



ANADIGICS[®]
Your GaAs IC Source

FEATURES	APPLICATIONS
<ul style="list-style-type: none"> ■ Single + 5 V Supply ■ 18 k Ohm Transresistance ■ Low Noise : <1.5 pA/√ Hz ■ 150 MHz Analog Bandwidth ■ Wide Dynamic Range: 70 dB Electrical ■ Automatic Gain Control (AGC) ■ - 37 dBm Sensitivity ■ Low Pulse Width Distortion 	<ul style="list-style-type: none"> ■ FDDI Receiver ■ Sonet OC1-OC3 Receiver ■ Ethernet Fiber LAN ■ Wideband Gain Block ■ Low Noise RF Amplifier

ELECTRICAL SPEC. (T_A = 25°C, V_{DD} = +5V ± 10%, C_{DIODE} + C_{STRAY} = 0.5 pF)

DC CHARACTERISTICS	MIN	TYP	MAX	UNITS
Transresistance (R _L = ∞ , I _{DC} < 300 nA)		16		k Ohms
Input Impedance	12	500		Ohms
Input FET Leakage Current		10		nA
Supply Current I _{DD}		30	45	mA
AGC Threshold (Input Current)	15	30		μ A
Output Drive Current Source/Sink		5		mA
Output Offset Voltage		+ 1.8		V
Offset Voltage Drift		± 1		mV/° C
Input Bias Voltage	+ 1.5	+ 1.7	+ 2.4	V
Operating Temperature Range	- 40		+ 85	° C
Operating Voltage Range V _{DD}	+ 4.5	+ 5.0	+ 6.0	V

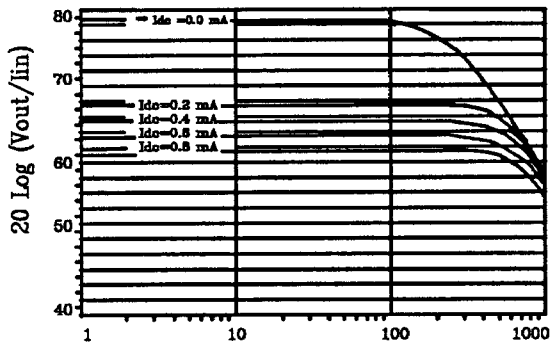
AC CHARACTERISTICS	MIN	TYP	MAX	UNITS
Transresistance RL = 50, f = 50 MHz	4.5	6	9.2	k Ohms
Input Capacitance ATA01500D1C		0.4		pF
ATA01500S1C		1		pF
Bandwidth - 3dB ATA01500D1C	150	250		MHz
ATA01500S1C	150	180		MHz
Optical Overload*	- 6	- 3		dBm
Output Impedance	30	50	60	Ohms
Input Noise Spectral Density,				
1 MHz - 100 MHz ATA01500D1C		<1.5		pA/√ Hz
ATA01500S1C		2		p A/√ Hz
Input Noise Current,				
10 KHz - 100 MHz ATA01500D1C		16		nA RMS
ATA01500S1C		22		nA RMS
Optical Sensitivity				
@ 155Mb/s ATA01500D1C	- 36	- 38.5		dBm
ATA01500S1C	- 35	- 37		dBm
AGC Time Const., T _{DC} = .1mA Step C _{AGC} = .1 μ F		10		mS

* Other values available

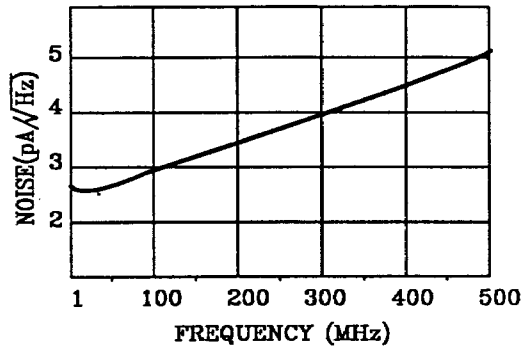
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Anadigics reserves the right to make changes in specifications without notice.

