β-Ga_2O_3 epi-wafer for developing intermediate breakdown voltage trench MOSSBD

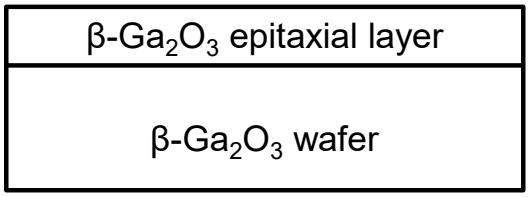
Epi-layer

Items	Specifications
Dopant	Si+Cl[*1] (n-type)
Doping concentration *A value can be selected in increments of 1×10^{16} cm^{-3}.	$4–9\times10^{16}$ cm^{-3}
Thickness *A value can be selected in increments 1 μm.	5–10 μm

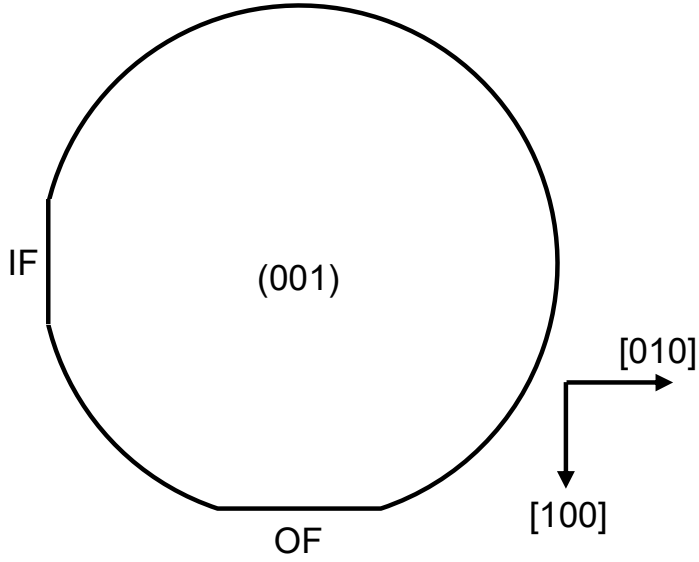
*1: Unintentionally-doped

Wafer

Items	Specifications
Dopant	Sn (n-type)
Resistivity	0.007–0.042 Ω·cm
Orientation	(001)
Size	2 inch, 100 mm
Backside finish	CMP
Thickness	650 μm
XRD FWHM	≦50 arcsec



Cross section of β-Ga_2O_3 epitaxial wafer



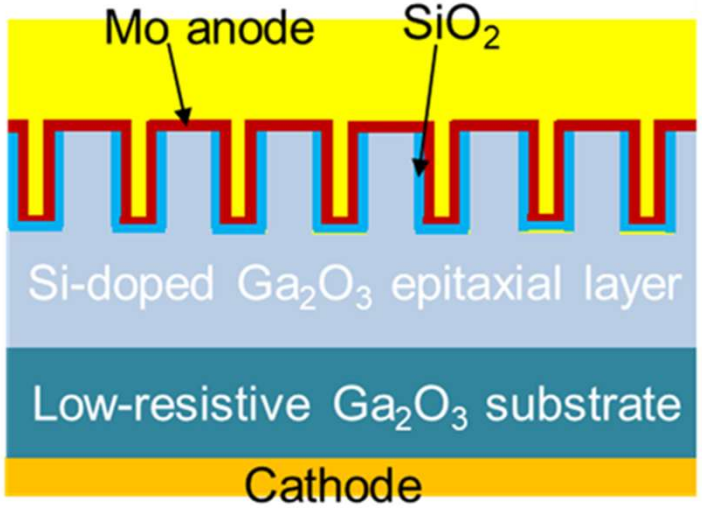
Orientation

Remarks
1 There are cases in which the other side of OF is chipped (a maximum of around IF width).
2 These products must be used for research and development purposes only.
3 The substrates must not be used as a seed crystal.
4 The specifications are subject to change without notice.

Novel Crystal Technology, Inc.

