

Technical Datasheet

HFBR-53A5VSEMZ-C (3.3V)

Avago Broadcom® Compatible 1.25Gb/s 1x9 Transceiver

Duplex SC, +3.3V, VCSEL, Multi-Mode, 500m, Extended Temperature

FEATURES

- 1x9 Pin Package, Multi-Mode Transceiver
- Compliant with Gigabit Ethernet
- 850nm VCSEL Transmitter
- Up to 500 m with 62.5/125 mm MMF
- Single +3.3V Power Supply
- Fully Compliant with ITU-TG957, G958 Specification
- PECL Logic Interface
- Class 1 Laser Product, Compliant with IEC 60825-1
- Compliant with Telcordia (Bellcore) GR-468-CORE
- RoHS Compliant
- Extended Operating Temperature Range: 0 to 80°C

APPLICATIONS

- Switch to switch interface
- High speed interface
- High speed desktops

DESCRIPTION

ATGBICS® Compatible HFBR-53A5VSEMZ-C Transceiver is a high performance, cost effective module for optical data communication applications. It is compliant with Gigabit Ethernet. This module is designed for Multi-Mode fiber and operates at the normal wavelength of 850nm. The receiver section incorporates an efficient InGaAs/InP PIN photodiode and transimpedance with AGC for wide dynamic range. The transceiver has excellent immunity and reliability.

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Electrical and Optical Characteristics: (Condition: Ta=TOP)

Transmitter Section:

Parameter	Symbol	Min.	Typical	Max.	Unit
Data Rate	B	-	1.25	-	Gb/s
Centre Wavelength	λ_c	830	850	870	nm
Output Spectral Width	λ (RMS)	Compliant with ITU-T G.957			nm
Average Output Power	Po	-15	-	-8	dBm
Extinction Ratio	E.R.	10	-	-	dB
Supply Current	ICC	-	-	70	mA
Output Optical Eye	Compliant with ITU-T G.957				
Data Input Voltage-High, Low	VIH-VCC	-1.49	-1.3	-1.19	V
Input Differential Voltage	VID	0.5	-	1.6	V

Receiver Section:

Parameter	Symbol	Min.	Typical	Max.	Unit
Data Rate	B	-	1.25	-	Gb/s
Receive Sensitivity	Pmin	-	-	-18	dBm
Maximum Input Power	PMAX	-3	-	-	dBm
Signal Detection-Asserted	PH-L	-37	-	-	dBm
Signal Detection-Deserted	PL-H	-	-	-24	dBm
Operating Wavelength	λ_c	800	-	1600	nm
Supply Current	ICC	-	80	100	mA
Date Output High Voltage	VOH-VCC	-1.1	-	-0.9	V
Date Output Low Voltage	VOL-VCC	-1.89	-	-1.6	V

Absolute Maximum Ratings: (Tc = 25°C)

Parameter	Symbol	Min.	Max.	Unit
Storage Temperature	TST	-40	+85	°C
Operating Temperature	TIP	0	+80	°C
Supply Voltage	VCC	0	+3.3	V
Input Voltage	VIN	0	VCC	V
Output Current	IO	0	30	mA
Soldering Temperature & Time	-		240/10	°C/S

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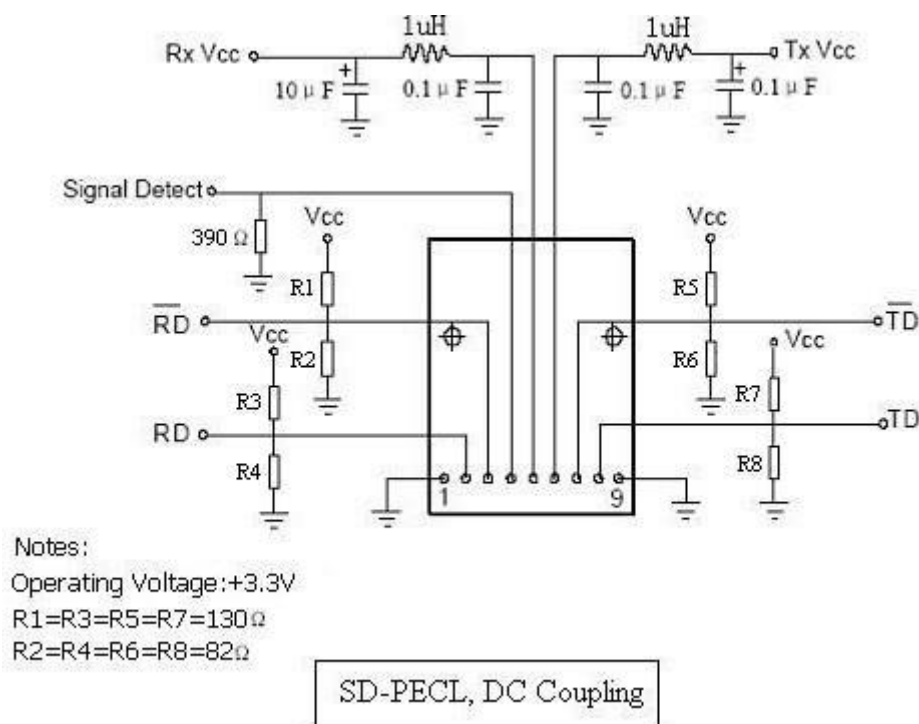
Recommended Operating Environment

Parameter	Symbol	Min.	Typical	Max.	Unit
Supply Voltage	VCC	+3.14	+3.3	+3.47	V
Operating Temperature	TOP	0	-	+80	°C

Pin Assignment:



Recommended Circuit:



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Mechanical Dimensions (units: mm)

