Graphene Platform

Specification for Epitaxial Graphene on SiC

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Graphene Platform Corporation

1. Outline

Single-crystal, single-layer graphene is formed on a SiC surface by sublimation of the SiC substrate.

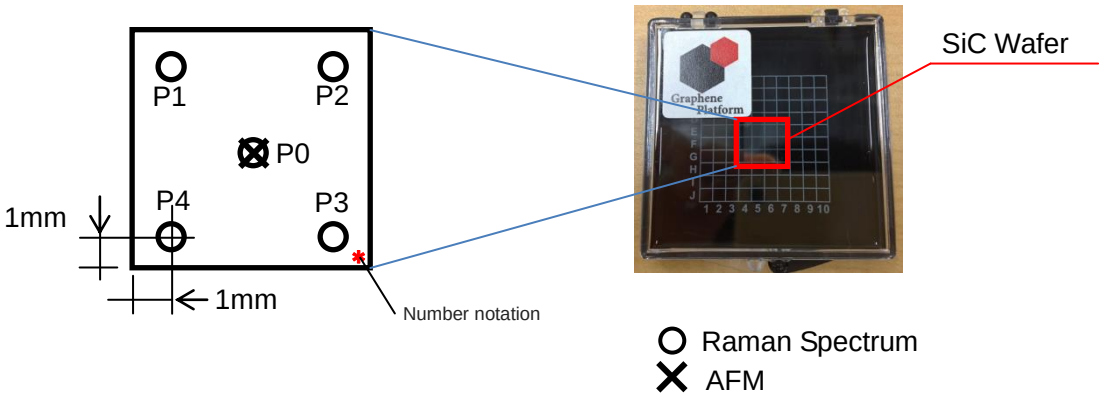
2. Substrate

Description	: Silicon Carbide (4H-SiC)
Resistivity	: 1E9 ohm-cm (Semi-insulator type)
Size	: 10 x 10mm +0.1/-0.5mm (Graphene area is 10 x 10 mm+0.1/-0.5mm)
Thickness	: 0.350 mm ±0.025mm

3. Inspection

At the time of shipping, we will attach data measured with two methods and the following measurement points.

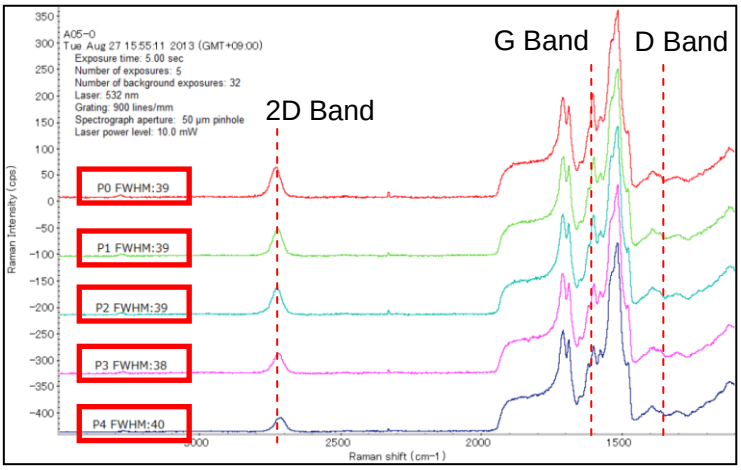
Measurement Points

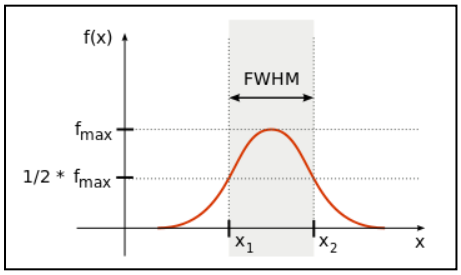


3-1 Raman Spectrum

The details of the fine structure of graphene can be confirmed by the peaks of the 2D and G bands of Raman spectrum. In addition, the absence of a peak in the D band indicates good quality graphene without any significant defects. In addition, the width of the peak in the 2D band (FWHM: Full Width at Half Maximum) indicates the number of graphene layers present.

Raman Spectrum





Full Width at Half Maximum

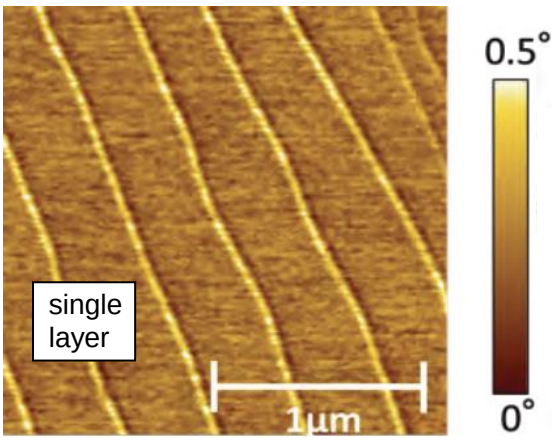
Position	FWHM@2D	Number of layers
P0	39	Single
P1	39	Single
P2	39	Single
P3	38	Single
P4	40	Single

FWHM of 2D Peak

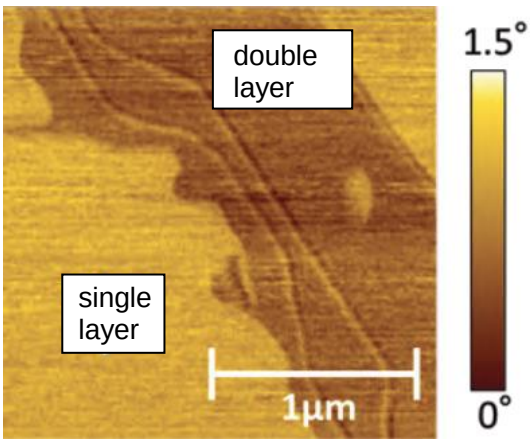
< 40	Single-layer
40~51	Both Single and Double-layers
52~62	Double-layers
> 63	Multilayer

3-2 AFM (Atomic Force Microscope)

The number of graphene layers can be confirmed with AFM. Double-layer or multilayer graphene is displayed in a color different from the surrounding single-layer areas. (The stripes are features of the SiC surface.)



Single-layer



Double-layer or multilayer

* On the back side of some products, it is engraved of wafer mark.
** The raman spectrum and AFM images of specification are typical value. It differs from the actual product.