

TMC-8D42

1 GHz GaAs PIN plus Pre-amplifier

FEATURES:

- Industry standard TO-46 package with cap lens.
- Optimized for fiber optic application.
- Suitable for 1.25 Gbps applications.



ELECTRO-OPTICAL CHARACTERISTICS:

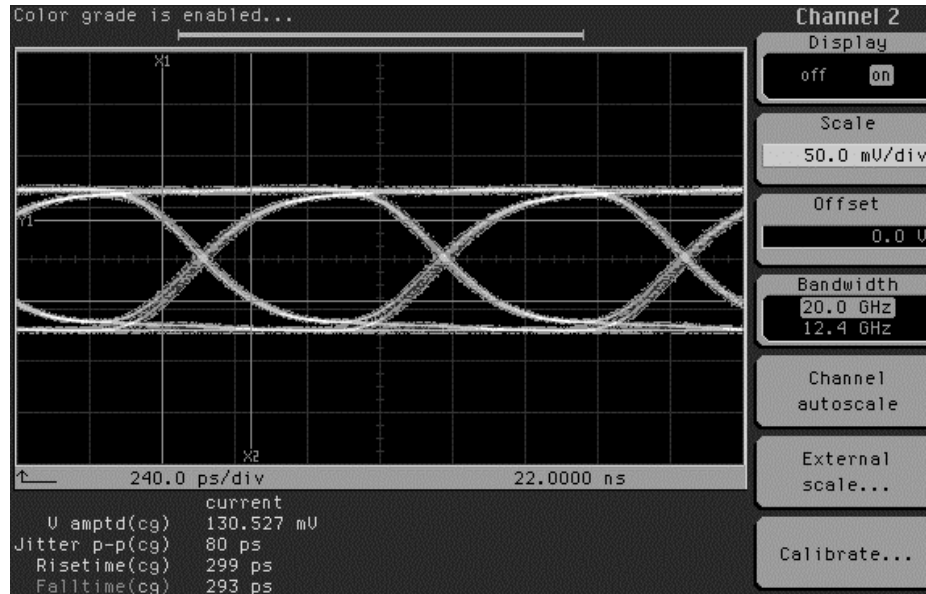
PARAMETERS	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITIONS
Power Supply	V_{CC}	3.0		5.5	V	
Supply Current	I_{CC}		26	50	mA	no loads
Differential Responsivity	R_d	1.1	1.4	1.7	mV/ μ W	$R_{load} = 100 \text{ ohm}$, $P = -15 \text{ dBm @ } 50 \text{ MHz}$, 850 nm
Single Ended Responsivity	R_s	0.5	0.7	0.8	mV/ μ W	$R_{load} = 50 \text{ ohm}$, $P = -15 \text{ dBm @ } 50 \text{ MHz}$, 850 nm
Small-Signal Bandwidth	BW	750	920	1100	MHz	
Low-Frequency Cut off	LF		44		kHz	
Rise Time/Fall Time	t_r/t_f		300	400	ps	20 % ~ 80 %
Single Ended Output Impedance	R_O	48	50	52	ohm	
RMS Input Referred Noise			390	520	nW	
Maximum Differential Output Voltage		185	250	415	mV p-p	$P = 0 \text{ dBm}$
RMS Output Referred Noise	V_n			1.6	mV	$P = 0 \text{ dBm}$
Power Supply Rejection Ratio	PSRR		50		dB	
Wavelength	λ	770		860	nm	

ABSOLUTE MAXIMUM RATINGS:

PARAMETERS	MIN	MAX	UNIT	CONDITIONS
Storage Temperature	-40	100	°C	
Operating Temperature	-20	85	°C	
Lead Solder Temperature		260	°C	10 seconds

Eye Diagram:

$R_{load} = 50 \text{ ohm}$, $P = -10 \text{ dBm @ } 1250 \text{ Mbps}$, 850nm , $\text{PRBS} = 2^7-1$,



$t_r = 299\text{ps}$, $t_f = 293\text{ps}$, Jitter p-p = 80ps

OUTLINE DIMENSIONS: