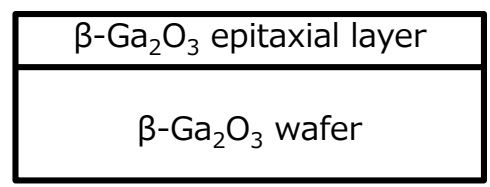


# Standard specifications of 25x25mm<sup>2</sup> MBE $\beta$ -Ga<sub>2</sub>O<sub>3</sub> epitaxial wafers

## Epitaxial layer (Growth method: MBE)

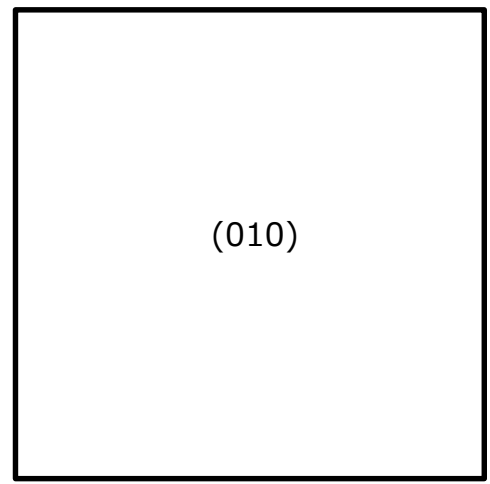
| Property             | Specification  |                              |
|----------------------|--|------------------------------|
| Dopant               | Si<br>(n-type)   | Undoped<br>(semi-insulating) |
| Doping concentration | Specify a value in the range between $1 \times 10^{17}$ and $2 \times 10^{18} \text{ cm}^{-3}$ | -                            |
| Thickness            | Specify a value in the range between 0.1 and 0.5 $\mu\text{m}$                                 |                              |



Cross section of  $\beta$ -Ga<sub>2</sub>O<sub>3</sub> epitaxial wafers

## Wafers

| Property             | Specification                        |                                |
|----------------------|--------------------------------------|--------------------------------|
| Dopant               | Sn<br>(n-type)                       | Fe<br>(semi-insulating)        |
| Doping concentration | $1-9 \times 10^{18} \text{ cm}^{-3}$ | -                              |
| Resistivity          | -                                    | $\geq 10^{10} \Omega\text{cm}$ |
| Orientation          | (010)                                |                                |
| Size                 | 25x25 mm <sup>2</sup>                |                                |
| Thickness            | 0.5 mm                               |                                |
| XRD FWHM             | $\leq 350 \text{ arcsec}$            |                                |
| Off set angle        | $0^\circ \pm 1^\circ$                |                                |



Orientation

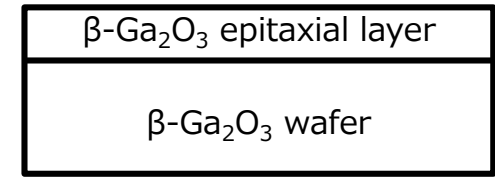


Remarks  
 1 These products must be used for research and development purposes only.  
 2 The substrates must not be used as a seed crystal.  
 3 The specifications are subject to change without notice.

# Standard specifications of 10x15mm<sup>2</sup> MBE $\beta$ -Ga<sub>2</sub>O<sub>3</sub> epitaxial wafers

Epitaxial layer (Growth method: MBE)

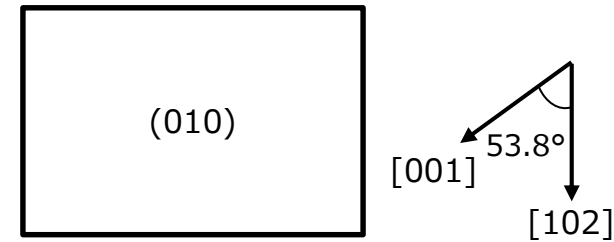
| Property             | Specification  |                              |
|----------------------|--|------------------------------|
| Dopant               | Si<br>(n-type)   | Undoped<br>(semi-insulating) |
| Doping concentration | Specify a value in the range between $1 \times 10^{17}$ and $2 \times 10^{18} \text{ cm}^{-3}$ | -                            |
| Thickness            | Specify a value in the range between 0.1 and 0.5 $\mu\text{m}$                                 |                              |



Cross section of  $\beta$ -Ga<sub>2</sub>O<sub>3</sub> epitaxial wafers

Wafers

| Property             | Specification                        |                                |
|----------------------|--------------------------------------|--------------------------------|
| Dopant               | Sn<br>(n-type)                       | Fe<br>(semi-insulating)        |
| Doping concentration | $1-9 \times 10^{18} \text{ cm}^{-3}$ | -                              |
| Resistivity          | -                                    | $\geq 10^{10} \Omega\text{cm}$ |
| Orientation          | (010)                                |                                |
| Size                 | 10x15 mm <sup>2</sup>                |                                |
| Thickness            | 0.5 mm                               |                                |
| XRD FWHM             | $\leq 150 \text{ arcsec}$            |                                |
| Off set angle        | $0^\circ \pm 1^\circ$                |                                |



Orientation



**Novel Crystal Technology, Inc.**

Remarks

- 1 These products must be used for research and development purposes only.
- 2 The substrates must not be used as a seed crystal.
- 3 The specifications are subject to change without notice.