

### FIBER OPTIC 1.25Gbps SFP TRANSCEIVER 20KM

- \* SFP package with LC connector
- \* 1310nm FP laser and PIN photo detector
- \* Up to 20Km transmission on SMF
- \* +3.3V single power supply
- \* LVPECL compatible data input/output interface
- \* Low EMI and excellent ESD protection
- \* Laser safety standard IEC-60825 compliant
- \* Compatible with RoHS
- \* Digital Diagnostic SFF-8472 compliant



#### Absolute Maximum Rating

Storage Temperature (°C)	-45 ~ +85 (Tst)
Supply Voltage (V)	0 ~ +3.6 (Vcc)
Operating Relative Humidity (%)	0 ~ 95 (RH)

#### Operation Environment

Parameters	Symbol	Min.	Typical	Max.
Supply Voltage (V)	Vcc	3.15	3.3	3.45
Operating Case Temperature (°C)	Commercial	0		+70
	Industrial	-40		+85
Power Dissipation (W)				1
Data Rate (Gbps)			1.25	

#### Optical Characteristics (Transmitter Section)

Parameters	Min.	Typical	Max.	Units
Center Wavelength ( $\lambda_0$ )	1260	1310	1360	nm
Spectral Width (RMS) ( $\Delta\lambda$ )	-	-	4	nm
Average Output Power ( $P_o$ )	-8	-	-3	dBm
Extinction Ratio ( $E_r$ )	10	-	15	dB
Rise/Fall Time (20% ~ 80%) ( $T_r/T_f$ )	-	-	0.26	ns
Total jitter ( $T_j$ )	-	-	0.43	UI
Optical Eye Diagram	IEEE 802.3z and ANSI Fiber Channel Compatible			

#### HONG KONG

Romatecsans International Limited  
7/F., Catic Building, No. 44 Tsun Yip  
Street, Kowloon, Hong Kong  
Tel. +852 8199 9706  
asia@romatecsans.com

#### CHILE

Importadora y Exportadora Romatecsans Ltda.  
Carmen Farina 6758, Vitacura,  
Santiago, Chile  
Tel.: +56 22 9797 922  
ventas@romatecsans.com

sales@romatecsans.com  
www.romatecsans.com



## TECHNICAL SPECIFICATION

Optical Characteristics (Receiver Section)				
Parameters	Min.	Typical	Max.	Units
Center Wavelength ( $\lambda_0$ )	1260	-	1620	nm
Receiver Sensitivity (Rsen)	-	-	-24	dBm
Receiver Overload (Rov)	-3	-	-	dBm
Return Loss	12	-	-	dB
LOS Assert (LOSA)	-36	-	-	dBm
LOS Dessert (LOSD)	-	-	-24	dBm
LOS Hysteresis	0.5	-	5	

(Ambient Operating Temperature 0°C to +70°C, Vcc = 3.3 V)

Electrical Characteristics (Transmitter Section)					
Parameters	Min.	Typical	Max.	Units	
Input Differential Impedence (Zin)	90	100	110	Ohm	
Data Input Swing Differential (Vin)	500	-	2400	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 (Zout)	-	100		Ohm	
Data Input Swing Differential (Vout)	370	-	2000	mV	
Rx_LOS	Assert	2.0	-	Vcc	V
	Deassert	0	-	0.8	V

EEPROM INFORMATION (A0)				
Addr	Field Size (Bytes)	Name of Field	HEX	Description
0	1	Identifier	03	SFP
1	1	Ext. Identifier	04	MOD4
2	1	Connector	07	LC
3 ~ 10	8	Transceiver	00 00 00 02 12 00 0D 01	Transmitter Code
11	1	Encoding	01	8B10B
12	1	BR, nominal	0D	1250Mbps
13	1	Reserved	00	

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EEPROM INFORMATION (A0)				
Addr	Field Size (Bytes)	Name of Field	HEX	Description
14	1	Length (9um) - km	0A/14	10km/20km
15	1	Length (9um)	64/C8/FF	
16	1	Length (50um)	37	550m
17	1	Length (62.5um)	37	550m
18	1	Length (copper)	00	
19	1	Reserved	00	
20 ~ 35	16	Vendor name	57 49 4E 54 4F 50 20 20 20 20 20 20 20 20 20 20	Romatecsans
36	1	Reserved	0	
37 ~ 39	3	Vendor OUI	00 00 00	
40 ~ 55	16	Vendor PN	XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX	ASC II
56 ~ 59	4	Vendor rev	31 2E 30 20	V1.0
60 ~ 61	2	Wavelength	05 1E	1310nm
62	1	Reserved	00	
63	1	CC BASE	XX	Check sum of byte 0~62
64 ~ 65	2	Options	00 1A	LOS, TX_DISABLE, TX_FAULT
66	1	BR, Max	32	50%
67	1	BR, Min	32	50%
68 ~ 83	16	Vendor SN	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	Unspecified
84 ~ 91	8	Vendor date code	XX XX XX XX 20	Year, Month, Day
92 ~ 94	3	Reserved	0	
95	1	CC_EXT	XX	Check sum of byte 64~94
96 ~ 255	160	Vendor specific		

ORDERING INFORMATION										
SFP Type	Fiber type		DDM		Distance				Quantity of ports	
<b>1.25SFP</b>	<b>M</b>	<i>Multimode</i>	<b>D</b>	<i>DDM</i>	<b>0.2</b>	<i>2 KM</i>	<b>4</b>	<i>40 KM</i>	<b>S</b>	<i>Simplex</i>
	<b>S</b>	<i>Singlemode</i>			<b>1</b>	<i>10 KM</i>	<b>8</b>	<i>80 KM</i>	<b>D</b>	<i>Duplex</i>
					<b>2</b>	<i>20 KM</i>	<b>12</b>	<i>120 KM</i>		

ORDERING INFORMATION EXAMPLE				
<b>1.25SFP</b>	<b>S</b>	<b>D</b>	<b>2</b>	<b>D</b>

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