

# Global Power Technology Co., Ltd

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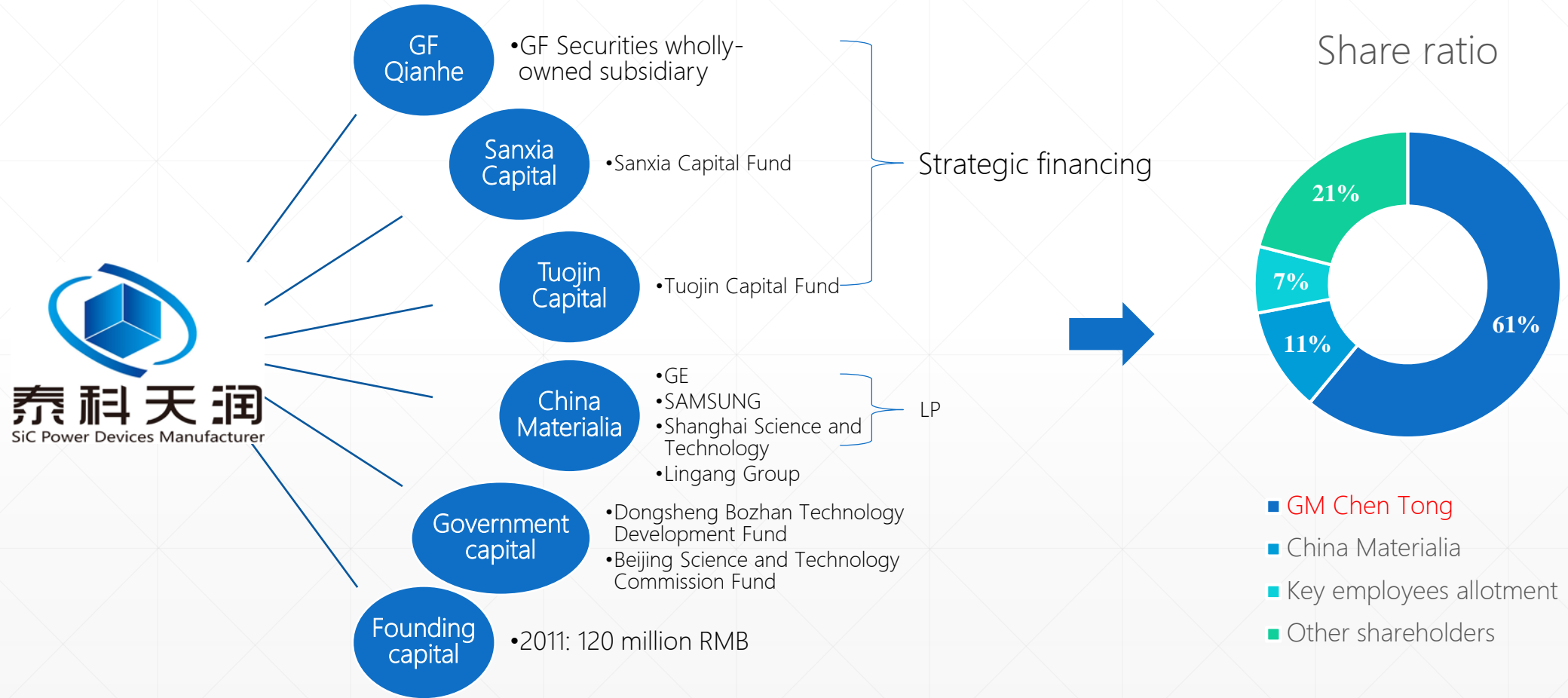
- Global Power Technology Co., Ltd. (GPT) is one of the pioneers of industrialization of silicon carbide (SiC) power devices in China. **The first third-generation semiconductor material silicon carbide device manufacturing and application solutions provider.**



- The company's headquarters is located in the Dongsheng Science and Technology Park in Zhongguancun, Beijing, China. It has a complete semiconductor fab, **and it is the only domestic silicon carbide device mass production line that is market-oriented.** It is the leading company of new materials semiconductors. The emerging power of high-end manufacturing.