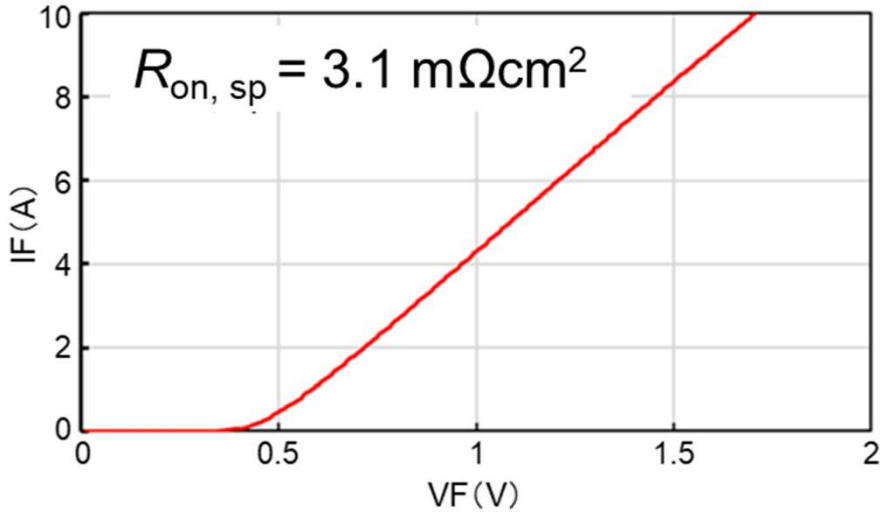
Example of SBD characteristics using the epi-wafer for developing intermediate breakdown voltage trench MOSSBD

Novel Crystal Technology, Inc.

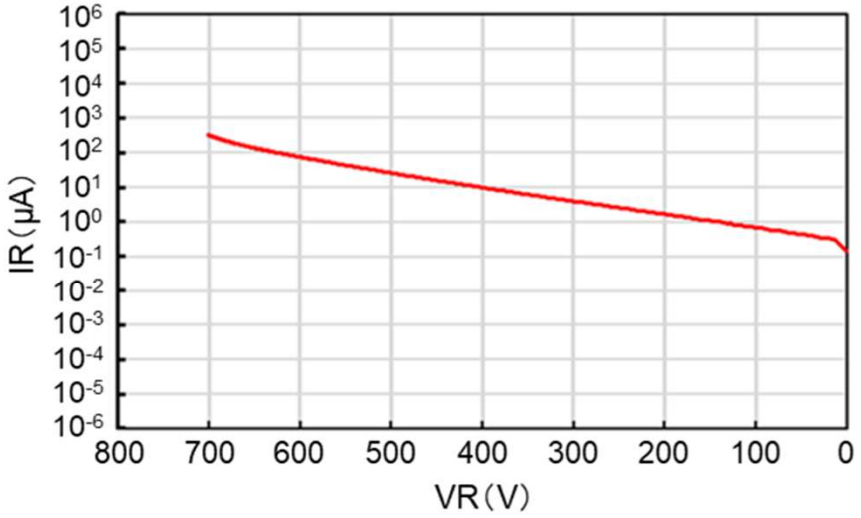


Schematic cross-section

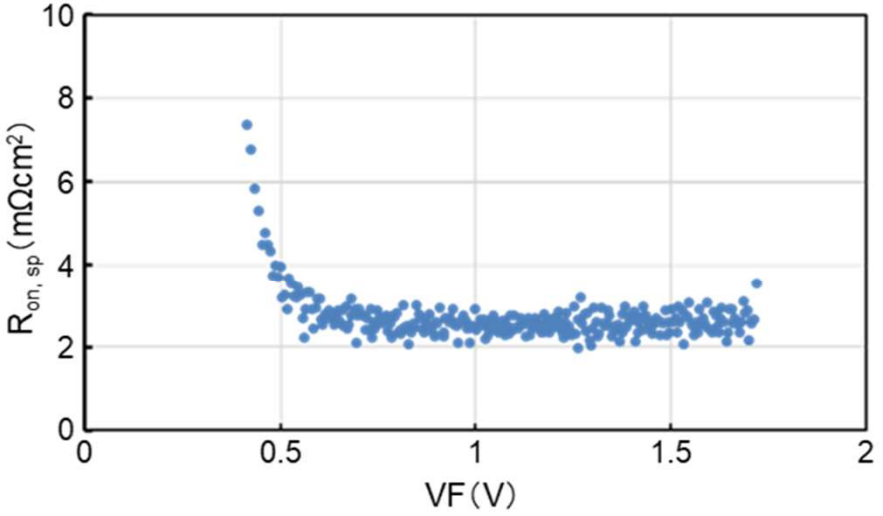
Anode electrode size: 1.7×1.7 mm^2



Forward characteristics



Reverse characteristics



$R_{on,sp}$ dependence on V_F