PRODUCT DATASHEET

SFPP-32G-100m-850

Hybriflex SFP+ Modul 32G 100m

SFP + Transceiver.

Features / Benefits

- Supports 28.05Gb/s bit rate
- 850nm VCSEL laser and PIN photo-detector
- Maximum link length of 70m on OM3 MMF and 100m on OM4 MMF
- Digital diagnostics functions are available via the I2C interface
- Operating case temperature Commercial: 0°C to +70 °C
- +3.3V single power supply
- Power consumption less than 1W
- RoHS compliant
- Password protection for A0h and A2h

Technical Features

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Min	Typ	Max	Unit	Notes
Storage Temperature	Ts	-40	-	85	°C	-
Operating Humidity	RH	+5	-	+85	%	No condensation
Supply Voltage	Vcc	-0.5	-	3.6	V	-

RECOMMENDED OPERATING CONDITIONS

Parameter	Symbol	Min	Typ	Max	Unit	Notes
Operating Temperature	Tc	0	-	70	°C	-
Power Supply Voltage	Vcc	3.14	3.3	3.47	V	-
Power Supply Current	Icc	-	-	300	mA	-
Power Dissipation	Pd	-	-	1.0	W	-
Bit Rate	BR	8.5	-	28.05	Gbps	-

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TRANSMITTER OPTICAL CHARACTERISTICS

Parameter	Symbol	Minimum	Typical	Maximum	Unit	Notes
Bit Rate	BR	8.5	-	28.05	Gbps	Set low of RS0/RS1 pin and 0 of RS0/RS1 bit. Engine CDR lock at low bit rate. Set high of RS0/RS1 pin and 0 of RS0/RS1 bit. Engine CDR lock at high bit rate.
Center Wavelength Range	λC	840	850	860	nm	-
Spectral Width (RMS)	Δλ	-	-	0.57	nm	-
Average Launch power Tx_off	Poff	-	-	-30	dBm	-
Average Optical Power	Po	-6.2	-	-	dBm	Coupled into 50/125 MMF.
Extinction Ratio	ER	2.0	-	-	dB	-
Optical return loss tolerance	ORL	-	-	12	dB	-
Optical Eye Mask	-	5	-	-	%	-

RECEIVER OPTICAL CHARACTERISTICS

Parameter	Symbol	Minimum	Typical	Maximum	Unit	Notes
Bit Rate	-	8.5	-	28.05	Gbps	Set low of RS0/RS1 pin and 0 of RS0/RS1 bit. Engine CDR lock at low bit rate. Set high of RS0/RS1 pin and 0 of RS0/RS1 bit. Engine CDR lock at high bit rate.
Center Wavelength	λ C	770	-	860	nm	-
Damage Threshold	DT	3.4	-	-	dBm	-
Overload Input Optical Power	PIN	2.4	-	-	dBm	-
Receiver Sensitivity (Average Power)	-	-	-	-10.2	dBm	BER=1x10-6; PRBS 231-1 @28.05Gbps.
Receiver Sensitivity (Average Power)	-	-	-	-5.2	dBm	BER=1x10-12; PRBS231-1@28.05Gbps.
Optical Return Loss	ORL	12	-	-	dB	-
LOS Assert	LOS-A	-30	-	-	dBm	-
LOS De-Assert	LOS-D	-	-	-13	dBm	-
LOS Hysteresis	LOS-H	0.5	-	-	dB	-

ELECTRICAL CHARACTERISTICS

Transmitter Parameter	Symbol	Minimum	Typical	Maximum	Unit	Notes
Differential Data Input Swing	Vin,P-P	250	-	900	mVpp	-
Input Differential Impedance	Zin	90	100	110	Ω	-
Tx_Fault Normal Operation	VOL	0	-	0.4	V	-
Tx_Fault Transmitter Fault	VOH	2.4	-	VCC	V	-
Tx_Disable Normal Operation	VIL	0	-	0.8	V	-
Tx_Disable Laser Disable	VIH	2.0	-	VCC+0.3	V	-
Receiver Parameter	Symbol	Minimum	Typical	Maximum	Unit	Notes
Differential Date Output	VOUT	400	-	800	mV	-
Output Differential Impedance	ZD	90	100	110	Ω	-
Rx_LOS Normal Operation	VOL	0	-	0.4	V	-
Rx_LOS Lose Signal	VOH	2.4	-	VCC	V	-

PIN DESCRIPTION

PIN	Name	Function / Description	Notes
1	VEET	Module Transmitter Ground	The module ground pins are isolated from the module case.
2	TX_FAULT	Module Transmitter Fault	The pins shall be pulled up with 4.7K-10Kohms to a voltage between 3.14V and 3.46V on
3	TX DISABLE	Transmitter Disable; Turns off transmitter laser output	The pin is pulled up to VCCT with a 4.7K-10KΩ resistor in the module.
4	SDA	2-Wire Serial Interface Data Line (MOD-DEF2)	-
5	SCL	2-Wire Serial Interface Clock (MOD-DEF1)	-
6	MOD_ABS	Module Absent, connected to VEET or VEER in the module	The pins shall be pulled up with 4.7K-10Kohms to a voltage between 3.14V and 3.46V on
7	RS0	Rate Select 0	See SFF-8472 Rev12.2 Table 10-2.
8	RX_LOS	Receiver Loss of Signal Indication (In FC designated as Rx_LOS and in Ethernet designated as Signal Detect)	The pins shall be pulled up with 4.7K-10Kohms to a voltage between 3.14V and 3.46V on
9	RS1	Rate Select 1	See SFF-8472 Rev12.2 Table 10-2.
10	VEER	Module Receiver Ground	The module ground pins are isolated from the module case.
11	VEER	Module Receiver Ground	The module ground pins are isolated from the module case.
12	RD-	Receiver Inverted Data Output	-
13	RD+	Receiver Non-Inverted Data Output	-
14	VEER	Module Receiver Ground	The module ground pins are isolated from the module case.
15	VCCR	Module Receiver 3.3 V Supply	-
16	VCCT	Module Transmitter 3.3 V Supply	-
17	VEET	Module Transmitter Ground	The module ground pins are isolated from the module case.
18	TD+	Transmitter Non-Inverted Data Input	-
19	TD-	Transmitter Inverted Data Input	-
20	VEET	Module Transmitter Ground	The module ground pins are isolated from the module case.