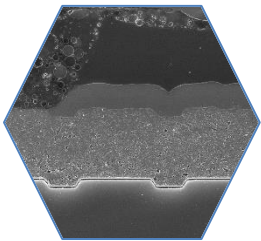
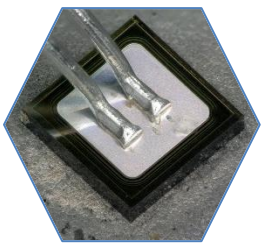


## SiC Diode Comparison 2020

*Comparison of the technology and cost of 11 SiC diodes from Infineon, Wolfspeed, Rohm, STMicroelectronics, ON Semiconductor, Microsemi, and UnitedSiC.*



SiC devices are gaining the confidence of many customers and are penetrating various applications. This is confirmed by the promising market outlook for SiC devices, whose compound annual growth rate (CAGR) will be 31% for the period 2019-2025 according to Yole Développement.

Since their first commercialization in 2001, the performance and added value of SiC diodes has been gradually proven and their price has become increasingly acceptable to end users. In this report, System Plus Consulting presents an overview of the state of the art of SiC diodes to highlight differences in design and manufacturing processes, and their impact on device size and production cost. It gives a benchmark overview of the different SiC diodes available on the market and analyzes 11 of them from seven of the main SiC diode suppliers.

The 11 SiC diodes are spread across three voltage classes: 650V, 1200V, and 1700V. Devices from Infineon, Wolfspeed, Rohm, STMicroelectronics, ON Semiconductor, Microsemi, and UnitedSiC have been analyzed. They target different power

applications, including two AEC-Q101 qualified SiC diodes.

The report provides detailed optical and SEM pictures with some EDX material analysis, from device packaging to the microscopic level of diode design, with a focus on the latter. This report estimates the manufacturing cost of the analyzed SiC diodes and their selling prices. It provides physical, technological and manufacturing cost comparisons between the analyzed diodes.

### COMPLETE TEARDOWN WITH

- SiC diode benchmark
- 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 of 650V, 1200V, and 1700V SiC diodes

**Title:** SiC Diode Comparison 2020

**Pages:** 202

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**Price:**  
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## TABLE OF CONTENTS

### Overview/Introduction

- Executive Summary, Reverse Costing Methodology and Glossary

### Technology & Market

- Wide Band Gap Market Segmentation as a Function of Voltage Range, SiC Diode Bare Die Market Share Split by Voltage, Identified SiC Discrete Diodes in the Market and Main Player Roadmap
- SiC Challenges and SiC Diodes Device Design Technology Choices

### Company Profile and Supply Chain

- Infineon, Wolfspeed, Rohm, STMicroelectronics, ON Semiconductor, Microsemi, UnitedSiC: Profile and Supply Chain

### Physical Analysis

- Summary
- 650V SiC Diodes
  - Infineon IDH06G65C6
  - Wolfspeed C6D04065A
  - Rohm SCS308AH
  - STMicroelectronic STPSC6H065D
  - ON Semiconductor FFSP0465A
  - UnitedSiC UJ3D06506TS
- 1200V SiC Diodes
  - Infineon IDK05G120C5
  - Rohm SCS205KGHR
  - ON Semiconductor FFSP05120A

- 700V SiC Diodes
  - Wolfspeed C5D10170H
  - Microsemi MSC010SDA170B

### Technology and Physical Comparison

- Die Design: Physical and Technology Comparison
- Performance Comparison: FOM ( $Q_c \cdot V_f$ ) and Current Density

### Manufacturing Process Flow

- Supply Chain
- For Each Analyzed SiC Diode:
  - Description of the wafer fabrication unit and process flow
  - Description of the package assembly unit

### Cost Analysis

- Summary
- Yield Explanations and Hypotheses
- For Each Analyzed SiC Diode:
  - Wafer cost
  - Die cost
  - Packaging cost
  - Component cost
  - Component price

### Cost Comparison

- Overall Comparison – Component Cost
- Overall Comparison – Wafer FE Cost and Die Ampere Cost Per Area
- 650V, 1200V, 1700V SiC Diode Wafer and Ampere Cost Comparison

## 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.*



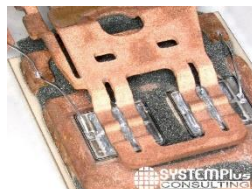
*Guillaume Chevalier has joined System Plus Consulting in early 2018 to perform physical analyses. He holds a two-year university degree in technology of physical measurements and instrumentation technics.*

## RELATED REPORTS



### Industrial Power Module Packaging Comparison 2020

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### SiC MOSFET Comparison 2019

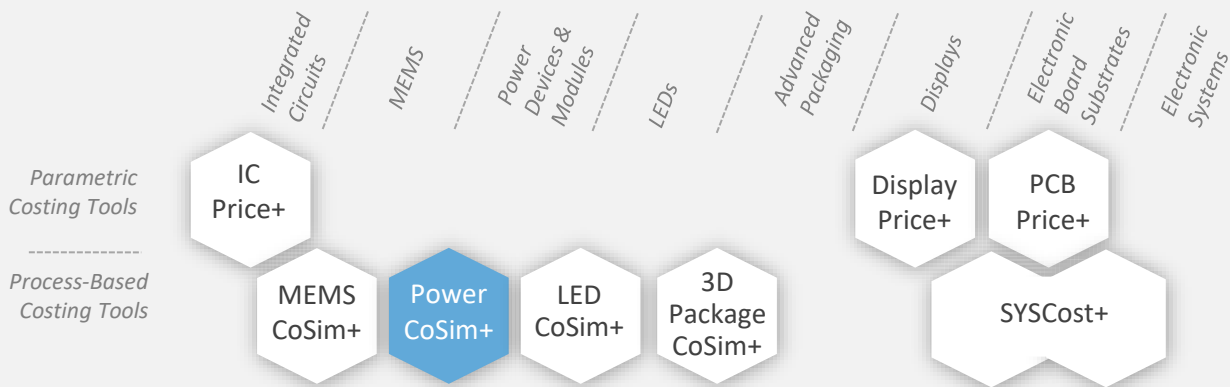
*Discover and compare the state of the art: 22 SiC MOSFETs from Cree/Wolfspeed, Rohm, STMicroelectronics, Littelfuse, and Infineon.*  
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### Power CoSim+

Cost simulation tool to evaluate the cost of any Power Electronics process or device: from single chip to complex structures.

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### WHAT IS A REVERSE COSTING®?

Reverse Costing® is the process of disassembling a device (or a system) in order to identify its technology and calculate its manufacturing cost, using in-house models and tools.



### 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  
TW +886 979 336 809  
CN +8613661566824  
wang@yole.fr

Peter OK  
Korea  
+82 10 4089 0233  
peter.ok@yole.fr

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