

#### DESCRIPTION

The TXP0036 is a 1.25Gbps InGaAs PIN/TIA receiver in a coaxial pigtailed housing, suitable for long wavelength telecommunications and data communications.

#### FEATURES

- High performance 1.25Gbps PIN/TIA
- Automatic gain control (AGC) and differential output
- Minimum 5mV/μW differential responsivity
- Typical sensitivity -26.5dBm
- 0dBm optical overload
- +3.3V or +5V PIN/TIA supply
- Device is electrically isolated from the pigtail housing
- PCB mount pigtail housing
- 9/125/900μm secondary coated fibre pigtail with E2000/APC connector

ABSOLUTE MAXIMUM RATINGS	SYMBOL	MIN	MAX	UNITS
Optical input power	$P_{IN}$		+3	dBm
Supply voltage	$V_{CC}$	-0.5	+6.0	V
Operating temperature	$T_{AMB}$	-40	+85	°C
Storage temperature	$T_{STG}$	-40	+85	°C
Soldering temperature 2mm from case for 10 seconds	$T_{SLD}$		260	°C

These are stress ratings only and functional operation of the devices at these or any other conditions above those indicated for extended periods of time may affect reliability or result in permanent damage to the devices.

Afonics reserves the right to introduce changes without notice. No responsibility is assumed for its use or for any infringement of the rights of third parties.

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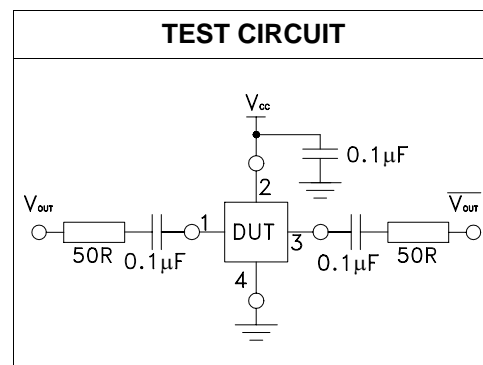
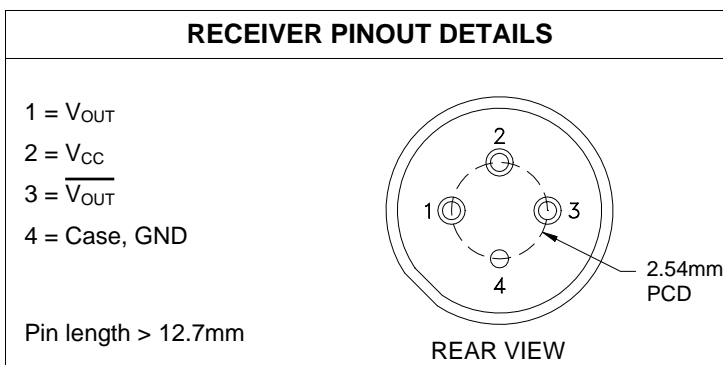
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OPTICAL/ELECTRICAL CHARACTERISTICS	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITION
Differential responsivity	R	5	6		mV/ $\mu$ W	$P_{IN} = -20\text{dBm}$ , $f = 100\text{MHz}$
Bandwidth	$f_c$	750	900		MHz	$P_{IN} = -20\text{dBm}$
Rise and fall times (20% to 80%)	$t_r / t_f$		300		ps	(2), $P_{IN} = -3\text{dBm}$
Low frequency cutoff	$f_L$		100		kHz	
Operating wavelength range	$\lambda$	1270	1300	1560	nm	
Output resistance	$Z_O$	40	50	62	$\Omega$	
Optical overload	$P_{OL}$	-3	0		dBm	(1)
Optical sensitivity	$P_{MIN}$	-24	-26.5		dBm	(1)
Maximum differential output voltage	$V_O$			800	mV	$P_{IN} = -3\text{dBm}$
Duty cycle distortion			3		%	(2), $P_{IN} = -3\text{dBm}$
Total jitter	$J_T$		65		ps	(2), (3), $P_{IN} = -3\text{dBm}$
Supply current	$I_S$		34	50	mA	
Operating voltage	$V_{CC}$	3.0	3.3	5.5	V	

All values apply at a temperature of 25°C unless otherwise stated.

Load resistance  $R_L$  is = 100 $\Omega$  (differential) and  $\lambda = 1300\text{nm}$  unless otherwise stated.

