

FEATURES	APPLICATIONS
<ul style="list-style-type: none"> ■ Single + 5 V Supply ■ 18 k Ohm Transresistance ■ Low Noise : <math><1.5 \text{ pA}/\sqrt{\text{Hz}}</math> ■ 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. ($T_A = 25^\circ\text{C}$, $V_{DD} = +5\text{V} \pm 10\%$, $C_{DIODE} + C_{STRAY} = 0.5 \text{ pF}$)

DC CHARACTERISTICS	MIN	TYP	MAX	UNITS
Transresistance ($R_L = \infty$, $I_{DC} < 300 \text{ nA}$)		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		μA
Output Drive Current Source/Sink		5		mA
Output Offset Voltage		+ 1.8		V
Offset Voltage Drift		± 1		mV/ $^\circ\text{C}$
Input Bias Voltage	+ 1.5	+ 1.7	+ 2.4	V
Operating Temperature Range	- 40		+ 85	$^\circ\text{C}$
Operating Voltage Range V_{DD}	+ 4.5	+5.0	+ 6.0	V

AC CHARACTERISTICS	MIN	TYP	MAX	UNITS
Transresistance $R_L = 50$, $f = 50 \text{ MHz}$	4.5	6	9.2	k Ohms
Input Capacitance		0.4		pF
		1		pF
Bandwidth - 3dB	150	250		MHz
	150	180		MHz
Optical Overload*	- 6	- 3		dBm
Output Impedance	30	50	60	Ohms
Input Noise Spectral Density,				
1 MHz - 100 MHz		<math><1.5</math>		pA/ $\sqrt{\text{Hz}}$
		2		pA/ $\sqrt{\text{Hz}}$
Input Noise Current,				
10 KHz - 100 MHz		16		nA RMS
		22		nA RMS
Optical Sensitivity				
@ 155Mb/s	- 36	- 38.5		dBm
	- 35	- 37		dBm
AGC Time Const., $T_{DC} = .1 \text{ mA Step } C_{AGC} = .1 \mu\text{F}$		10		mS

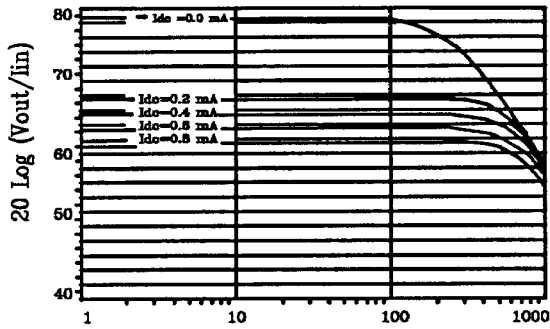
* Other values available

10/91-pm-rl

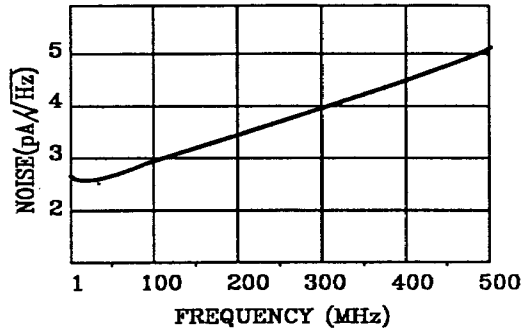
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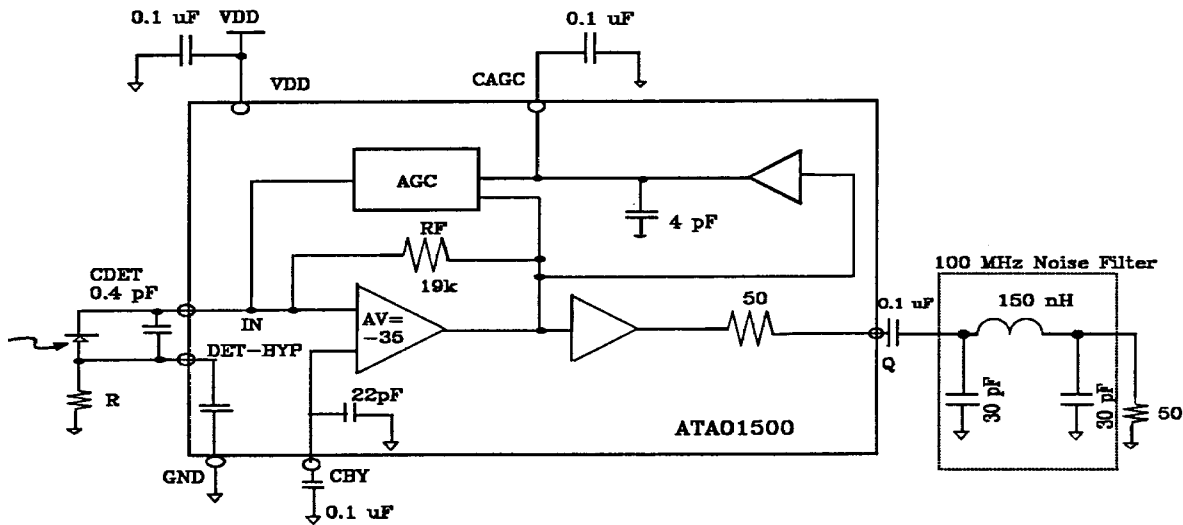
TRANSIMPEDANCE *



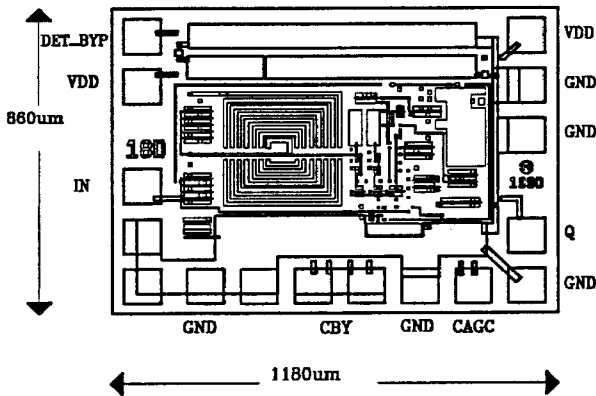
NOISE SPECTRAL DENSITY *



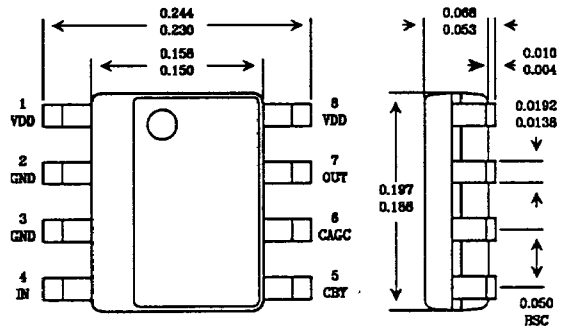
TYPICAL APPLICATION (SONET OC-3)



ATA0150 BONDING DIAGRAM



ATA0150 PACKAGE OUTLINE



* RL = 50 Ohms, no noise filter, ** Idc is the average value of photodiode current

ATA0150 10/91-pm

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