## 1-Company information

# Capital situation



## SiC Chip production line overview



Class 100, 1000 and 10000 clean rooms



Carbon Sputtering Machine



HiT Annealing Oven/



HiT Ion Implanter



HiT Oxidation  
Furnace

SiC Processing  
equipment

## New production line



30,000 6" wafers

# Annual production

8,000 4" wafers - current stage

At present, GPT is preparing to build a 6" SiC wafer fabrication plant in Jiangxi Jiujiang. The first phase investment is 300 million yuan. It is expected to be put into use at the end of 2020.

# Awards and honors

## Projects

- "13th Five-Year" Project
- SiC BJT Projects
- SiC MOSFET projects

## Certificates

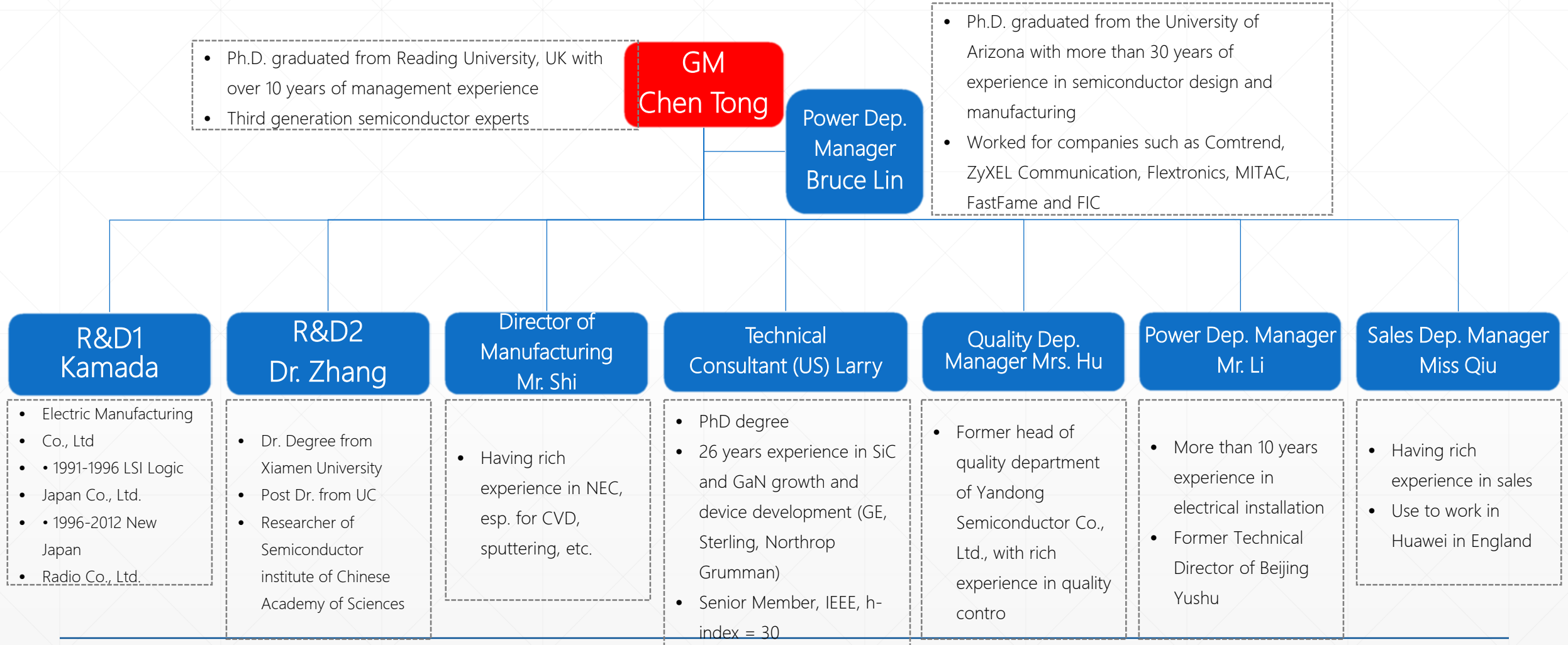
- "Semiconductor Innovation and Technology Award"
- China Semiconductor Association
- Top10 of Zhongguancun Science and Technology Frontier Integrated Circuit Field

