

# PANJIT International Inc



May.

2023

- About PANJIT
- Power Discrete & New Technology Focus
- Automotive

# About PANJIT

# PANJIT Overview

## IDM Design Capability

**PANJIT** semiconductor has been providing its comprehensive range of discrete products to global community for over 37 years. With continuous investment in packaging miniaturization, wafer capacity expansion, R&D in advanced high power discrete solution and power IC design capability, PANJIT is the brand name that customers can depend on to be life-long partner of discrete semiconductor components and total solution provider.

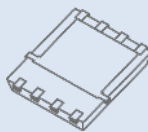
NTD\$ **13.2** Billion  
Y2022 consolidated  
revenue



**6**

Worldwide Ranking  
\*: From Omdia: Low  
Power Rectifier, >500mA

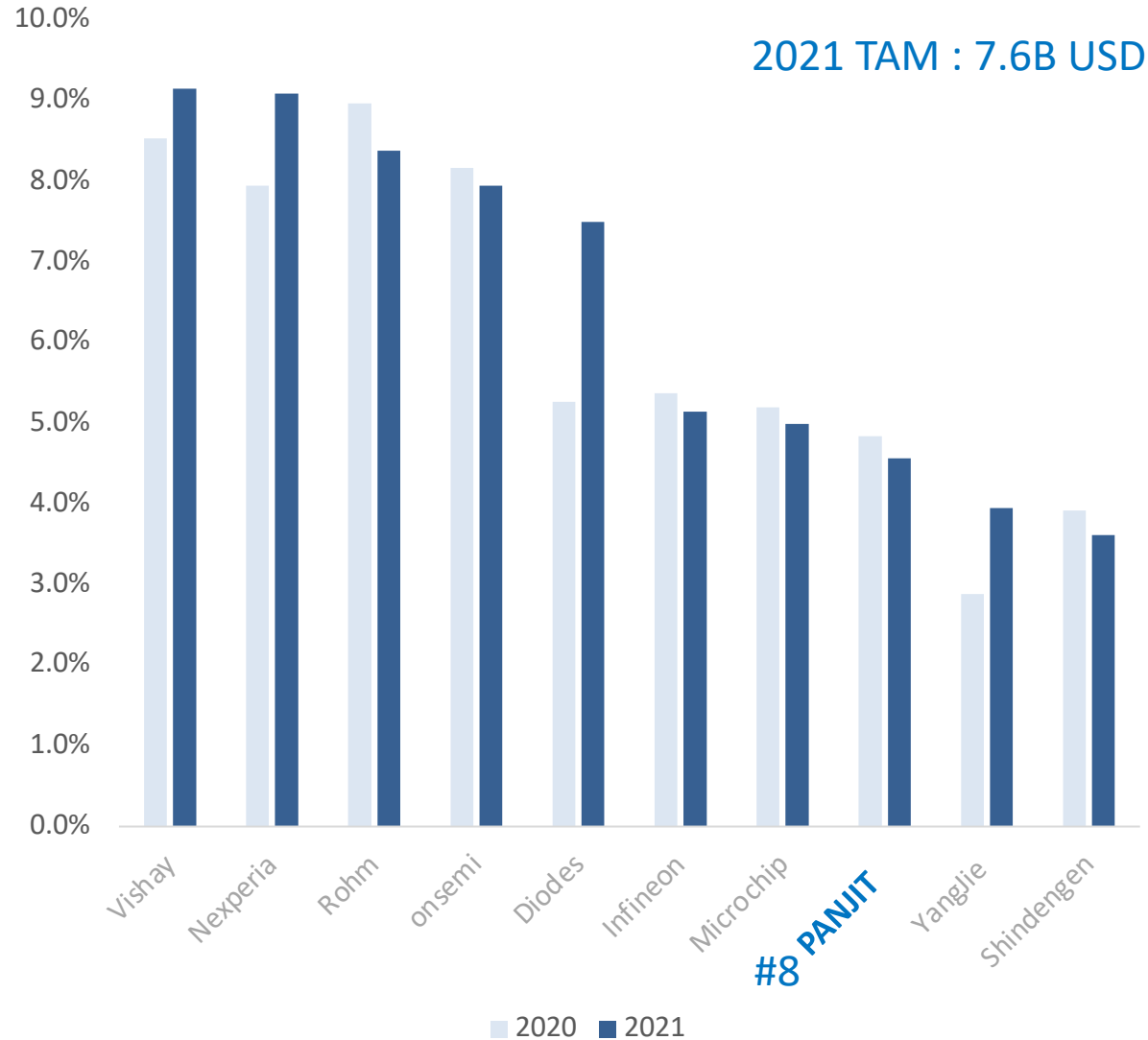
**3** Frontend  
Wafer Sites



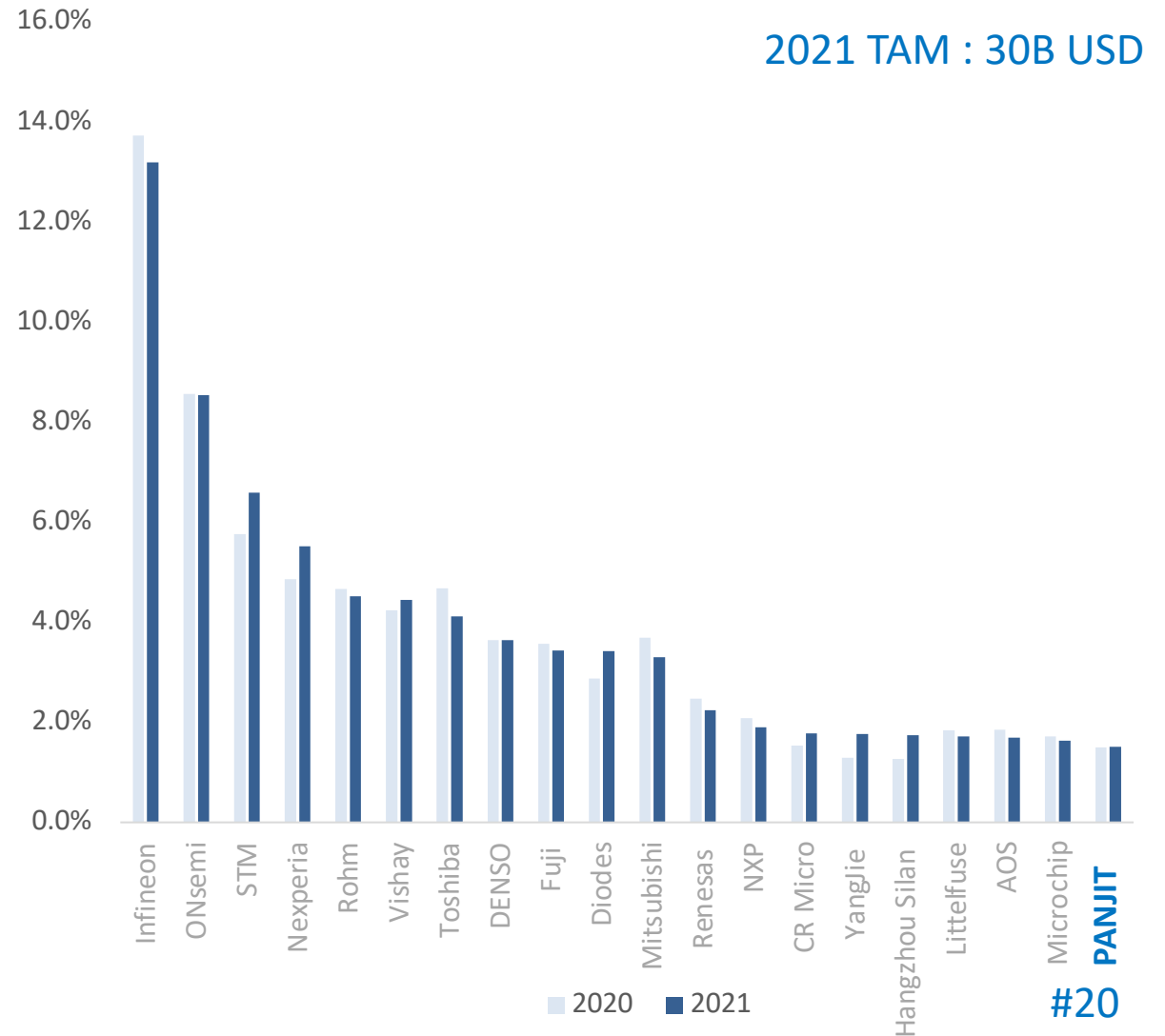
**3** Backend  
Packaging Sites

