

## Product Datasheet

### HFCT-53D5FMZ-C (5V)

#### Avago Broadcom® Compatible 1.25Gb/s 1x9 Transceiver

Duplex SC, +5V, LD-FP, Single Mode, 10km, 0 ~ 70°C, Black Case

#### FEATURES

- 1X9 Pin Package, Single-Mode Transceiver
- Single +5V Power Supply
- High quality 1310nm MQW-FP LD/ 1550nm DFB LD
- Commercial Operating Temperature Range: -0 ~ 70°C
- Fully Compliant with ITU-T G957, G958 Specification
- PECL Logic Interface
- Class 1 Laser Product, Compliant with IEC 60825-1
- Compliant with Telcordia (Bellcore) GR-468-CORE
- RoHS Compliant

#### APPLICATIONS

- Gigabit Ethernet
- ATM

#### DESCRIPTION

ATGBICS HFCT-53D5FMZ Transceiver is a high-performance, cost-effective module for optical data communication applications. All versions are compliant with Gigabit Ethernet recommendations to 1.25Gbs. This module is designed for Single-Mode fiber and operates at the normal wavelength of 1310 nm. 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	$\lambda c$	1270	1310	1360	nm
Output Spectral Width	$\lambda$ (RMS)	Compliant with ITU-T G.957			nm
Average Output Power	Po	-9	-	-3	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	-	-	-24	dBm
Maximum Input Power	PMAX	-3	-	-	dBm
Signal Detection-Asserted	PH-L	-27	-	-	dBm
Signal Detection-Deserted	PL-H	-	-	-45	dBm
Operating Wavelength	$\lambda c$	1100	-	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

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### Absolute Maximum Ratings: (TC=25°C)

Parameter	Symbol	Min.	Max.	Unit
Storage Temperature	TST	-40	+85	°C
Operating Temperature	TIP	0	+70	°C
Supply Voltage	VCC	0	+5.25	V
Input Voltage	VIN	0	VCC	V
Output Current	IO	0	30	mA
Soldering Temperature & Time	-		240/10	°C/S

### Recommended Operating Environment

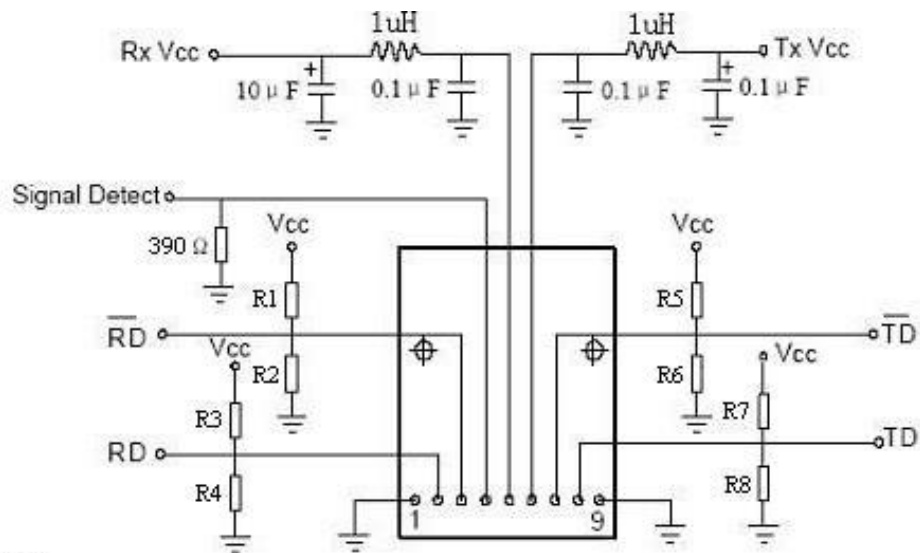
Parameter	Symbol	Min.	Typical	Max.	Unit
Supply Voltage	VCC	+4.75	+5	+5.25	V
Operating Temperature	TOP	-40	-	+85	°C

### Pin Assignment



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### Recommended Circuit



Notes:  
Operating Voltage: +3.3V  
R1=R3=R5=R7=130 Ω  
R2=R4=R6=R8=82 Ω

SD-PECL, DC Coupling

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### Mechanical Dimensions

