NEW RELEASE

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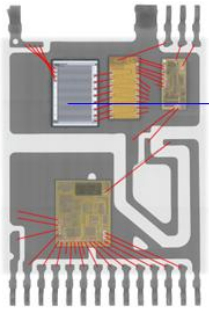
GaN FET (1700V) : Power Integrations PowiGaN IMX2353F Structure Analysis Report

Package


Package internal layout


GaN FET Die

Report Overview

November 2024, Power Integrations announced PowiGaN, the industry's first 1700V GaN switch. As the only manufacturer to mass-produce and supply 1250V and 1700V class GaN switches, the company represents the cutting edge of high-voltage GaN power device technology.

1700V GaN switches are designed for use in applications such as industrial equipment, high-voltage power supplies, automotive on-board chargers (OBCs), auxiliary power supplies for solar inverters, smart meters, and various industrial power systems.

Traditionally, high-cost SiC transistors have been considered essential in these high-voltage regions, but with the advent of this device, a full-scale replacement with GaN has become a realistic option.

Furthermore, this technology is highly anticipated as a key device supporting power architectures for next-generation AI data centers. This report reveals the technical characteristics and internal structure of Power Integrations' 1700V GaN switch.

Product Features

Product type: IMX2353F (InnoMux2-EP family)、 V_{DS}= 1700V $R_{DS\ (on)}$=0.52Ω
Released data: Nov. 2024

InnoMux2-EP Family IMX2353F Datasheet

Equipped on the RDK-1053 evaluation board

Analysis result summary

GaN FET Structure Analysis Report (67 pages)

- Confirmation of layer layout and connectivity through Plane-view analysis.
- Confirmation of layer thicknesses (including the GaN epi-layer) and pitches through cross-section analysis.
- Comparison with the company's 900V GaN FET (INN3690C) regarding the GaN epi-layer, channel length, Lgd spacing, and S-D pitch.
- Presentation of technologies enabling high-voltage operation.

Report price

*Power Integrations 900V GaN FET INN3690C Structure analysis Report is available for purchase (24G-0314-1).

Delivered one week after order placement. Please contact us for report pricing.

Report No：25G-0733-1 Release day：2026.04.24

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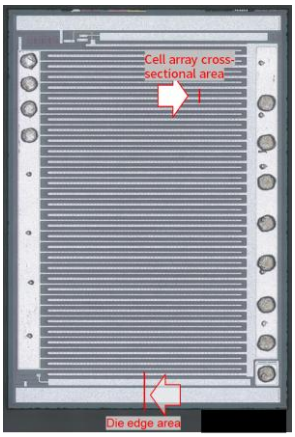
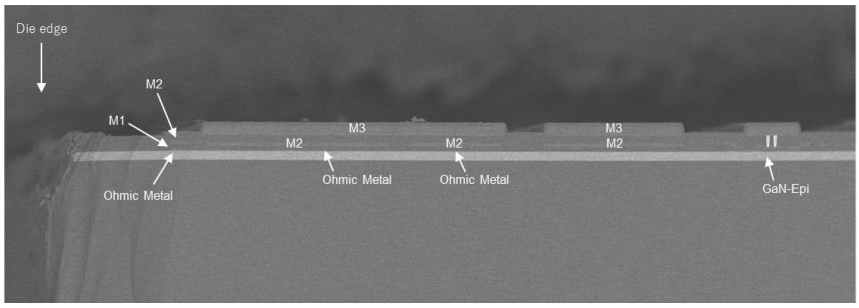
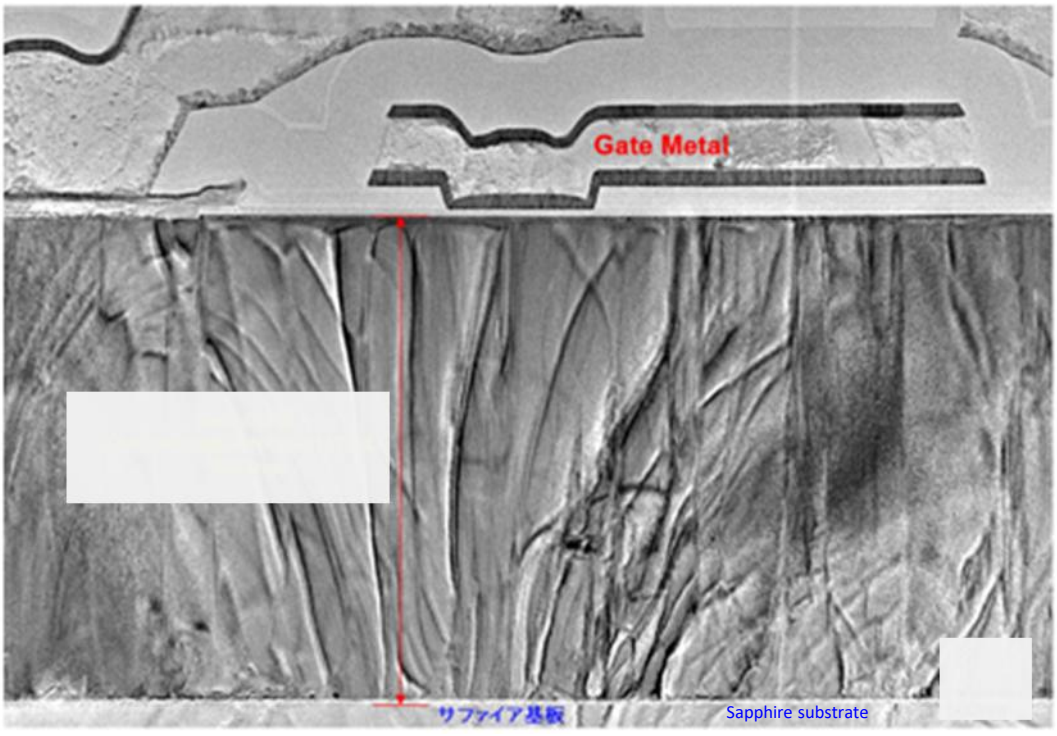
Excerpt from GaN FET Structure Analysis Report





Die edge cross-sectional SEM image

Cell array cross-sectional SEM image



Cell array cross-sectional TEM image (GaN –Epi layer)

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