

# Technical Datasheet

## AFBR-5803ATQZ-5V-C

### Avago Broadcom® Compatible 155Mb/s 1x9 Transceiver

Duplex ST, +5V, LD-FP, Single Mode, 2km, Industrial Temperature

#### FEATURES

- 1X9 Pin Package, Single-Mode Transceiver
- Single +5V 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
- Industrial Operating Temperature Range: -40 to 85°C

#### APPLICATIONS

- SONET/SDH/PDH
- ATM

#### DESCRIPTION

ATGBICS® Compatible AFBR-5803ATQZ-5V-C Transceiver is a high performance, cost effective module for optical data communication applications. All versions are compliant with SONET/SDH recommendations from OC-01 to OC-03. This module is designed for Single-Mode fiber and operates at the normal wavelength of 1310nm. 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	-	155	-	Mb/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	-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	-	155	-	Mb/s
Receive Sensitivity	Pmin	-	-	-34	dBm
Maximum Input Power	PMAX	-3	-	-	dBm
Signal Detection-Asserted	PH-L	-37	-	-	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

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

Parameter	Symbol	Min.	Max.	Unit
Storage Temperature	TST	-40	+85	°C
Operating Temperature	TIP	-40	+85	°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

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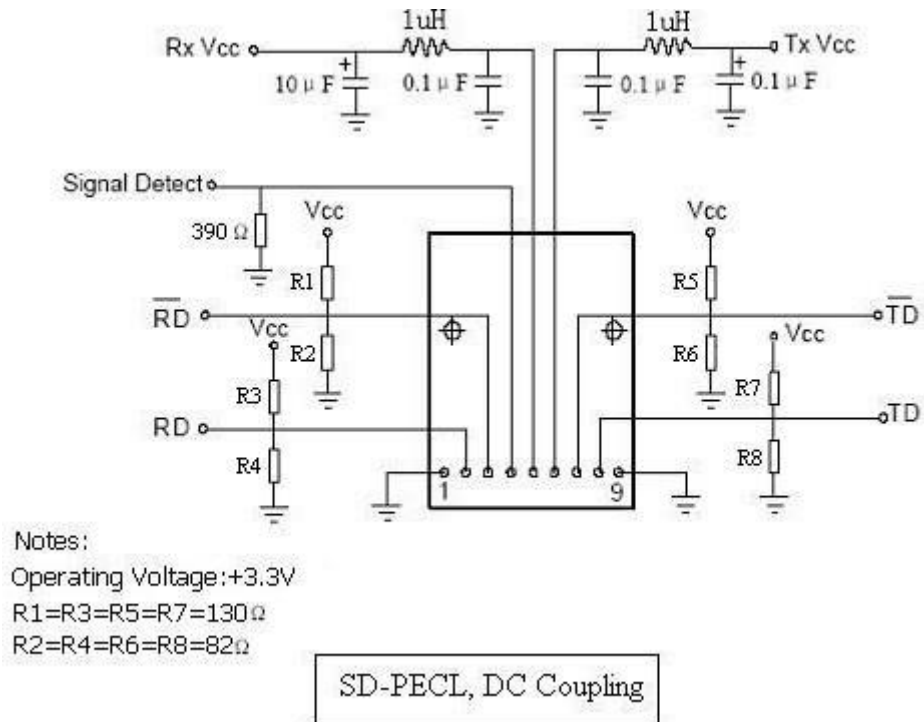
## Recommended Operating Environment

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

## Pin Assignment:



## Recommended Circuit:



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## Mechanical Dimensions (units: mm)