## Awards

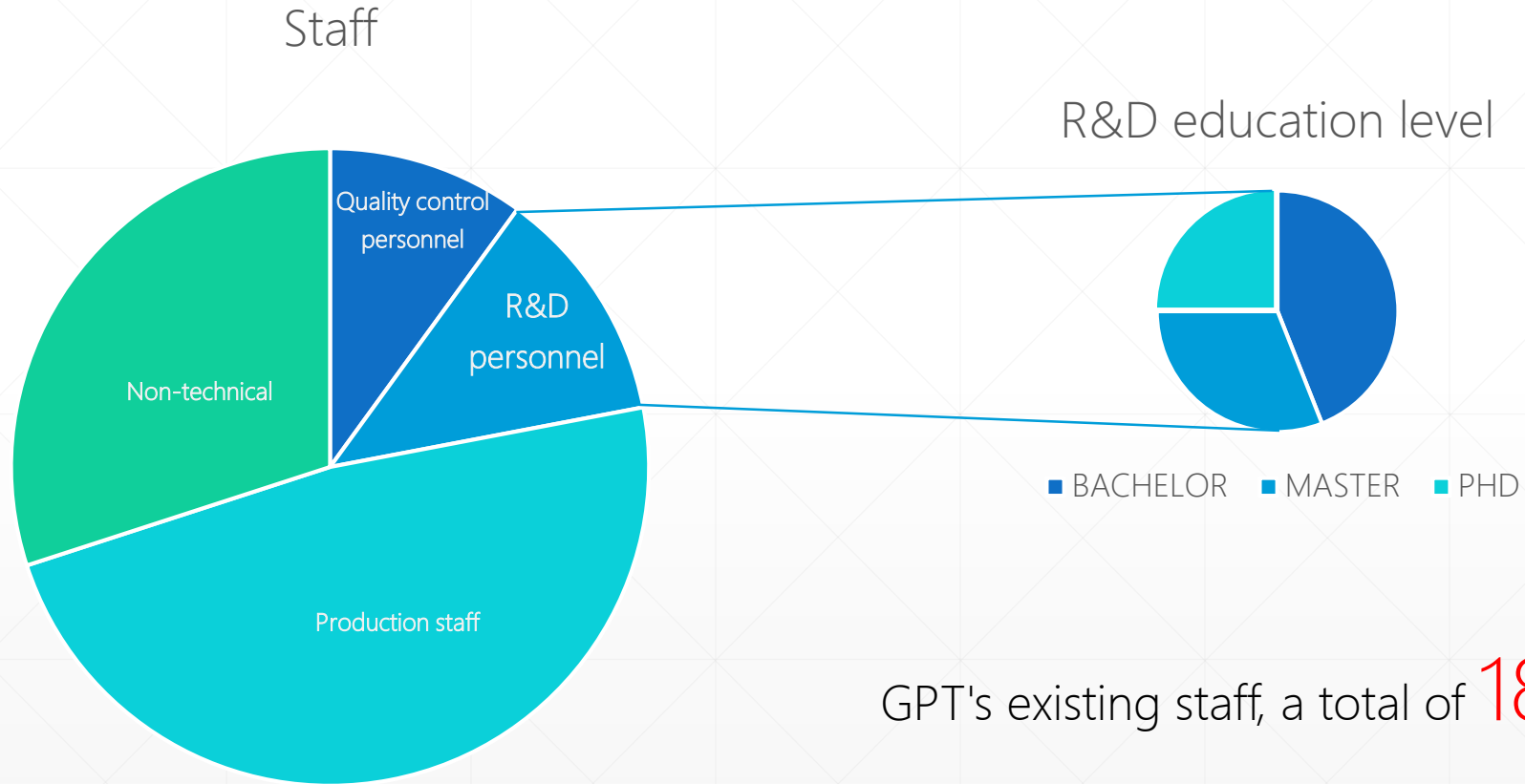
- National Torch Program Industrialization Demonstration Unit
- Ministry of Science
- Zhongguancun high-end leading talents
- Haidian District "Haiying Talents"
- Excellent entrepreneur
- High-tech enterprises



