



FEATURES

- Supports 25.78125Gb/s serial optical interface
- VCSEL laser transmitter and PIN photo-detector
- Maximum link length of 70m on OM3 MMF or 300m on OM4 MMF
- Hot-pluggable SFP28 form factor
- SFP28 MSA package with Duplex LC connector
- Power consumption less than 1.0 W
- Metal enclosure, for lower EMI
- RoHS compliant and lead-free
- Single +3.3V powersupply
- Internal CDR on both transmitter and receiver channel
- Electrical interface compliant to SFF-8431
- Built-in digital diagnostic functions
- Case operating temperature
Commercial: 0°C to +70°C
Industrial: -40°C to +85

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Storage Temperature	Ts	-50		+95	°C	
Relative Humidity	RH	0		95	%	
Power Supply Voltage	VCC	-0.3		+4	V	

SA-SFPP-25SRD

25Gb/s SFP28 850nm Duplex 300m Transceiver

DESCRIPTION

The SFP28 transceivers are high performance, cost effective modules supporting data rate of 25.78125Gbps and Maximum link length of 70m on OM3 MMF or 300m on OM4 MMF.

The transceiver consists of three sections: a 850nm Oxide VCSEL laser transmitter, aPIN photodiode integrated with a trans-impedance preamplifier (TIA) and MCU control unit. All modules satisfy class I laser safety requirements. The transceivers are compatible with SFP Multi-Source Agreement and SFF-8472 digital diagnostics functions.

APPLICATIONS

- 25GBASE-SR 25G Ethernet
- 25.78125 Gb/s single lane 100GE SR4
- Other optical links

PRODUCT SELECTION

Part Number	Operating Case temperature	DDMI
SA-SFPP-25SRD	Commercial (0~70°C)	Yes
SA-SFPP-25SRDH	Industrial (-40~85°C)	Yes

RECOMMENDED OPERATING CONDITIONS

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Case Operating Temperature	T _c	0		70	°C	Commercial
	T _I	-40		85	°C	Industrial
Power Supply Voltage	V _{CC}	3.14	3.3	3.47	V	
Power Supply Current	I _{CC}			300	mA	
Data Rate	BR		25.78125		Gbps	
Transmission Distance	TD	-	-	70	m	OM3 *1
Transmission Distance	TD	-	-	300	m	OM4 *1

ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Transmitter						
Tx Disable Input-High	VDISH	2		V _{CC} +0.3	V	
Tx Disable Input-Low	VDISL	0		0.8	V	
Tx Fault Input-High	VTxFH	2		V _{CC} +0.3	V	
Tx Fault Input-Low	VTxFL	0		0.8	V	
Receiver						
LOSS -High	V _{LOSH}	2		V _{CC} +0.3	V	
LOSS -Low	V _{LOSL}	0		0.8	V	

OPTICAL CHARACTERISTICS

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Transmitter						
Average Output Power	POUT	-5		+2.4	dBm	
Extinction Ratio	ER	2.0			dB	
Center Wavelength	λ_c	840	850	860	nm	VCSEL Laser
Transmitter OFF Output Power	Poff			-45	dBm	
Receiver						
Receiver Sensitivity	SENS			-10.3	dBm	1
Receiver Overload		2			dBm	
Input Optical Wavelength	λ_C	840		860	nm	PIN-TIA
LOS De-assert	LOSD			-13	dBm	
LOS Assert	LOSA	-25			dBm	2
LOS Hysteresis		0.5	1.0		dB	

Notes:

1. Measured with worst ER=2.0dB, RPBS 2³¹-1 test pattern @25.78125Gbps BER=<5E-5.

DIGITAL DIAGNOSTIC MONITORING INTERFACE

Five transceiver parameter values are monitored. The following table defines the monitored parameter's accuracy.

Parameter	Range	Accuracy	Calibration
Temperature	0 to +70°C (C)	±3°C	Internal
Voltage	2.97 to 3.63V	±3%	Internal
Bias Current	0 to 100mA	±10%	Internal
TX Power	-6 to 3dBm	±3dBm	Internal
RX Power	-11 to 3dBm	±3dBm	Internal

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Performance specifications are typical. Due to constant research, specifications are subject to change without notice. For the most up-to-date specifications, please contact an authorized Starview representative.

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