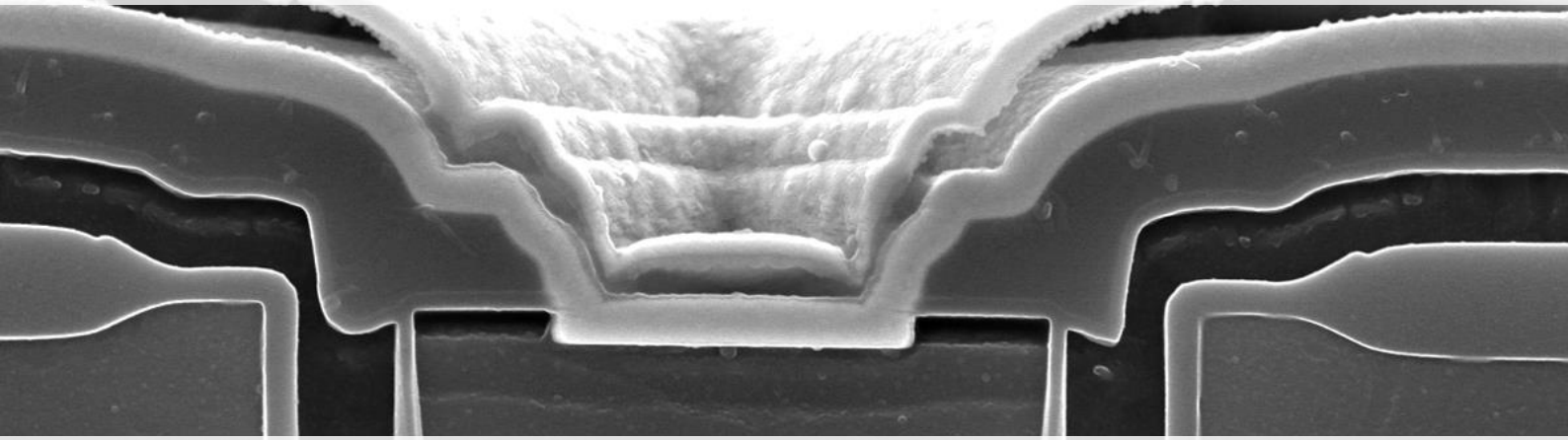
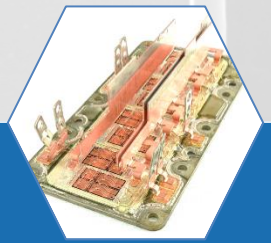
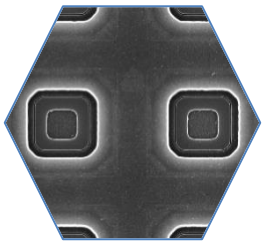
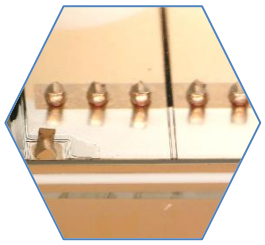




Infineon PrimePACK™2 1200V Power Module with IGBT5 and EC5 Diode

The first PrimePACK™ 2 product from Infineon implementing IGBT5 and .XT joining technology with copper wire bonding and sintered silver die attach.





Title: Infineon 1200V PrimePACK™2 Module IGBT5 EC5

Pages: 163

Date: October 2019

Format: PDF & Excel file

The market outlook for the power electronics industry is promising. In 2018, the power semiconductor device market segment was worth US$17.5 billion, with a forecast compound annual growth rate (CAGR) for the 2018-2024 period of 3.2%.

The biggest growth is set to be driven by IGBT modules, which represent 23% of the total market in 2018 and is expected to increase in coming years. That's why various players are currently investing in new manufacturing lines. Infineon has invested US$1.9 billion in Villach to build a second fab for power devices on 300mm wafers.

Industrial applications are one of the main appealing markets for IGBT modules. For this purpose, Infineon released the FF1200R12IE5, which is its first PrimePACK™ 2 product with IGBT5 and .XT joining technology. This novel joining technology implements copper wire bonding and sintered silver as a die attach layer.