# Organization



# Technical Team



GPT's existing staff, a total of **182** people




## Sales network

### Domestic channel



 Beijing

 Shanghai

 Shenzhen

### International channel



Japan

UK

South Korea

Germany

Russia

Switzerland

USA

# Certificate

## Certification



- UL
- CE
- ROHS
- ISO9001
- IATF16949

## Reliability



- Self-test
- Thirf-party
- Client
  - depot verification



IATF16949 Certificate

X3

Band gap

- Increase voltage resistance
- Increase temperature resistance

X10

Breakdown electric field

- Reduce characteristic on-resistance
- Reduce high voltage application losses

X2

Saturation electron drift velocity

- High frequency working

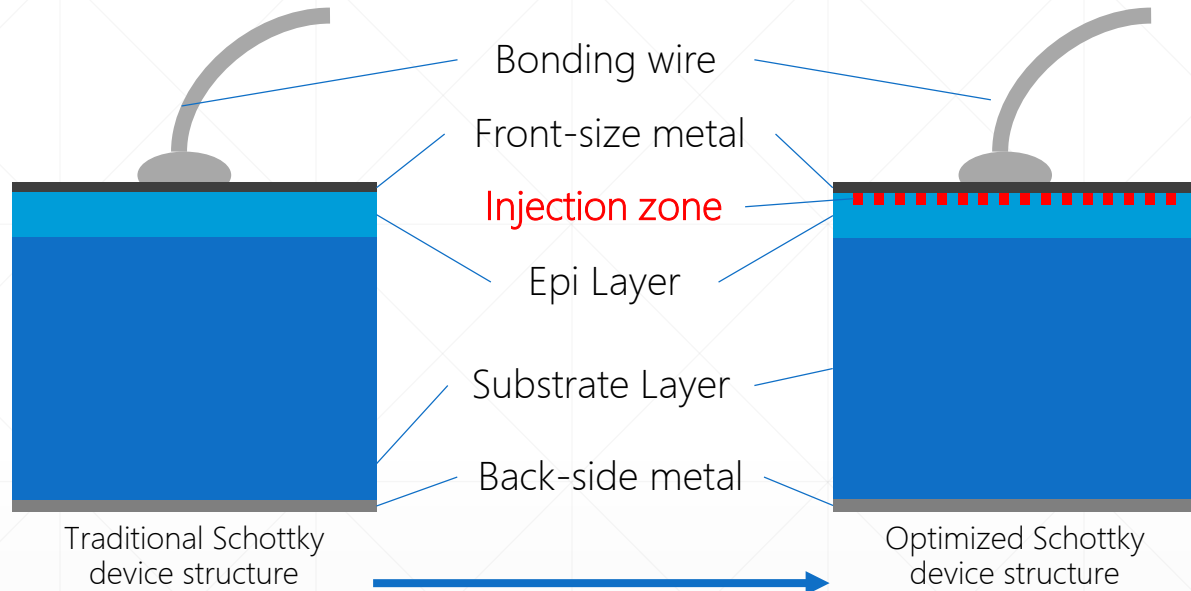
X3

Thermal conductivity

- Simplify cooling system design and cost
- Reduce product design difficulty
- Reduce maintenance costs
- Increase Severe working condition reliability

