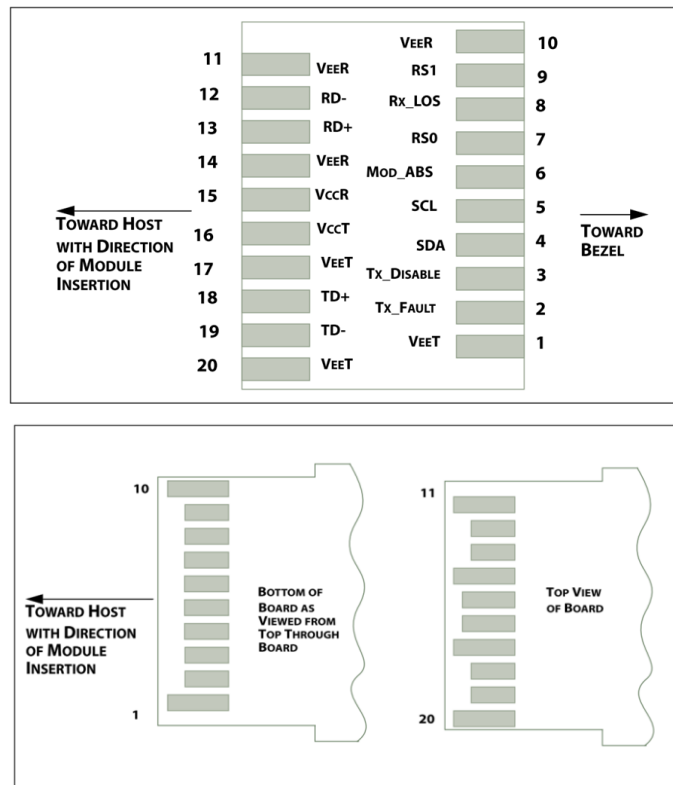
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Center Wavelength	λ		1295		1325	nm
Side-mode Suppression Ratio	SMSR		30			dB
Average Optical Power	P _{avg}		-7.0		2.0	dBm
Optical Modulation Amplitude	TxOMA		-4.0		2.2	dBm
Transmitter and Dispersion Penalty	TDP				2.7	dB
Average Launch Power of OFF Transmitter	P _{off}				-20	dBm
Extinction Ratio	ER		3.0			dB
Optical Return Loss Tolerance					20	dB
Transmitter Reflectance					-26	dB

RECEIVER CHARACTERISTICS (Tc within operating temperature range, unless noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Center Wavelength	λ		1295		1325	nm
Damage Threshold			3.0			dBm
Receive Power Overload					2.0	dBm
Receiver Reflectance					-26	dB
Receiver Sensitivity (OMA)	S _{OMA}	Note 1			-12.0	dBm
LOS Assert	LOS _A		-30			dBm
LOS De-Assert	LOS _D				-15	dBm
LOS Hysteresis			0.5			dB

Note 1: Measured with worst ER; BER < 5E-5 and PRBS 2E31-1.

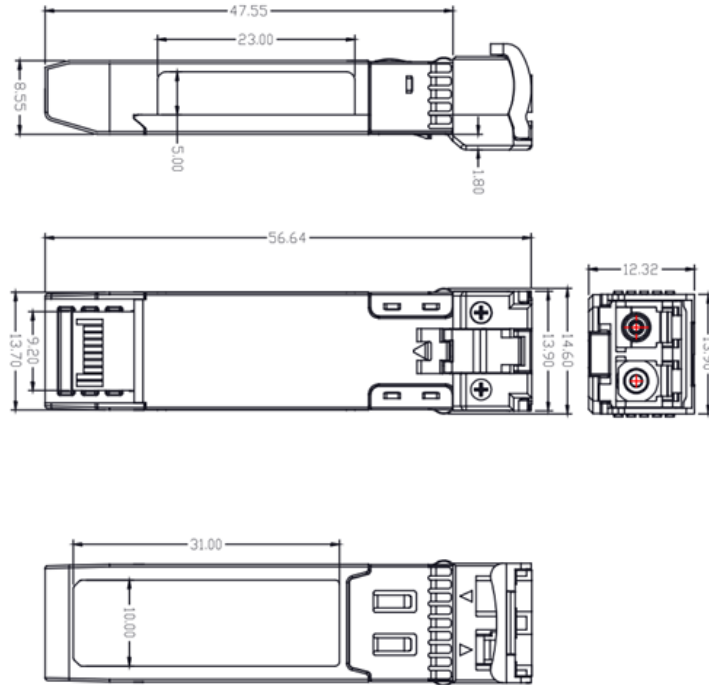
Pin Assignment



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



Bail Color: Blue

Unit: mm

Ordering Information

Part No	Specification									
	Package	Data rate per Lane	Laser	Optical Power	Detector	Max. Receiver sensitivity (OMA)	Temp	Reach	Other	Application code
WST-S28-LR-C	SFP28	25.78125 Gbps	1310nm DFB	-7.0~ +2 each Channel	PIN	-12.0dBm	0~70°C	10km	DDM RoHS	Ethernet
WST-S28-LR-I	SFP28	25.78125 Gbps	1310nm DFB	-7.0~ +2 each Channel	PIN	-12.0dBm	-40~85°C	10km	DDM RoHS	Ethernet

Modification History

Revision	Date	Description	Originator	Review	Approved
V1.0	07-Nov-2019	New Issue	Ivy Chen	Wayne Liao	Wayne Liao
V1.1	29-Nov-2019	Wordings modified for consistent	Ivy Chen	Wayne Liao	Wayne Liao
V1.2	26-Mar-2020	Update Feature	Ivy Chen	Wayne Liao	Wayne Liao



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