# Global Ranking

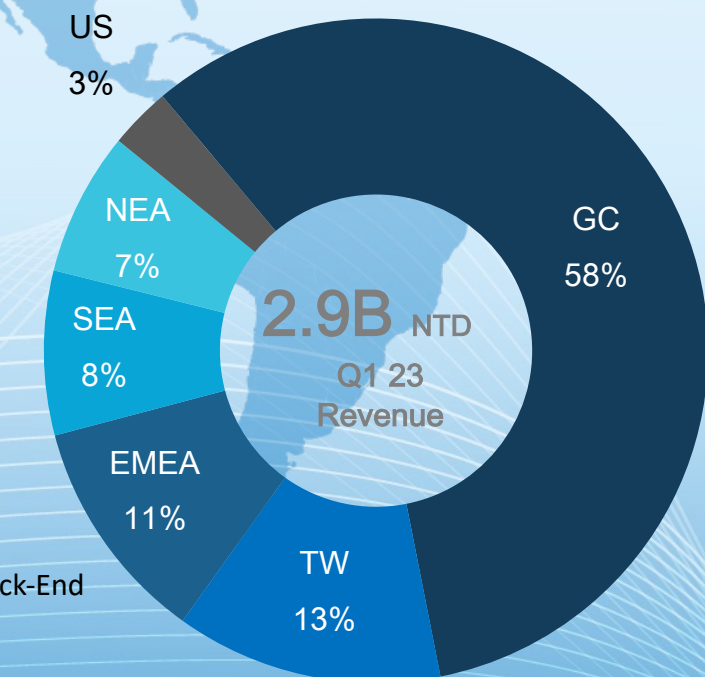
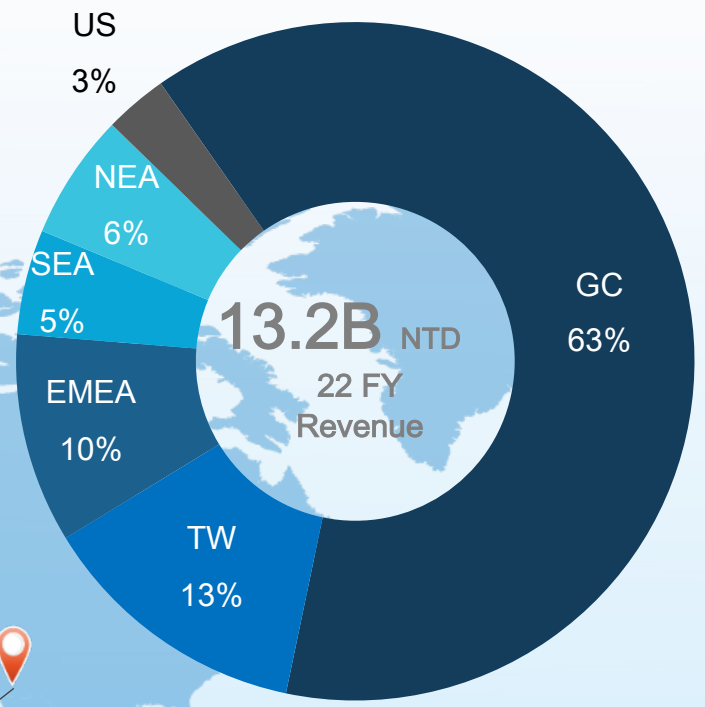
## Global Diode Ranking





## Global Discrete Ranking



# PANJIT Global Footprint at a Glance





# Wafer Capacity



**4"**

**Fab 2**  
Shandong, China

✓ TVS Wafer: 25,000 pcs/month



**6"**

**Fab 1**  
Kaohsiung, Taiwan

- ✓ EPI Wafer: 60,000 pcs/month
- ✓ Schottky Wafer: 45,000 pcs/month
- ✓ ESD/TVS Wafer: 5,000 pcs/month
- ✓ ZENER Wafer: 5,000 pcs/month