## 2- Product information

# Global Power Technology product features



Traditional Schottky device structure

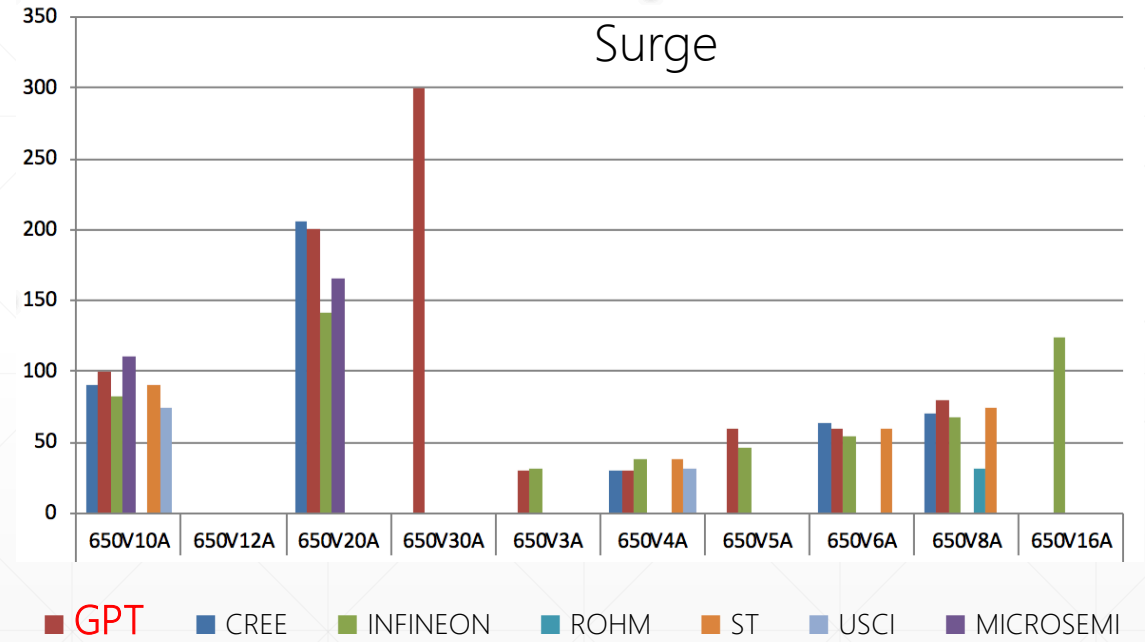
Optimized Schottky device structure

SBD

Excellent switching characteristics of Schottky diodes JBS

+ High blocking characteristics of PiN diodes

- Reduce static losses
- Improve thermal performance
- Increase surge tolerance

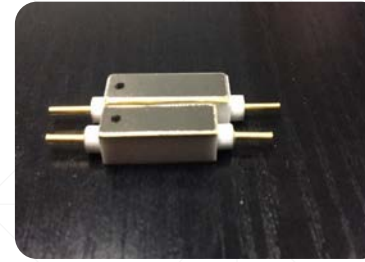


测试条件:  $T_C=25^\circ\text{C}$ ,  $t_p=10\text{ms}$ , Half Sine Wave

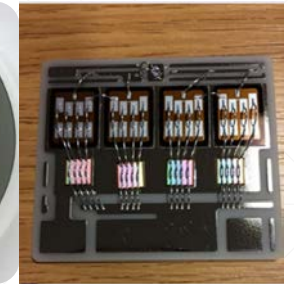
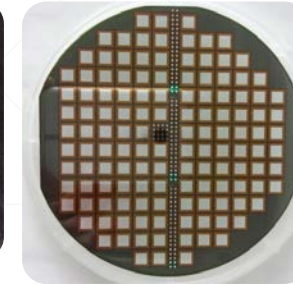


# Global Power Technology SiC production

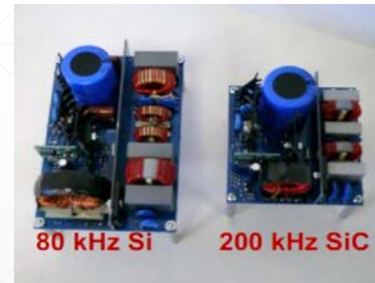
- In addition to the specifications listed in the selection table , also available 1700V5A/10A/15A/50A and 3300V0.6A/1A/2A/3A/5A/50A;
- According to customer requirements, basis on existing diode products, other matching plastic forms are available. ;
- For customers with bare chip needs, double-sided silver products are also available. ;
- Now SiC MOSFET and SiC BJT products available in small quantities on demand ;
- Can provide solutions for metal or ceramic packages for customers with high temperature requirements ;



