

Title: Development of α -Ga₂O₃ Power Devices

Short Summary:

Corundum-structured Ga₂O₃ (α -Ga₂O₃) is attracting attention as a new candidate for next-generation power device material due to its excellent physical properties (bandgap: 5.3eV). We have successfully demonstrated thin-film SBDs with extremely low specific on-resistance of 0.1m Ω -cm² (breakdown voltage: 531V) using MIST EPITAXY[®] technology. A 600V-class SBD packaged in TO-220 has also been developed and is approaching practical use. We also demonstrated a normally-off, high channel mobility α -Ga₂O₃ MOSFET.