**8"**

**Fab 3**  
Kaohsiung, Taiwan

✓ MOSFET/IGBT wafer: 10,500 pcs/month

# Assembly Capacity

01

## Kaohsiung, Taiwan

Package:

Small Signal Devices/SMD Bridge

Capacity:

3,030 million/month

02

## Wuxi, China

Package:

SMD/Power Package

Capacity:

450 million/month

03

## Xuzhou, China

Package:

Small Signal Device

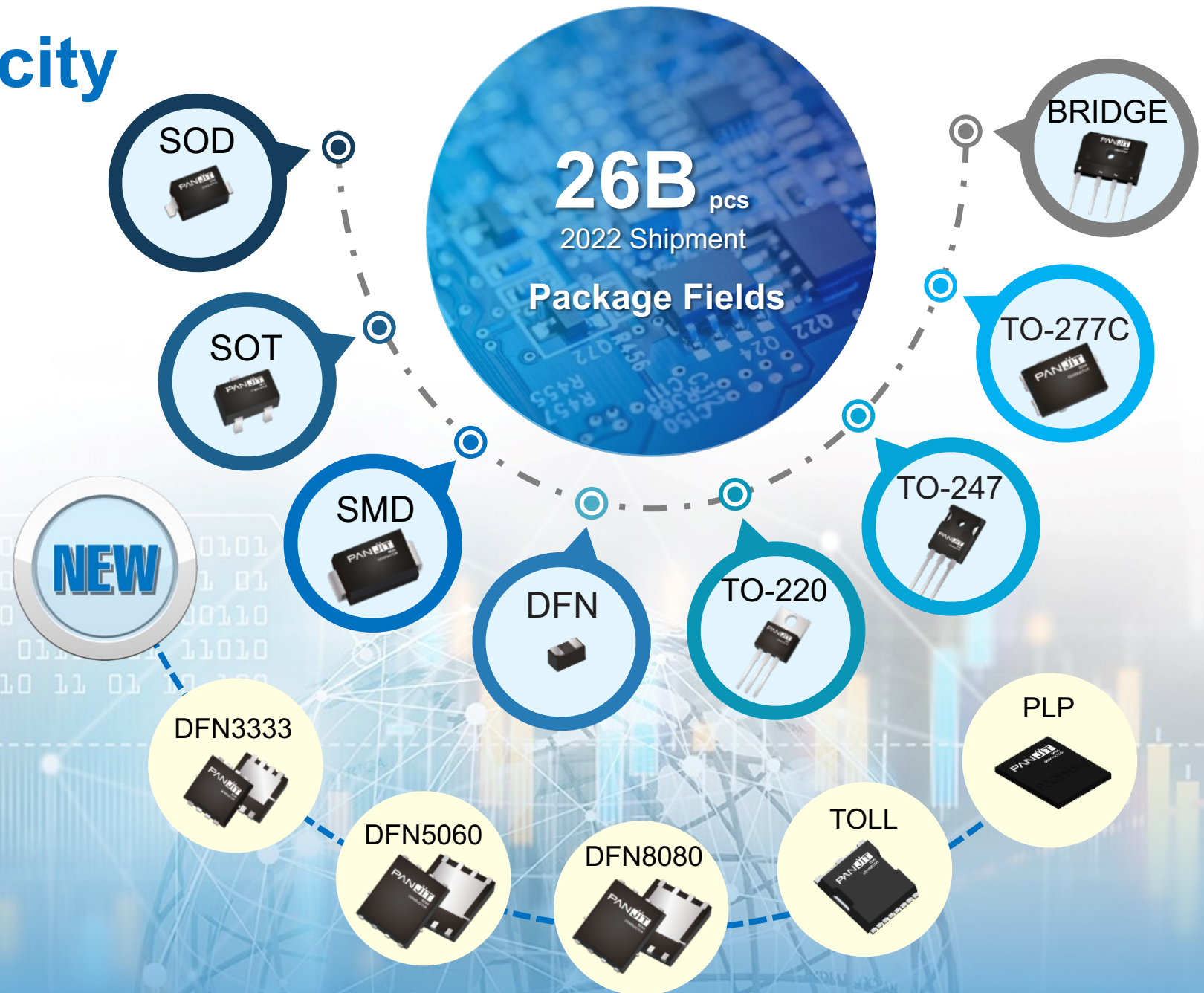
Capacity:

