

TECHNICAL SPECIFICATION

FIBER OPTIC 10 Gbps XFP TRANSCEIVER 850nm

- * Supports 9.95Gb/s to 11.3Gb/s bit rates
- * Hot Pluggable XFP Footprint
- * 850nm VCSEL Laser and PIN photo detector
- * Up to 10km transmission on SMF
- * Power dissipation < 2W
- * Single Power Supply: 3.3V
- * No Reference Clock Required
- * Compatible with RoHS
- * Built-in Digital Diagnostic Functions



Absolute Maximum Rating

Storage Temperature (°C)	-45 ~ +85 (Tst)
Supply Voltage (V)	0 ~ +3.6 (Vcc)
Operating Relative Humidity (%)	0 ~ 85 (RH)

Operation Environment

Parameters	Symbol	Min.	Typical	Max.
Supply Voltage (V)	Vcc	3.15	-	3.45
Operating Case Temperature (°C)	Tc	-5	-	+70
Commercial				
Power Dissipation (W)	-	-	-	2
Data Rate (Gbps)	-	9.95	-	11.3

Optical Characteristics (Transmitter Section)

Parameters	Min.	Typical	Max.	Units
Center Wavelength (λ_0)	840	850	860	nm
RMS Spectral Width ($\Delta\lambda$)	-	-	0.45	dB
Average Output Power (P_o)	-5	-	-1	dBm
Extinction Ratio (E_r)	3.5	-	-	dB
Jitter (p-p)	-	-	0.1	dB
Relative Intensity Noise (RIN_{12OMA})	-	-	-128	dB/Hz

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Optical Characteristics (Receiver Section)				
Parameters	Min.	Typical	Max.	Units
Center Wavelength (λ_0)	-	850	-	nm
Receiver Sensitivity (Rsen)	-	-	-11.5	dBm
Stressed Overload (Rsen)	-	-	-10.5	dBm
Receiver Overload (Rov)	0	-	-	dBm
Return Loss	12	-	-	dB
LOS Assert (LOSA)	-25	-	-	dBm
LOS Dessert (LOSD)	-	-	-15	dBm
LOS Hysteresis	0.5	-	4	
(Ambient Operating Temperature 0°C to +70°C, Vcc = 3.3 V)				

Electrical Characteristics (Transmitter Section)					
Parameters	Min.	Typical	Max.	Units	
Input Differential Impedence (Z_{in})	90	100	110	Ohm	
Data Input Swing Differential (V_{in})	120	-	850	mV	
TX Disable	Disable	2.0	-	Vcc	V
	Enable	0	-	0.8	V
TX Fault	Assert	2.0	-	Vcc	V
	Deassert	0	-	0.8	V

Electrical Characteristics (Receiver Section)					
Output Differential Impedence (Z_{out})	-	100		Ohm	
Data Input Swing Differential (V_{out})	340	650	850	mV	
Rx_LOS	Assert	2.0	-	Vcc	V
	Deassert	0	-	0.8	V

Diagnostics			
Parameter	Range	Accuracy	Cablibration
Temperature (°C)	-10 ~ +75	±3	Internal
Voltage (V)	0 ~ Vcc	0.1	Internal
Bias Current (mA)	0 ~ 100	0.5	Internal
Tx Power (dBm)	-8 ~ +1	±1	Internal
Rx Power (dBm)	-18 ~ 0	±1	Internal

