

TMC-1A53-768

2.5Gbps APD plus AGC Pre-amplifier

FEATURES:

- Industry standard TO-46 package with short cap lens and tab-less.
- Gigabit-Capable Passive Optical Networks(GPON) application.
- Design for long wavelength 2.5Gbps application.
- Support +3.3V application.



ELECTRO-OPTICAL CHARACTERISTICS: (Typical values are at +3.3V@ 25°C)

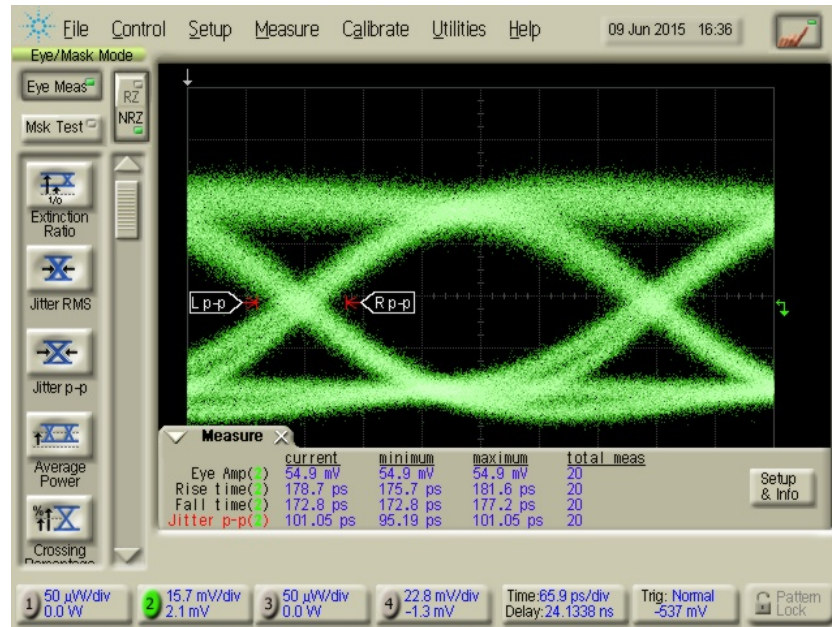
PARAMETERS	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITIONS
Power Supply	V_{CC}	3.0	3.3	3.6	V	
Supply Current	I_{CC}	15	20	24	mA	no loads
APDTIA Breakdown Voltage	V_{BR}	34		55	V	$I_d=10\mu A$, $T_A=25^\circ C$
Operating Voltage	V_{OP}		$V_{BR}-3$		V	$V_{CC}=3.3V$
V_{BR} Temperature Coefficient	γ	0.081	0.11	0.120	V/ $^\circ C$	$T=-40\sim 25^\circ C$
		0.060	0.08	0.099		$T=25\sim 85^\circ C$
Differential Responsivity	R_d	30	50	80	mV/ μW	$R_{load} = 100\Omega$, $M=9$, $P = -30dBm$, $\lambda=1490nm$, $T_A=25^\circ C$
Single Ended Responsivity	R_s	15	25	40	mV/ μW	$R_{load} = 50\Omega$, $M=9$, $P = -30dBm$, $\lambda=1490nm$, $T_A=25^\circ C$
Small-Signal Bandwidth	BW	1.4			GHz	
Low-Frequency Cut off	LF		30		kHz	
Saturation Power	P_{Sat}	-7			dBm	$\lambda=1490nm$, @2488.32Mbps
Single Ended Output Impedance	R_O		50		ohm	
Wavelength	λ	1260		1620	nm	
Dynamic Range		16			V	$T=25^\circ C$
Sensitivity				-32.0	dBm	$\lambda=1490nm$, @2488.32Mbps, PRBS23, ER=10dB, BER=1E-10 $T_A=25^\circ C$

ABSOLUTE MAXIMUM RATINGS:

PARAMETERS	MIN	MAX	UNIT	TEST CONDITIONS
Storage Temperature	-40	100	$^\circ C$	
Operating Temperature	-40	85	$^\circ C$	
Lead Solder Temperature		260	$^\circ C$	10 seconds

Eye Diagram :

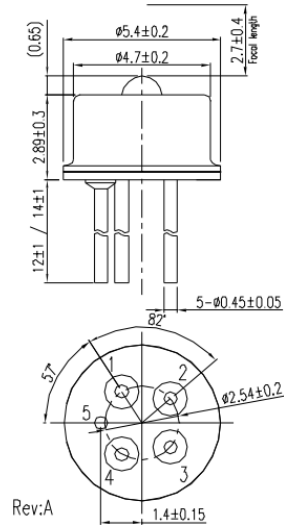
$R_{load} = 50\Omega$, $P = -30\text{dBm}@2488.32\text{Mbps}$, 1490nm , PRBS 23.



$t_r=178.7\text{ps}$, $t_f=172.8\text{ps}$, Jitter p-p=101.05ps

OUTLINE DIMENSIONS:

• Unit: mm



Pinout: A-5 (Vapd, Isink)

1. Dout
2. Vcc
3. Vapd
4. Dout
5. Gnd