520 million/month

Overall

Capacity:

4,000 million/month

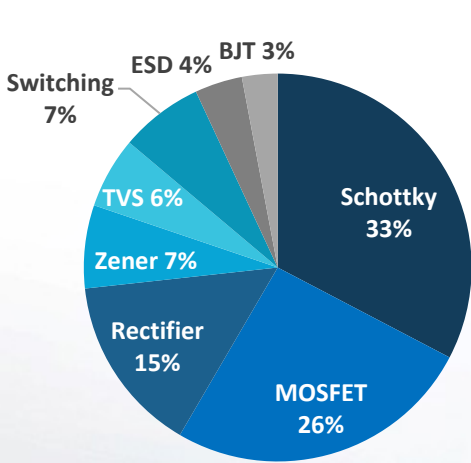




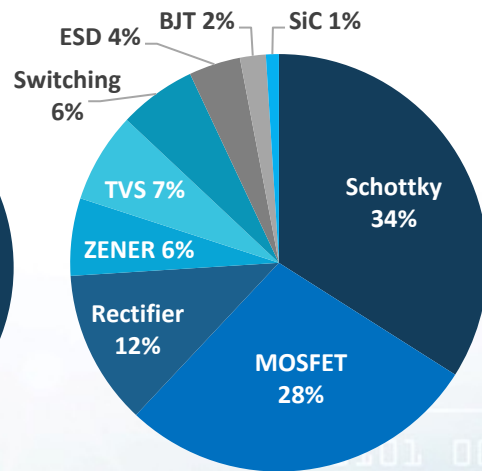
# Market Segment

## By Product

22'FY

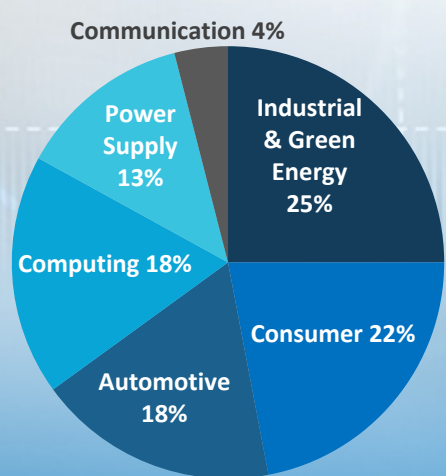


23'Q1

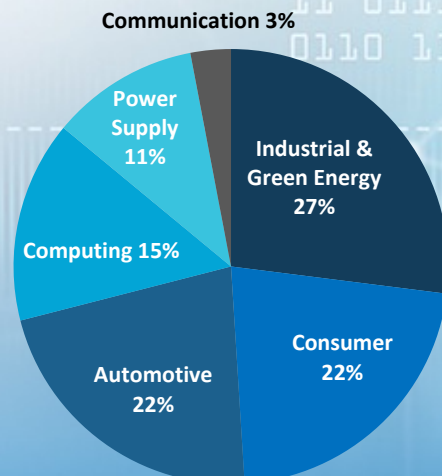


## By Market Segment

22'FY



23'Q1



# Application Field



## Automotive

Lighting, Body & Comfort, Infotainment, Pump, On Board Charger



## Industrial & Green Energy

PV Inverter, DC fan, Robot, Server fan, EV charger, Motor



## Computing

Notebook, Motherboard, SSD, Server



## Power Supply

PD Charger, Power adapter, UPS  
DC-DC Brick module, ATX/Server Power



## Consumer

TV, White/Black goods, Game console, Printer, Smart watch, PC camera



## Communication

Data center, POE, Mobile, Base station

# Power Discrete

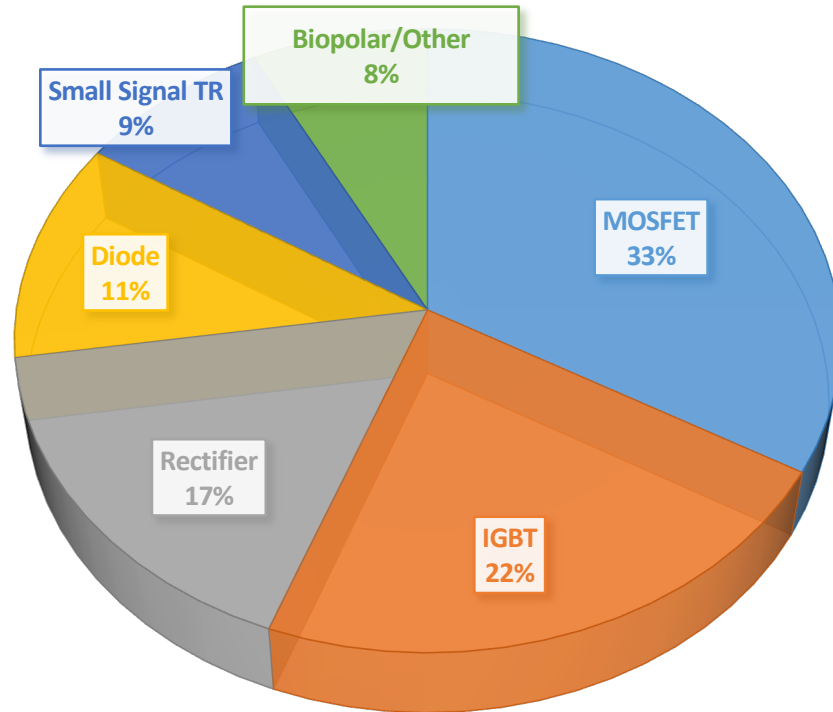
