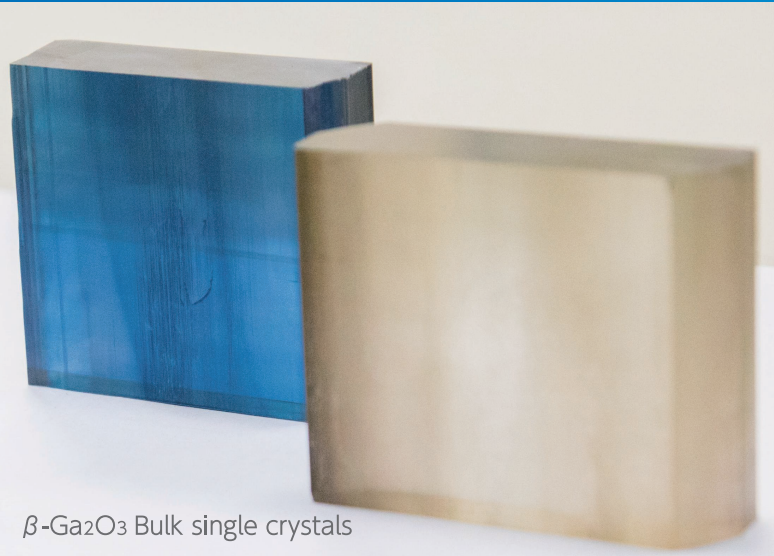


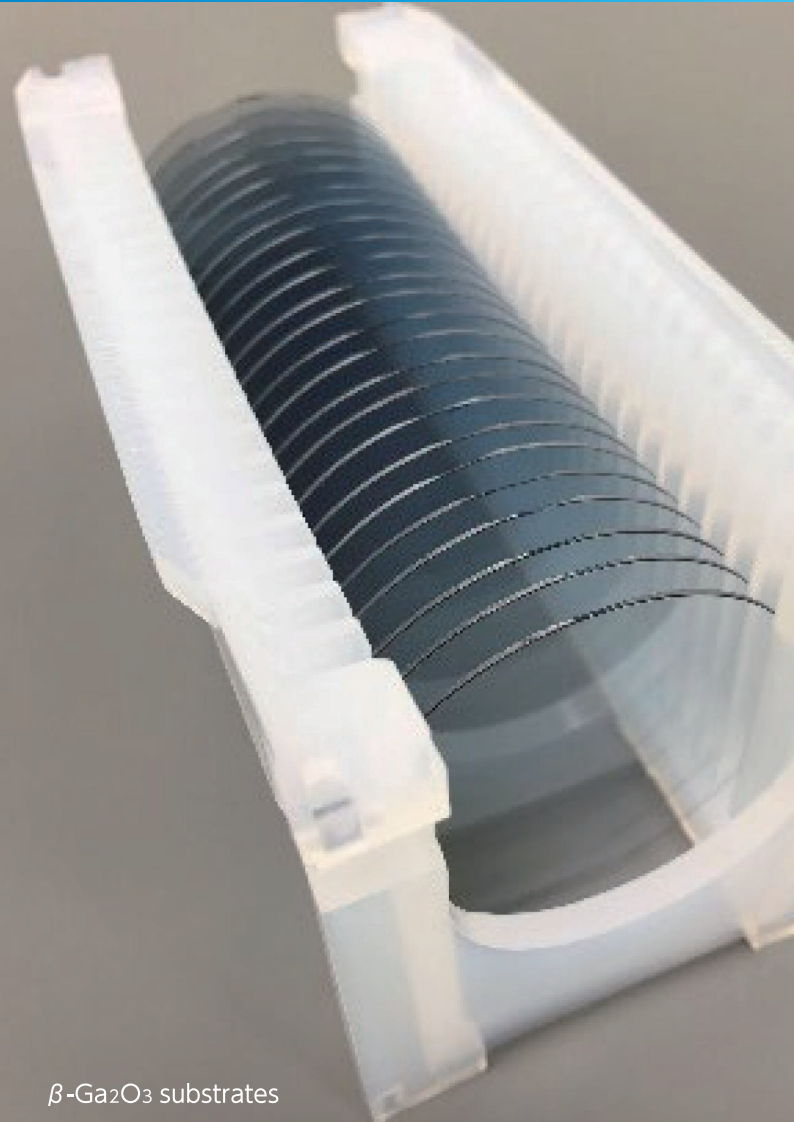
β -Ga₂O₃

Epitaxial Wafers and Substrates

β -Ga₂O₃ is a new semiconductor material for power devices and has larger band-gap energy than SiC and GaN. Therefore, It will likely be used to make that can withstand high voltages and low resistance semiconductors. In addition, since growing β -Ga₂O₃ single crystal from a melt it is possible to provide high quality substrates with low cost compared with SiC and GaN to the market.



β -Ga₂O₃ Bulk single crystals



β -Ga₂O₃ substrates



Contact details for inquiries



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Novel Crystal Technology, Inc. is a 'carve-out' venture from Tamura Corporation.

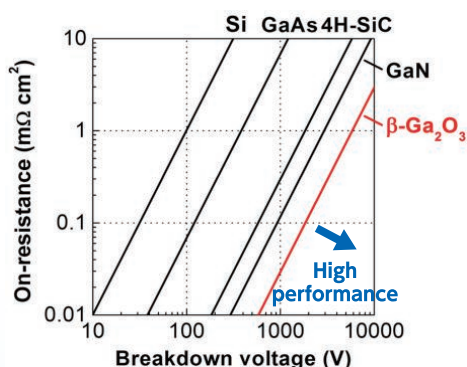
β -Ga₂O₃ Epitaxial Wafers and Substrates



Novel Crystal Technology, Inc.

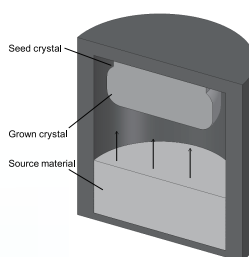
Characteristics of β -Ga₂O₃

β -Ga₂O₃ is a new semiconductor material for power devices and has larger band-gap energy than SiC and GaN. Therefore, It will likely be used to make that can withstand high voltages and low resistance semiconductors. In addition, since growing β -Ga₂O₃ single crystal from a melt it is possible to provide high quality substrates with low cost compared with SiC and GaN to the market.

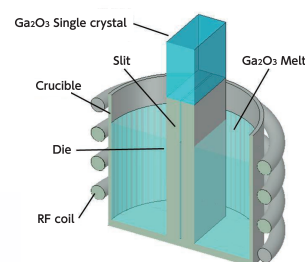


Relationship between theoretical on-resistance and breakdown voltage

	SiC, GaN	β -Ga ₂ O ₃
Growth rate	Slow	Fast
Substrate process	Difficult	Easy



Vapor growth method



Melt growth method

Reasons for low cost of β -Ga₂O₃

Applications

Power Electronics



Electric vehicles



Railroad vehicles



Renewable energy



Smart Grid

Devices in extreme environment



Nuclear reactors
(radiation)

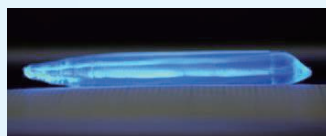


Space
(radiation, electromagnetic waves)

Other applications



High-sensitivity image sensors



Scintillators
(medical, security)



Ultraviolet sensors

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