$T_a=215^{\circ}\text{C}$  7000V1A and 9000V1A diodes



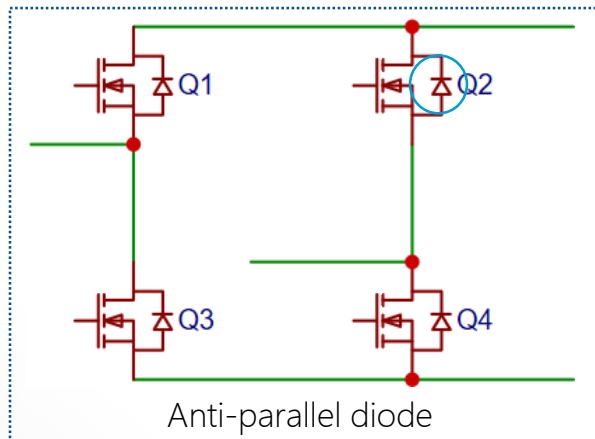
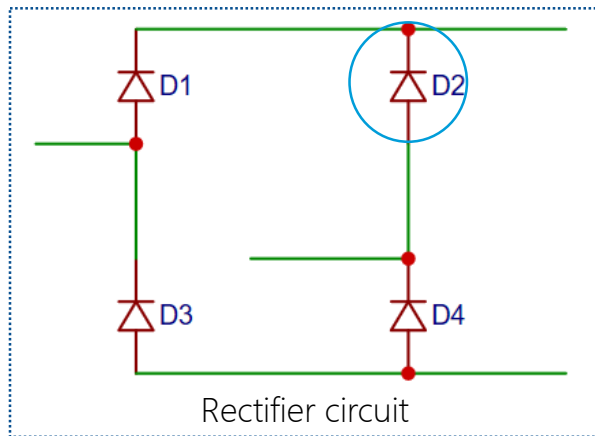
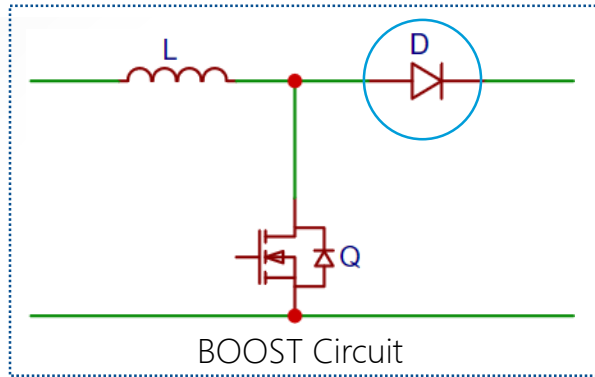
3300V50A chip for locomotive traction hybrid module



SiC solution for high frequencies



SiC can reduce coil size



Discrete  
device

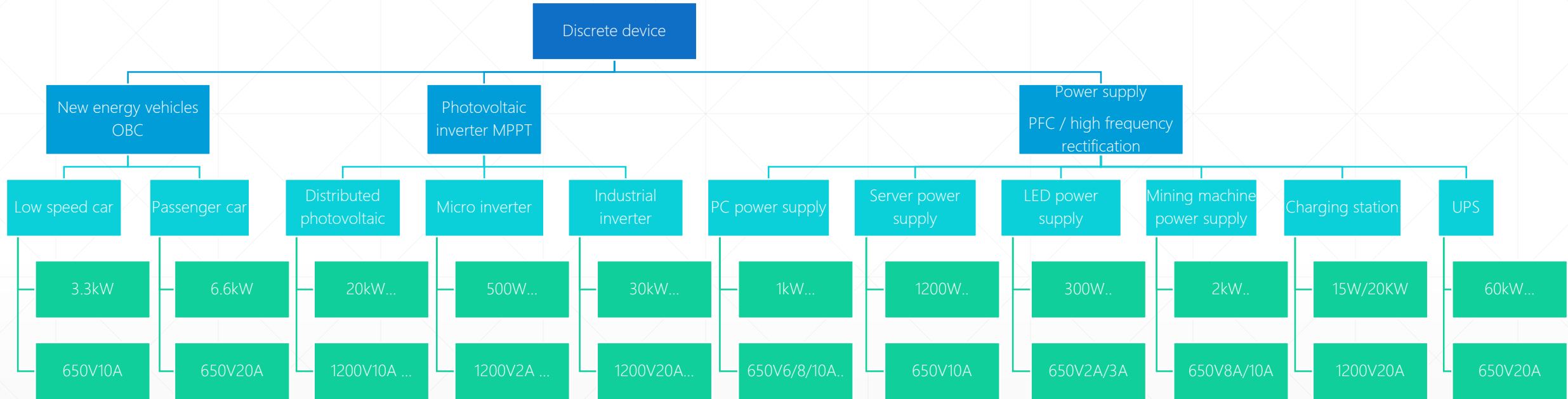
Board  
products

Chip  
product

Module  
product

### 3- Application information

# Application field



**Other application areas :** • Electric bike charger ( Or a variety of high-power chargers for charging lithium batteries ) • Hybrid module ( IGBT + SiC diode ) • Audio power supply • Electric appliance ( Example: Industrial air conditioner ) • Stage power supply .....



Silicon carbide  
solution  
provider

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