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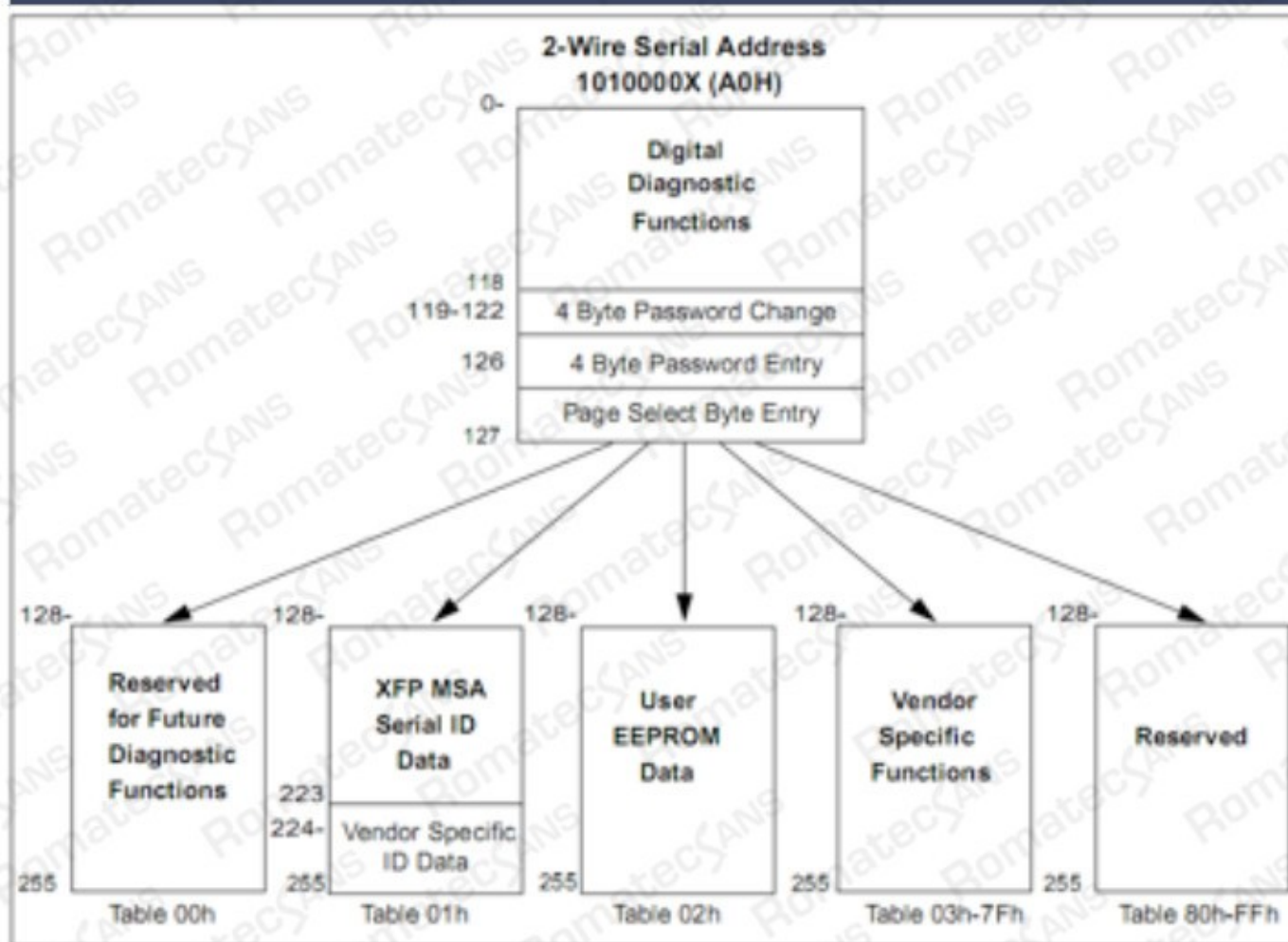
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EEPROM INFORMATION (A0)



Pin Description

Pin	Logic	Symbol	Name	Ref.
1	-	GND	Module Ground	1
2	-	VEE5	Optional -5.2 Power Supply (Not Required)	-
3	LVTTTL-I	Mod-Desel	Module De-Select; When held low allows the module to respond to 2-wire serial interface commands	-
4	LVTTTL-O	Interrupt	Interrupt (bar); Indicates presence of an important condition which can be read over the serial 2-wire interface	2
5	LVTTTL-I	TX_DIS	Transmitter Disable; Transmitter laser source turned off	-
6	-	VCC5	+5 Power Supply (Not Required)	-
7	-	GND	Module Ground	1
8	-	VCC3	+3.3V Power Supply	-
9	-	VCC3	+3.3V Power Supply	-

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Pin Description				
Pin	Logic	Symbol	Name	Ref.
10	LVTTL-I	SCL	Serial 2-wire interface clock	2
11	LVTTL-I/O	SDA	Serial 2-wire interface data line	2
12	LVTTL-O	Mod_Abs	Module Absent; Indicates module is not present. Grounded in the module	2
13	LVTTL-O	Mod_NR	Module not ready; Defines it as a logical OR between RX_LOS and Loss of lock in TX/RX	2
14	LVTTL-O	RX_LOS	Receiver Loss of Signal indicator	2
15	-	GND	Module Ground	1
16	-	GND	Module Ground	1
17	CML-O	RD-	Receiver inverted data output	-
18	CML-O	RD+	Receiver non-inverted data output	-
19	-	GND	Module Ground	1
20	-	VCC2	+1.8V Power Supply (Not Required)	-
21	LVTTL-I	P_Down/RST	Power Down; Place the module in the low power stand-by mode and on the falling edge of P_Down initiates a module reset	-
			Reser; The falling edge initiates a complete reset of the module including the 2-wire serial interface, equivalent to a power cycle	-
22	-	VCC2	+1.8V Power Supply (Not Required)	-
23	-	GND	Module Ground	1
24	PECL-I	RefCLK+	Reference Clock non-inverted input, AC coupled on the host board (Not Required)	3
25	PECL-I	RefCLK-	Reference Clock inverted input, AC coupled on the host board (Not Required)	3
26	-	GND	Module Ground	1
27	-	GND	Module Ground	1
28	CML-I	TD-	Transmitter inverted data input	-
29	CML-I	TD+	Transmitter non-inverted data input	-
30	-	GND	Module Ground	1

