NEW RELEASE

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Si IGBT(1600V) : STMicroelectronics STGWA30IH160DF2 Overview analysis report

Package

Internal Layout

Report Overview

IGBTs are capable of highly efficient switching operations and are therefore also used as switching elements in inverter circuits in home appliances such as induction cookers, microwave ovens, and rice cookers.

In 2023, STMicroelectronics released a 1350V IGBT as part of its "STPOWER IH2" series of IGBTs for induction cookers. Furthermore, in July 2025, the company announced a new 1600V IGBT to provide resistance to large voltage surges and voltage spikes.

The STPOWER IH2 series features low saturation voltage (VCE(sat)) and reduced turn-on losses, which are said to contribute to improved power conversion efficiency.

LTEC released a report on this 1600V IGBT, which includes a cross-section observation of the cell array and die periphery.

Product Features

Product type: STGWA30IH160DF2 V_{CES}=1600V、I_c=30A($V_{CE(sat)}$ = 1.77 V (typ.))
Released data: July 2025

https://www.st.com/ja/power-transistors/stgwa30ih160df2.html

Trench gate field stop IGBT technology applied, equipped with FWD.

Analysis result summary

Overview Analysis Report (17 pages)

- It features a trench gate structure.
- Die edge termination structure uses JTE and guard rings.
  (JTE : Junction Termination Extension)

If you are interested in a detailed structure analysis report of this product (including a comparison with the 1350 V device of the same series, STGWA35IH135DF2), please contact us.

Report price

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

Report No : 25R-0298-1 Release day : 2025.10.10

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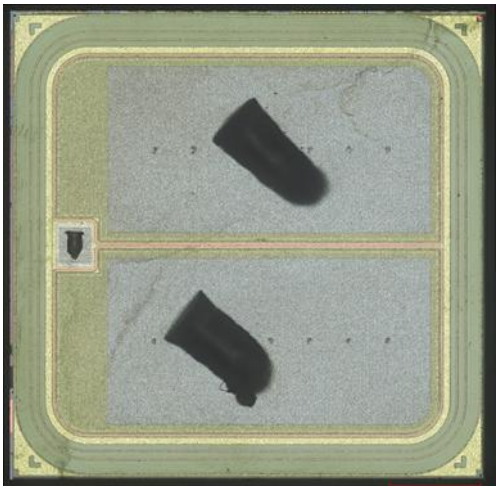
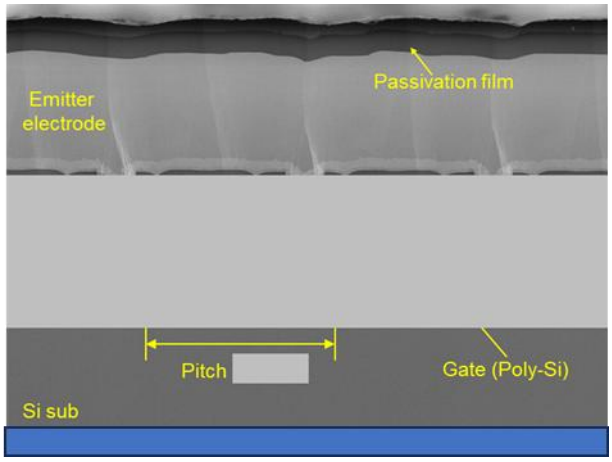
Excerpt from Overview Analysis Report



Si IGBT (Top metal layer)

Si FWD (Top metal layer)



Cell array Cross-section SEM image

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