SFP 155M BIDI 1310TX/1550RX

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Variants

20km LC 20KM SC

Details

Product Description of SFP 155M BIDI 20KM 1310TX/1550RX SC:

The SFP transceivers are high performance, cost effective modules supporting data-rate of 155Mbps Mbps and a 20 km transmission distance with SMF. The transceivers are compatible with SFP Multi-Source Agreement (MSA) and SFF-8472. For further information,please refer to SFP MSA and SFF-8472.

Features of SFP 155M BIDI 20KM 1310TX/1550RX SC:

Up to 155Mbps data links

1310nm FP Laser and PIN photo-detector for YSP01-B3520

1550nm FP Laser and PIN photo-detector for YSP01-B5320

Up to 20km on 9/125µm SMF

Simplex SC receptacle optical interface compliant

Hot-pluggable

All-metal housing for superior EMI performance

RoHS6 compliant (lead-free)

Operating case temperature:
Commercial: -5°C to +70°C

Extended: -20°C to +80°C

Industrial: -40°C to +85°C

Applications of SFP 155M BIDI 20KM 1310TX/1550RX SC:

SONET OC-12/ SDH STM-4

Fast Ethernet

Switch to Switch interface

Switched backplane applications

Router/Server interface

Other optical transmission systems

Standards of SFP 155M BIDI 20KM 1310TX/1550RX SC:

Compliant with SFP MSA

Compliant with SFF-8472

Compatible with G.957

Absolute Maximum Ratings of SFP 155M BIDI 20KM 1310TX/1550RX SC:

Parameter	Symbol	Min.	Typical	Max.	Unit
Power Supply Voltage	VCC	0		3.6	V
Storage Temperature	Ts	-40		+85	°C
Operating Case Temperature	Tc	-40		+85	°C
Relative Humidity	RH	0		85	%
RX Input Average Power	Pmax	-	0	dBm	

Recommended Operating Environment of SFP 155M BIDI 20KM 1310TX/1550RX SC:

Parameter	Symbol	Min.	Typical	Max.	Unit
Power Supply Voltage	VCC	3.13	3.3	3.46	V
Power Supply Current	Icc		300		mA
Operating Case Temperature					
Commercial	TC	-5	+70		°C
Extended		-20	+80		°C
Industrial		-40	+85		°C
Data Rate		125/155			

Electrical Characteristics of SFP 155M BIDI 20KM 1310TX/1550RX SC:

Parameter	Symbol	Min.	Typical	Max.	Unit	Note
Transmitter Section						
Input Differential Impedance	Rin	90	100	110	?	
Single Ended Data Input Swing	Vin_PP	250	1000	mV	1	
Transmit Disable Voltage	VD	Vcc – 1.3		Vcc	V	
Transmit Enable Voltage	VEN	Vee	Vee+0.8	V	2	
Receiver Section						
Single Ended Data Output Swing	Vout_PP	300	600	mV		
LOS Fault	Vlos_fault	Vcc – 0.5		Vcc_host	V	2
LOS Normal	Vlos_norm	Vee	Vee+0.5	V	2	

Optical Parameters of SFP 155M BIDI 20KM 1310TX/1550RX SC:

Parameter	Symbol	Min.	Typical	Max.	Unit	Note
Transmitter Section						
Centre Wavelength	?c	1260	1310	1360	nm	YSP01-B3520
		1480	1550	1580	nm	YSP01-B5320S
Spectral Width (RMS)	?			3	nm	
Average Optical Power (avg.)	Pout	-9	-3	dBm	1	
Laser Off Power	Poff	-	-	-45	dBm	
Extinction Ratio	ER	10	-	-	dB	2
Relative Intensity Noise	RIN	-	-	-120	dB/Hz	
Optical Rise/Fall Time	tr / tf	-	1300	ps	3	
Optical Return Loss Tolerance		-	-	12	dB	
Output Optical Eye						Compliant with G.957 eye masks when filtered

Parameter	Symbol	Min.	Typical	Max.	Unit	Note
Receiver Section						
Receiver Center Wavelength	?c	1480	1550	1580	nm	YSP01-B3520S
		1260	1310	1360	nm	YSP01-B5320S
Receiver Sensitivity in Average Power	Sen	-32	-3	dBm	4	
Los Assert	LOSA	-40	-	-	dBm	
Los Dessert	LOSD	-	-	-34	dBm	
Los Hysteresis	LOSH	0.5	-	5	dB	
Overload	Pin-max	-	-	-3	dBm	4
Receiver Reflectance		-	-	-12	dB	
Receiver Power (damage)		-	-	0	dBm	

Timing Characteristics of SFP 155M BIDI 20KM 1310TX/1550RX SC:

Timing Characteristics	Parameter	Symbol	Min.	Typical	Max.	Unit
TX_Disable Assert Time	t_off		10	-	-	us
TX_Disable Negate Time	t_on		-	1	ms	
Time to Initialize Include Reset of TX_FAULT	t_init		300	-	-	ms
TX_FAULT from Fault to Assertion	t_fault		-	100	us	
TX_Disable Time to Start Reset	t_reset		-	10	us	
Receiver Loss of Signal Assert Time	TA, RX_LOS		-	100	us	
Receiver Loss of Signal Deassert Time	Td, RX_LOS		-	100	us	
Rate-Select Change Time	t_ratesel		-	10	us	

Timing Characteristics	Parameter	Symbol	Min.	Typical	Max.	Unit
Serial ID Clock Time	f_serial-clock		-	100	kHz	

Digital Diagnostic Monitor Characteristics of SFP 155M BIDI 20KM 1310TX/1550RX SC:

Digital Diagnostic Monitor Characteristics (DDM)	Parameter	Symbol	Min.	Max.	Unit
Temperature Monitor Absolute Error	DMI_Temp		-3	3	°C
Laser Power Monitor Absolute Error	DMI_TX		-3	3	dB
RX Power Monitor Absolute Error	DMI_RX		-3	3	dB
Supply Voltage Monitor Absolute Error	DMI_VCC		-3%	3%	V
Bias Current Monitor Absolute Error	DMI_Ibias		-10%	10%	mA

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