NEW RELEASE

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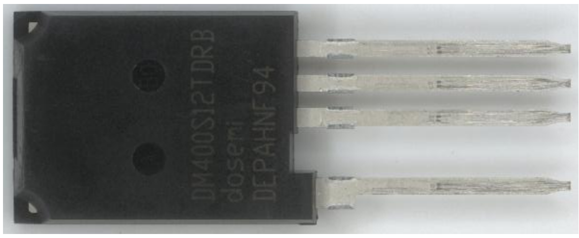
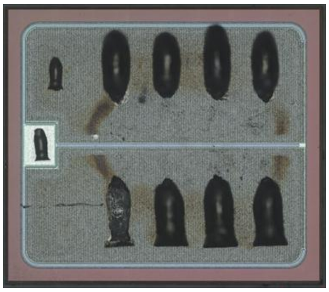
SiC MOSFET (1200V)： StarPower Europe AG DM400S12TDRB Overview Analysis Report



Package



SiC MOSFET Die

Report Overview

StarPower Semiconductor manufactures its own SiC dies and has established its own 150mm (6-inch) SiC die production line, enabling it to supply automotive-grade SiC MOSFET dies, and a significant increase in sales volume is expected in the future.

StarPower Europe AG, the European subsidiary of StarPower, has established a European R&D Center in Germany, where it conducts research and development on new power semiconductor technologies, packaging, and materials for the development of StarPower's next-generation models.

LTEC released an overview analysis report on the 1200V SiC MOSFET Gen1 for automotive applications, which was released by the company in 2024.

Product Features

Product type: DM400S12TDRB V_{DSS}=1200V、I_D=64A、$R_{DS(ON)}$=40mΩ
Released data: Nov. 2024

Datasheet：https://starpowereurope.com/uploads/product/16/DM400S12TDRB.pdf

- Application：Hybrid and electric vehicles, motor drive inverters

Analysis result summary

Overview Analysis Report (13 pages)

- Plan-view and cross-sectional SEM images of the transistor region, and cross-sectional SEM image of the outer periphery of the die.
- The Ron x AA of this product—the product of the on-resistance Ron and the active area (AA)—is comparable to that of STMicroelectronics' latest-generation 1200V devices, demonstrating the high technological standards of this product.

※Please contact us if you are interested in the detailed SiC MOSFET structural analysis report (including package cross-sectional views).

Report price

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

Report No：25G-0385-1 Release day：2026.03.27

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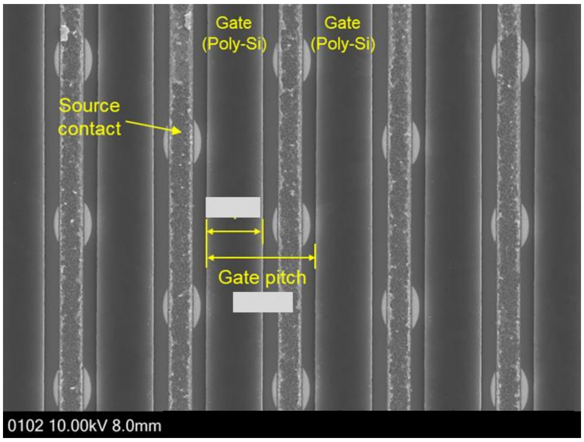
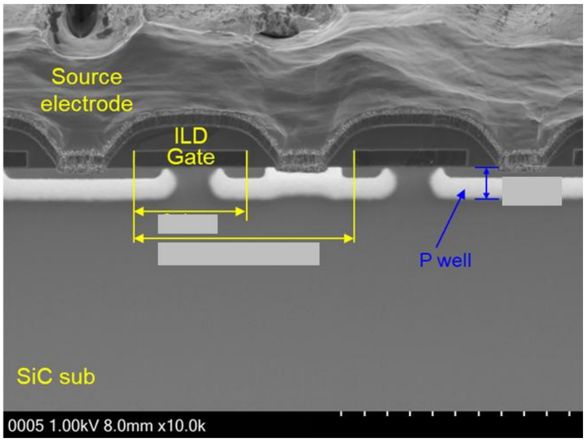
Excerpt from Package Overview Analysis Report



Cell array plan-view SEM image (Poly-Si layer)



Cell array cross-sectional SEM image

Table : Device structure

	StarPower DM400S12TDRB	StarPower MD22HFS120N6HY	Silan SCDP120R013N2P4B	STMicro SCT040W120G3AG
Die size A (mm x mm = mm^2)				
Transistor area AA (mm^2)				
Ron (mΩ / Vgs(V))				
Ron x AA (mΩ・mm^2)				
Transistor cell configuration				
Cell pitch P (μm)				
Gate oxide film				