The module employs Infineon's IGBT5 TRENCHSTOP™ and Emitter Controlled 5 diode in 1200V Half-Bridge configuration with a nominal current rating of 1200 A.

This report presents a deep analysis of the FF1200R12IE5 module. Supported by a full teardown of the module's components and housing, this report reveals Infineon's design of the IGBT5 and EC5 diode as well as its innovative assets in the PrimePACK™ 2 packaging.

This report includes an estimated manufacturing cost of all the module's components and a selling price analysis. It also offers a comparison between IGBT3, IGBT4 and IGBT5 technologies from Infineon.

These comparisons highlight differences in the die design, packaging, electrical performances, and manufacturing costs.

COMPLETE TEARDOWN WITH

- Detailed optical and SEM photos
- Precise measurements
- Material EDX analysis
- Manufacturing process flow
- Supply chain evaluation
- Manufacturing cost analysis
- Estimated selling price
- Technology and cost comparisons between, IGBT3, IGBT4 and IGBT5 technologies from Infineon

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AUTHORS

Amine Allouche *is part of System Plus Consulting's Power Electronics and Compound Semiconductors team. Amine holds a Master's degree focused on Micro and Nano-technologies for integrated Systems.*

Véronique Le Troadec *has joined System Plus Consulting as a laboratory engineer.*
She holds a Master degree in Micro-electronics from the University of Nantes.

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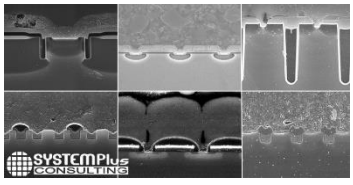

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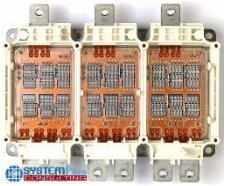

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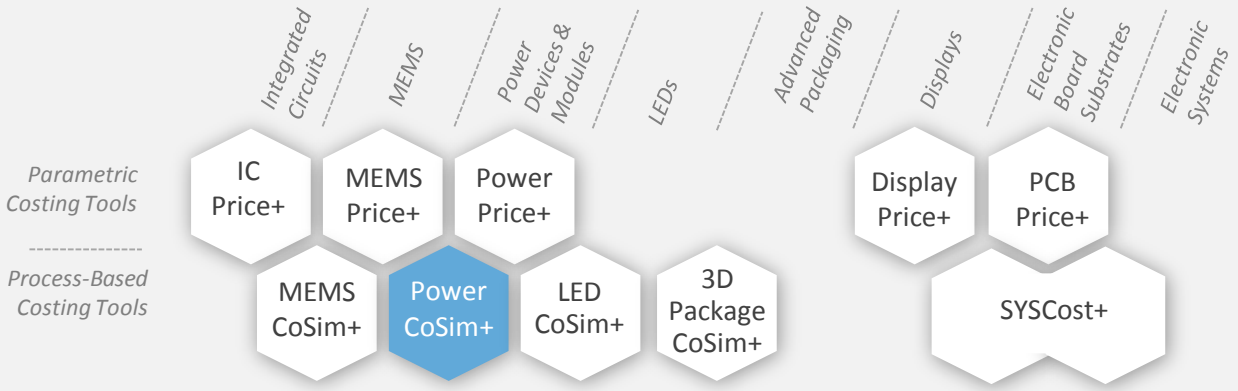

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CONTACTS

Headquarters
22, bd Benoni Goullin
Nantes Biotech
44200 Nantes
France
+33 2 40 18 09 16
sales@systemplus.fr

Europe Sales Office
Lizzie LEVENEZ
Frankfurt am Main
Germany
+49 151 23 54 41 82
llevenez@systemplus.fr

America Sales Office
Steven LAFERRIERE
Western USA & Canada
+1 310-600-8267
laferriere@yole.fr

Chris YOUMAN
Eastern USA & Canada
+1 919-607-9839
chris.youman@yole.fr

Asia Sales Office
Takashi ONOZAWA
Japan & Rest of Asia
+81 80 4371 4887
onozawa@yole.fr

Mavis WANG
Greater China
+886 979 336 809
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Peter OK
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