## New Product & Technology Focus

# Innovation for the Future Technology

	2022	2023	2024	2025	2026
<b>LV MOSFET</b>	STD Trench N-CH/P-CH 20V-100V	SGT Gen.1 N-CH 30V/40V	SGT Gen.2 N-CH 40V	SGT Gen.2 P-CH 40V	
<b>MV MOSFET</b>	SGT Gen.2 N-CH 100V	SGT Gen.2 N-CH 60V/80V	SGT Gen.2 N-CH 40V/120V	SGT Gen.2 P-CH 60V SGT Gen.3 N-CH 100V	SGT Gen.2 P-CH 100V SGT Gen.3 N-CH 100V
<b>SJ MOSFET</b>	Gen.1.5 600V/650V FRFET	Gen.2 650V Easy	Gen.2 650V FRFET	Gen.2 800V Easy	Gen.3 650V Easy
<b>FS Trench IGBT</b>		Gen.1 650V/1200V	Gen.1 Voltage extension	Gen.2 650V/1200V	
<b>FRED</b>		Gen.2 650V/1200V	Gen.2 Voltage extension		
<b>SiC Diode</b>		Gen.2 600V/1200V		Gen.2 600V/1200V/1700V	
<b>SiC MOSFET</b>			Gen.1 650V/1200V		Gen.2 650V/1200V
<b>Ultra LVF Rectifiers</b>	Gen.1 VF< 0.87V VB:600V, Tj 150°C	Gen.2 VF< 0.85V VB:800V, Tj 175°C			



