



FEATURES

- Duplex LC Connector
- Support hot-pluggable
- Metal with lower EMI
- Excellent ESD protection
- VCSEL Transmitter and PIN Receiver
- Typical Center Wavelength: 850nm
- Max link length up to 300m on MMF
- RoHS Compliant and Lead-Free
- Digital diagnostic compatible with SFF-8472
- Case Operation Temperature: -50C~+70oC
- Single 3.3V power supply and Low power dissipation <1.0W

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Maximum Supply Voltage	Vcc3	-0.5	-	4.0	V	
Storage Temperature	TS	-40	-	85	°C	
Operating Humidity	-	5	-	95	%	
Maximum Supply Voltage	Vcc3	-0.5	-	4.0	V	

SA-SFPP-10SRD

10.3125Gbps short Wavelength SFP+ Optical Transceiver

DESCRIPTION

SA-SFPP-10SRD is specifically designed for the high performance integrated duplex data transmission over multi mode optical fiber.

This transceiver module is compliant with the Small Form-factor Pluggable Plus (SFP+) Multisource Agreement (SFF-8431 Rev4.1). This transceiver type is specifically optimized for transport of serial data at up to 10.3125 Gbps, with link characteristics complied with 10-Gigabit Ethernet 10GBASE-SR/SW base IEEE 802.3ae and 10G Fibre Channel 1200-SM-LL-L. 5

APPLICATIONS

- 10GBASE-SR/SW 10G Ethernet
- 1200-M5-SN-I, 1200-M5E-SN-I, 1200-M6-SN-I 10G Fibre Channel

RECOMMENDED OPERATING CONDITIONS

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Power Supply Voltage	V _{cc}	3.13	3.30	3.47	V	
Power Supply Current	I _{cc}	-	-	300	mA	
Case Operating Temperature	T _{op}	-5	-	70	°C	
Data Rate	-	-	10.3125	-	Gb/s	
9/125um G652 SMF	L _{max}	-	-	300	m	
Baud Rate Tolerance		-100		+100	ppm	

PERFORMANCE SPECIFICATIONS - TRANSMITTER

(-5°C<T_c<+70°C; +2.97V<V_{cc}<+3.63V)

Parameter		Symbol	Min.	Typ.	Max.	Unit	Notes
Input Differential Impedance		Z _{in}	90	100	110	Ω	
Tx_Fault	Normal Operation	VOL	-0.3	-	0.4	V	
	Transmitter Fault	VOH	2.4	-	V _{cc}	V	
TX_Disable (Note 1)	Disable	VIH	2.0	-	V _{cc} +0.3	V	
	Enable	VIL	-0.3	-	0.8	V	
Average Launch Optical Power		P _{out}	-7.3	-	-1.0	dBm	
Extinction Ratio		ER	3.0		-	dB	
Transmitter and Dispersion Penalty		TDP	-	-	3.9	dB	
Average Launch power of OFF TX		P _{off}	-	-	-30	dBm	
Optical Wavelength		λ	840		860	nm	
RMS Spectral width (max)		Δλ	Refer to Table 52-8 of IEEE 802.3-2005.				
Optical Modulation Amplitude		OMA					
Relative Intensity Noise(OMA)		RIN12			-128	dB/Hz	
Optical Return Loss Tolerance		ORLT			12	dB	
Eye Diagram		Compatible with IEEE 802.3-2005					

PERFORMANCE SPECIFICATIONS - RECEIVER

(-5°C<T_c<+70°C; +2.97V<V_{cc}<+3.6V)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Differential Data Output Swing	V _{out}	300	-	800	mV	
Output Differential Impedance	Z _{in}	90	100	110	Ω	
Receiver sensitivity (max) in OMA	PIN-SENS(OM A)	-	-	-11.1	dBm	BER<10E-12; PRBS2^31
Receiver Sensitivity	PIN-SENS	-	-	-9.9	dBm	
Overload		-1.0	-	-	dBm	
Receiver reflectance	-	-	-	-12	dB	
Optical Center Wavelength	λ _C	840	-	860	nm	
Los Assert		-32	-	-	dBm	
Los De-assert		-	-	-15	dBm	
Los hysteresis		0.5	-	-	dB	

REGULATORY COMPLIANCE¹

- Compliant with SFP+ MSA: SFF-8431 Rev4.1
- Compliant with SFF-8472 Rev4.4
- Compliant with IEEE802.3ae
- ESD to the Electrical PINs: compatible with MIL-STD-883E Method 3015.7
- ESD to the Duplex LC Receptacle: compatible with IEC 61000-4-2 GR-1089-CORE
- Immunity compatible with IEC 61000-4-3
- EMI compatible with FCC Part 15 Class B EN55022 Class B (CISPR 22B) VCCI Class B
- Laser Eye Safety compatible with FDA 21CFR 1040.10 and 1040.11 EN60950, EN (IEC) 60825-1,2
- RoHS compliant with 2002/95/EC 4.1&4.2 2005/747/EC

MONITOR SPECIFICATION

The digital diagnostic monitoring interface also defines another 256-byte memory map in EEPROM, which makes use of the 8 bit address 1010001X (A2h). The monitoring specification of this product is described in this table.

¹ The listed certifications are issued for markets in different regions. For the current status of the listed certifications in your region, please contact an authorized Starview representative.

MONITOR SPECIFICATION (CONT.)

Parameter	Range	Accuracy	Calibration
Temperature	-5 to +85°C	±3°C	Internal
Supply Voltage	2.97 to 3.63V	±3%	Internal
Bias Current	3mA to 80mA	±10%	Internal
TX Power	-8.2~0.5dBm	±3dB	Internal
RX Power	-15~0.5dBm	±3dB	Internal

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Australia Headquarters: Level 40, 140 Williams Street, Melbourne VIC 3000, Australia