- (1) Measured at  $10^{-10}$  BER with a  $2^7-1$  PRBS at 1.25Gbps.
- (2) Measured with a 1.25Gbps  $2^{23}-1$  PRBS.
- (3)  $6\sigma$  about the centre eye crossing.



**NOTE:** This device is very susceptible to damage by electrostatic discharge.

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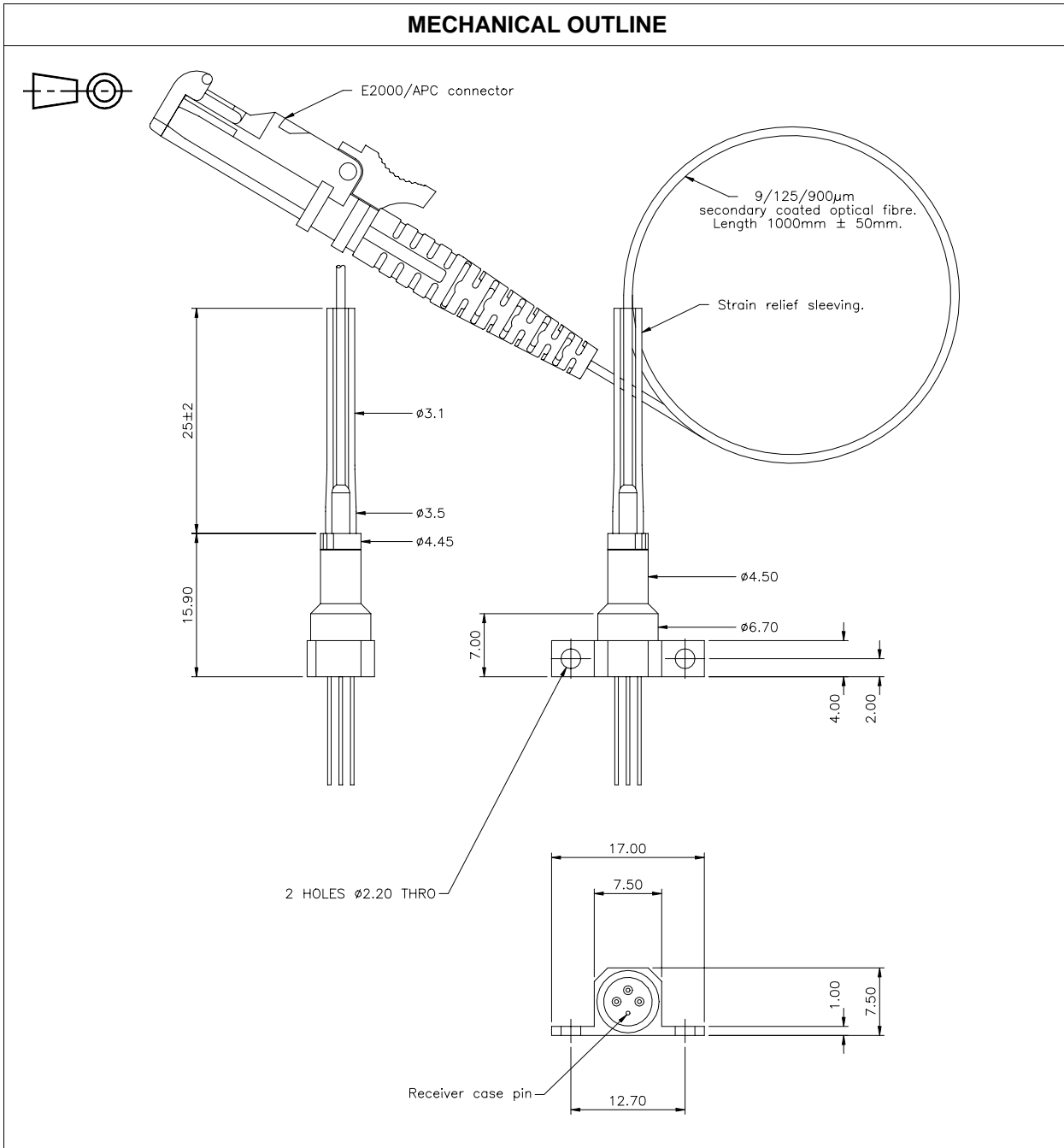
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### MECHANICAL OUTLINE



Third angle projection. All dimensions are in millimetres. Tolerances are  $\pm 0.10\text{mm}$  unless otherwise stated.  
Connector complies with Telcordia requirements.

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