# FAP-120657-FC 1.25Gbps InGaAs PIN/TIA

**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 | ℃ |
| Storage temperature | $T_{STG}$ | -40 | +85 | ℃ |
| Soldering temperature 2mm from case for 10 seconds | $T_{SLD}$ | | 260 | ℃ |

| OPTICAL/ELECTRICAL CHARACTERISTICS | SYMBOL | MIN | TYP | MAX | UNITS | TEST CONDITION |
|---|---|---|---|---|---|---|
| Differential responsivity | R | 5 | 6 | | mV/µW | $P_{IN}$ = -20dBm, f = 100MHz |
| Bandwidth | $f_C$ | 750 | 900 | | MHz | $P_{IN}$ = -20dBm |
| Rise and fall times (20% to 80%) | $t_r$ / $t_f$ | | 300 | | ps | (2), $P_{IN}$ = -3dBm |
| Low frequency cutoff | $f_L$ | | 100 | | kHz | |
| Operating wavelength range | λ | 1270 | 1300 | 1560 | nm | |
| Output resistance | $Z_O$ | 40 | 50 | 62 | Ω | |
| 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 | $P_{IN}$ = -3dBm |
| Duty cycle distortion | | | 3 | | % | (2), $P_{IN}$ = -3dBm |
| Total jitter | $J_T$ | | 65 | | ps | (2), (3), $P_{IN}$ = -3dBm |
| 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 = 100Ω (differential) and λ =1300nm 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) 6σ about the centre eye crossing.

**ELECTRICAL CONTACTS LAY-OUT**

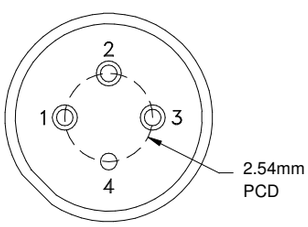
1 = $V_{OUT}$

2 = $V_{CC}$

3 = $\overline{V_{OUT}}$

4 = Case, GND

Pin length > 12mm




REAR VIEW

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