# Power Device Total Addressable Market

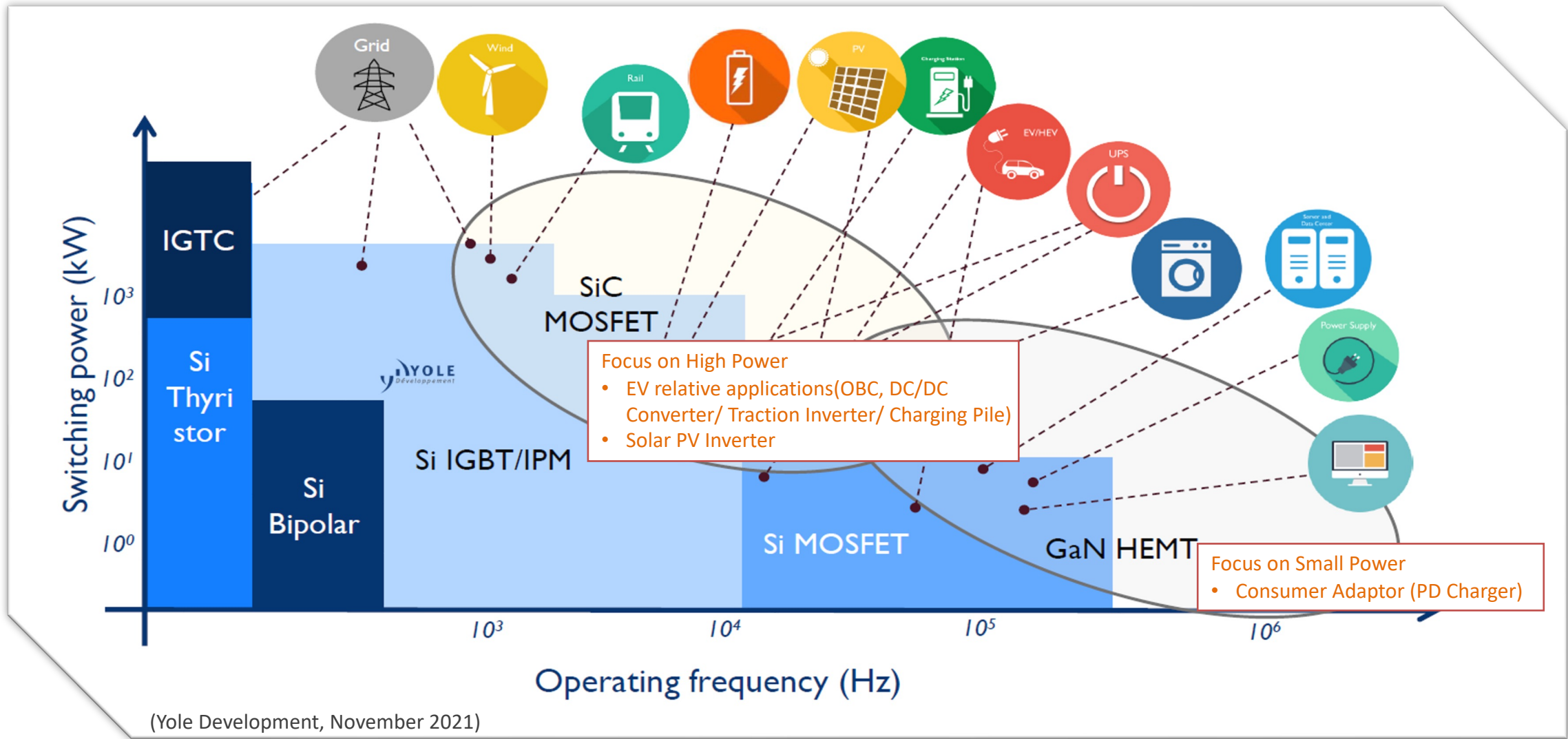


☐ Power Device TAM : **\$33.6B USD**

☐ Diode TAM: **\$3.7B USD**  
**11% of TAM**









☐ MOSFET and IGBT TAM: **\$18.5B USD**  
**55% of TAM**

# Power Semiconductor Technology Positioning



# Automotive focus

# Key Applications by xEV types

	Mild Hybrid	Full Hybrid	PHEV	BEV
 DC/DC Converter (48V - 12V)	MV MOSFET			
 48V ISG	MV MOSFET			
 HV ISG (Optional)		IGBT + FRED / SiC MOSFET		
 DC/DC Converter (HV - LV)		HV MOSFET + MV MOSFET / SiC MOSFET + MV MOSFET		
 Traction Inverter (DC/DC + Inverter)		IGBT + FRED / SiC MOSFET + SiC Diode		
 HV PTC Heater			IGBT	
 On Board Charger			HV MOSFET + FRED / SiC Diode / SiC MOSFET + SiC Diode	
 EV Charging Pile			HV MOSFET / IGBT + FRED / SiC MOSFET + SiC Diode	

Thank You