1. Module circuit ground is isolated from module chassis ground within the module.

2. Open collector; should be pulled up with 4.7k ~ 10k ohms on host board to a voltage between 15V and 3.6V.

3. A reference clock input is not required. If present, it will be ignored.

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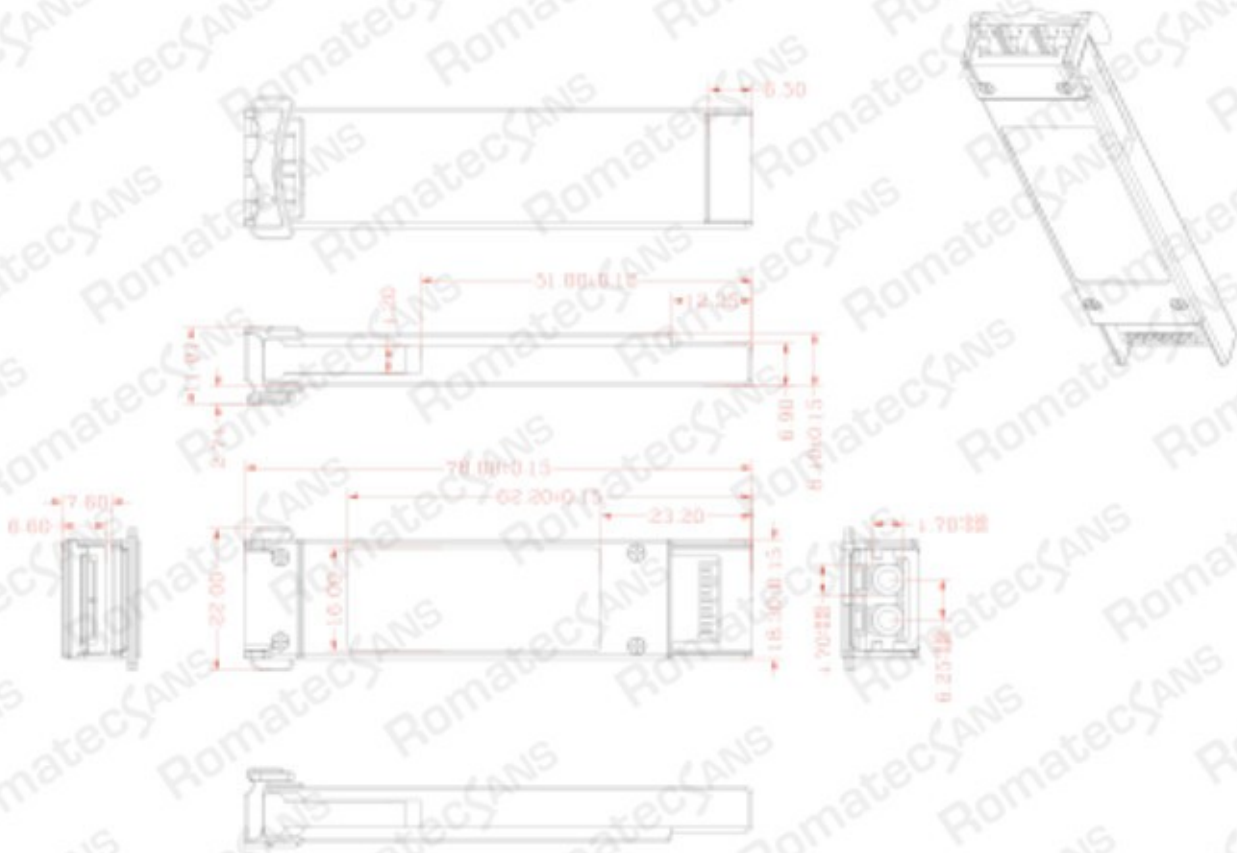
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Outline Drawing



ORDERING INFORMATION

SFP Type	Fiber type	Distance	Quantity of ports
10XFP	M Multimode	0.3 300 MT	S Simplex
	S Singlemode	1 10 KM	D Duplex
		2 20 KM	12 120 KM

ORDERING INFORMATION EXAMPLE

10XFP	S	12	D
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Configuration: XFP 10 Gbps Singlemode with DDM 120KM Duplex LC

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