

GaN FET(150V): Nexperia GAN7R0-150LBE Structural Analysis Report



Package



GeN FET die

Report summary

GaN devices are expected to contribute to energy savings and miniaturization of various power supply applications due to its low on-resistance and excellent high-speed switching performance. In May 2023, NEXPERIA announced a new normally-off 150V GaN FET featuring ultra-low on-resistance (7m Ω).

LTEC released a structural analysis report clarifying the characteristics of this product by analyzing the package cross section, and GaN FET plane view analysis/cross section analysis including material analysis.

Product specifications/features

Product number : GAN7R0-150LBE 150V GaN FET $R_{DS(ON)}=7m\Omega$

Product release date: May 2023

Analysis Contents/Overview of Results

Structure analysis report (96 pages)

1. GaN FET die and PCB substrate are connected with microbumps.
2. Gate structure is P-GaN mesa type.
3. The wiring configuration of GaN-HEMT is 6Metal
4. GaN Epi thickness is 1628nm (including P-GaN)

If you are interested in a process analysis report that evaluates the electrical characteristics of this product and estimates the manufacturing process flow, please feel free to contact LTEC.

Please contact us for report pricing.

Excerpt from structure analysis report (1)

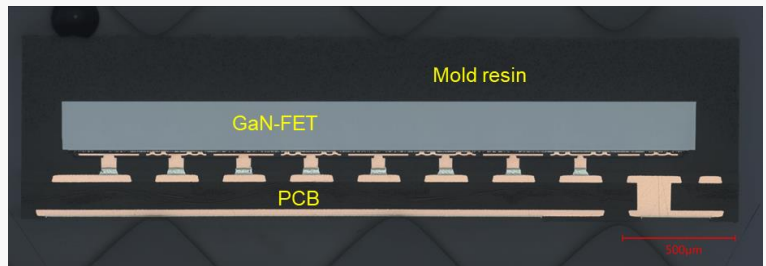
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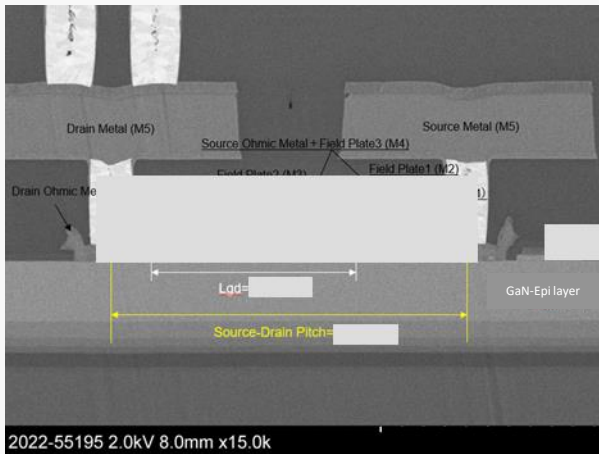
Excerpt from structure analysis report (2)



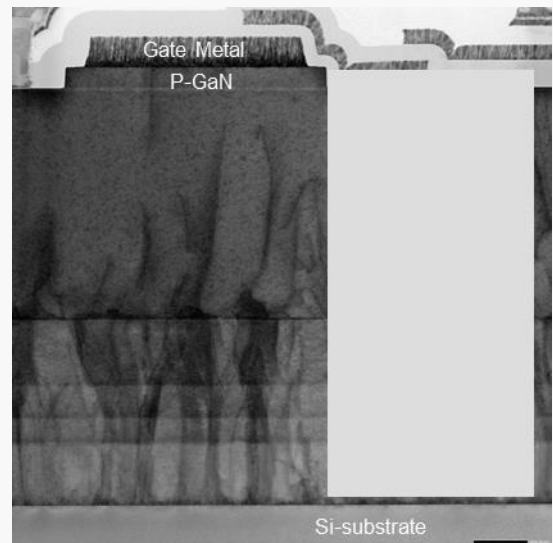
GaN FET die
(Top Metal layer)



Package cross section structure



Cell array cross section SEM image



Cell array cross section TEM image
(GaN-Epi layer)



Die edge cross section SEM image