GFETs for Fast and Accurate Sensing Solutions

The Paragraf GFET-PV01 is a graphene electrolyte-gated FET (field-effect transistor) mass-produced with a proprietary technique for depositing graphene directly on the device substrate. This produces a graphene channel completely free from polymers and contaminants.

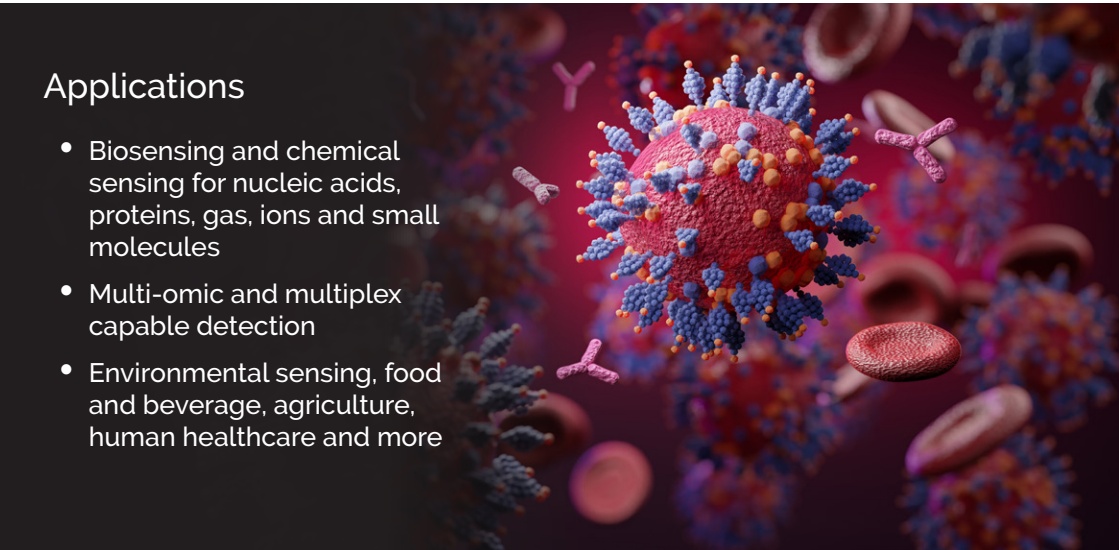
The GFET-PV01 is designed with an in-plane platinum electrode to gate the transistor channel and the three graphene channels are equidistant from the central gate electrode. The design enables a completely homogeneous electric field during operation and an external gate electrode can also be used as required by the test application.

The GFET-PV01 is produced for developing sensing applications with an epoxy encapsulation layer allowing consistent liquid handling and alignment during sensor modification and test. In addition, the three channels are positioned to enable reliable manual or automated functionalization of each graphene channel for multiplexing and/or internal referencing. The device is compatible with readily available data acquisition systems.

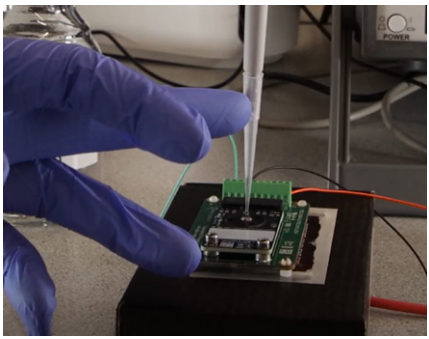
Paragraf GFET-PV01

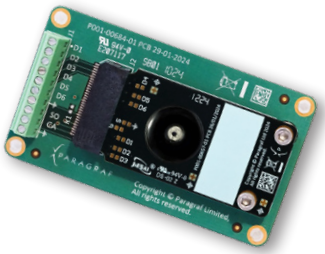
Applications

- Biosensing and chemical sensing for nucleic acids, proteins, gas, ions and small molecules
- Multi-omic and multiplex capable detection
- Environmental sensing, food and beverage, agriculture, human healthcare and more



Technical Specifications	
Mechanical (W x D x H, mm)	24 x 50 x 2.7
No. of GFET channels	3
Dirac point (testing buffer salinity 19 mM, pH=7.1 (mV)	500 to +900
Transconductance (mS•sq/V)	>1.5
Channel resistance (kOhm)	<3
Channel dimensions (µm)	100 x 100
Recommended operating voltage (V AC/DC)	±1
Recommended operating current (mA)	1





The GFET-PV-01 1 is designed to be connected via the 'Plug-in GFET' (PiG) breakout board, available from Paragraf.

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