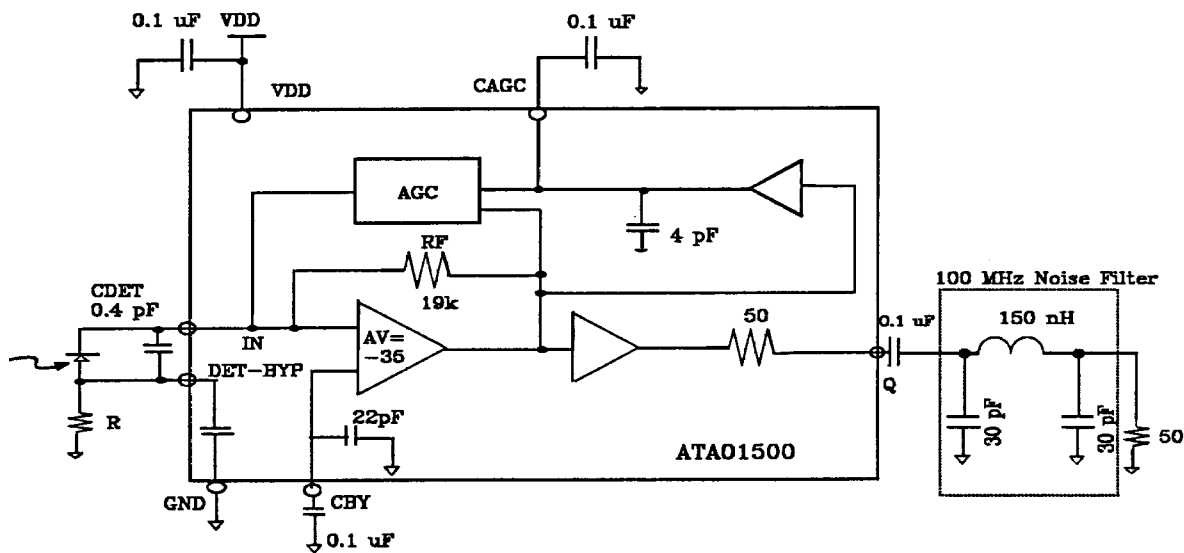
TRANSIMPEDANCE *



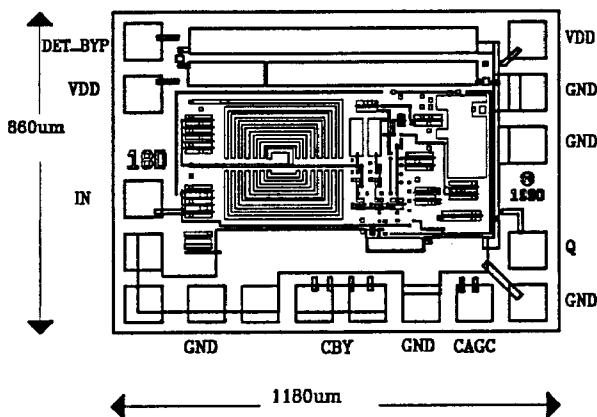
NOISE SPECTRAL DENSITY *



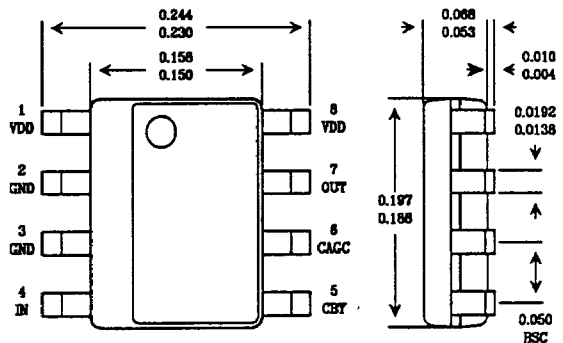
TYPICAL APPLICATION (SONET OC-3)



ATA01500 BONDING DIAGRAM



ATA01500 PACKAGE OUTLINE



* $R_L = 50 \text{ Ohms}$, no noise filter, ** I_{dc} is the average value of photodiode current