

# TMC-8D42-501

## 1 GHz GaAs PIN plus AGC Pre-amplifier

### FEATURES:

- Industry standard TO-46 package with cap lens.
- Optimized for fiber optic application.
- Design for short wavelength 1.25 Gbps application.
- Single power supply +3.3 Volt.



### ELECTRO-OPTICAL CHARACTERISTICS: (Typical values are at $V_{CC} = 3.3V @ 25^{\circ}C$ )

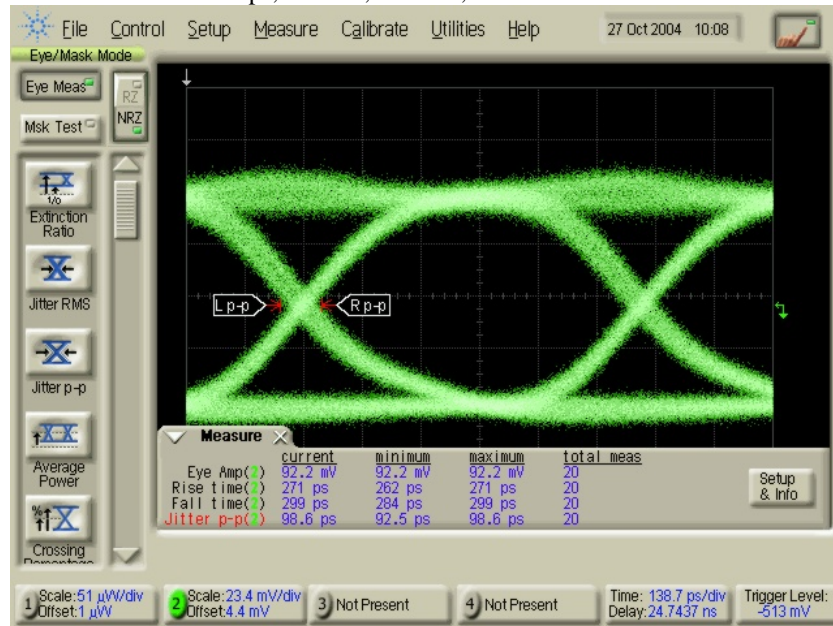
PARAMETERS	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITIONS
Power Supply	$V_{CC}$	3.0	3.3	3.6	V	
Supply Current	$I_{CC}$		30	40	mA	No loads
Differential Responsivity	$R_d$	6.8		24	mV/ $\mu$ W	$R_{load}=100$ ohm, $P = -22$ dBm, $\lambda=850$ nm
Single Ended Responsivity	$R_s$	3.4		12	mV/ $\mu$ W	$R_{load}=50$ ohm, $P = -22$ dBm, $\lambda=850$ nm
Small-Signal Bandwidth	BW	700			MHz	
Low-Frequency Cut off	LF			115	kHz	
Rise / Fall Time(20 % ~ 80 %)	tr/tf		300	400	ps	$P = -22$ dBm, $\lambda=850$ nm
Saturation Power	$P_{Sat}$	0			dBm	$\lambda=850$ nm
Single Ended Output Impedance	$R_O$	35	50	65	ohm	
Wavelength	$\lambda$	770		860	nm	
Sensitivity				-25	dBm	$\lambda=850$ nm, @ 1.25Gbps, PRBS7, ER=10dB, BER=1E-10

### ABSOLUTE MAXIMUM RATINGS:

PARAMETERS	MIN	MAX	UNIT	CONDITIONS
Storage Temperature	-40	100	$^{\circ}C$	
Operating Temperature	-40	85	$^{\circ}C$	
Input Power		+6	dBm	Peak to peak, $\lambda=850$ nm
Lead Solder Temperature		260	$^{\circ}C$	10 seconds

**Eye Diagram: (typical)**

$R_{load} = 50 \text{ ohm}$ ,  $P = -22 \text{ dBm}$  @ 1250 Mbps, 850 nm, PRBS 7,



$t_r = 271\text{ps}$ ,  $t_f = 299\text{ps}$

**OUTLINE DIMENSIONS:**

