PRODUCT LINES
SHORT FORM CATALOG

www.allsor.com.tw

2023

ABOUT ALLSOR

Founded in 2006, ALLSOR has ontinuously innovated technology for customers and provided excellent solutions for e-sports power supply, 5G technology, medical information transmission technology, smart TV, smart phone, tablet computer, voice assistant, wearable device And other products, provide lower power consumption and higher efficiency solutions and advanced IC applications for automotive electronics °

ALLSOR continues to uphold the business philosophy of integrity, professionali sm, innovation and service. It is a professional electronic component technology distributor and technical agent, and integrates the best 3C product resources to integrate a marketing platform to assist customers and manufacturer partners to purchase their products . Enter the best sales platforms and physical channels at home and abroad, provide customers and manufacturer partners with timely and accurate sales structure data and product differentiation, continuously optimize complete product solutions and service solutions, and create leading business opportunities and create global commerce for customers and manufacturers Leading position, bringing continuous and excellent profits!C

ALLSOR continues to implement the business philosophy of sustainable operation, and aims to create growth value with customers and manufacturers, and gradually become a trustworthy single/finished product sales integration solution for customers, and continue to expand domestic and foreign customer groups and establish globalization Marketing network, establish the best team at home and abroad, and become an innovative enterprise in the integrated marketing of electronic products with technology, professionalism and high-quality corporate culture, and insist on working with customers and manufacturers to stand out on the international stage with outstanding innovation!

AGENCY BRAND 2023

uPI SEMI

PANJIT SEMI CONDUCTOR

CviLux

ERISED

PowTech

Cystek

Excelliance MOS

SYNC POWER CORP. 擎力科技股份有限公司

Elite Chinsan Electronic

华微电子 Sino-Microelectronics

SemiHow Know-How for Semiconductor

ATOM

transphorm

JieJie Microelectronics

JieJie Microelectronics

Company Info

江蘇捷捷微電子股份有限公司創建于1995年，是一家專業從事半導體分立器件、電力電子器件研發、製造及銷售的江蘇省高新技術企業。同时也是國內生產“方片式”單、双向可控硅最早及品種最齊全的廠家之一。

捷捷微註冊資本7000萬元，建有ERP、MES等基礎信息化平台。具有自主開發能力和自主知識產權，具有自己的產品結構特點和獨特工藝技術。

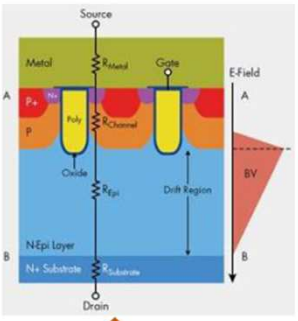
通過ISO9001:2008質量體系認証， ISO14001:2004環境管理體系認証，OHSAS18001:2007職業健康安全管理體系認証，產品符合UL電氣絕緣性要求，ROHS環保要求，REACH化學品註冊、評估、許可和限制要求，無鹵化要求等。

Milestones

・1995：成立“啟東捷捷微電子有限公司”
・1999：籌建3英寸芯片生產線，並于同年9月批量生產MJE1300系列芯片。
・2000：研制單、双向可控硅芯片
・2003：全面批量生產單、双向可控硅芯片。
・2005：公司通過ISO9000質量管理體系認証，產品通過SGS、UL法規檢測。
・2007：研製双台面工藝技術，並于同年推出双台面結構產品。
・2008：封裝生產線技改擴產，增加TO-3P、TO-220A、TO-251/252系列可控硅封裝外形。
・2010：芯片生產線技改擴產，新建淨化廠房4800平米；同年研製並批量生產TSS、TVS等防護類器件。
・2011：新芯片生產線投產，芯片工藝技術和產品質量穩步提升。
・2012：通過ISO14000環境管理體系認証；同年公司技術中心被認定為省工程技術研究中心。
・2013：公司首次拟公開發行股票并上市輔導公告；籌建二極管芯片生產線，並于同年11月批量生產；通過OHSAS18000職業健康安全管理體系認証
・2014：成立全資子公司“捷捷半導體有限公司”籌建二極體封裝生產線

中低压MOS技术趋势：SGT为目前业界中低压MOSFET最前沿技术

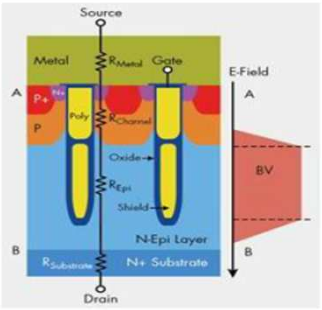
传统沟槽结构



已布局相对完整

趋势

改进型屏蔽栅沟槽结构

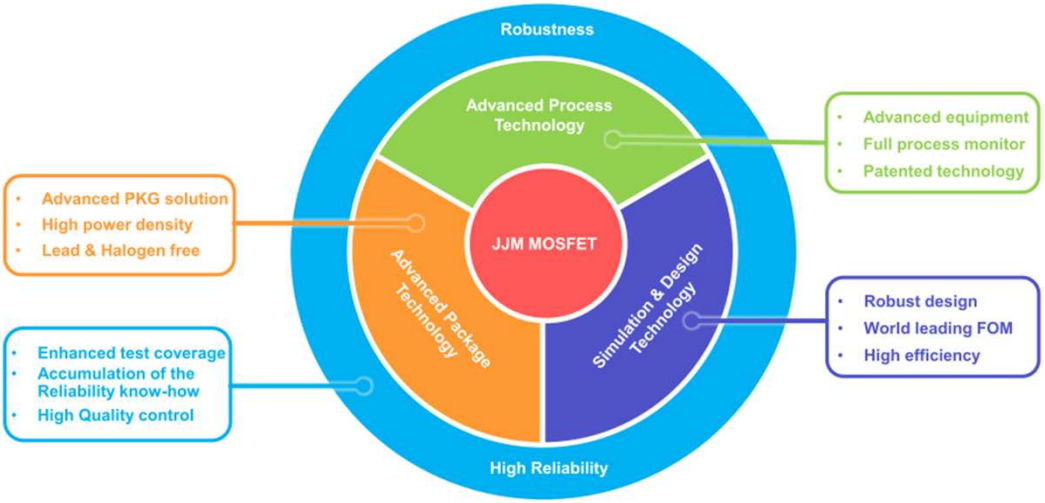


发力新一代SGT技术，对标国际一流

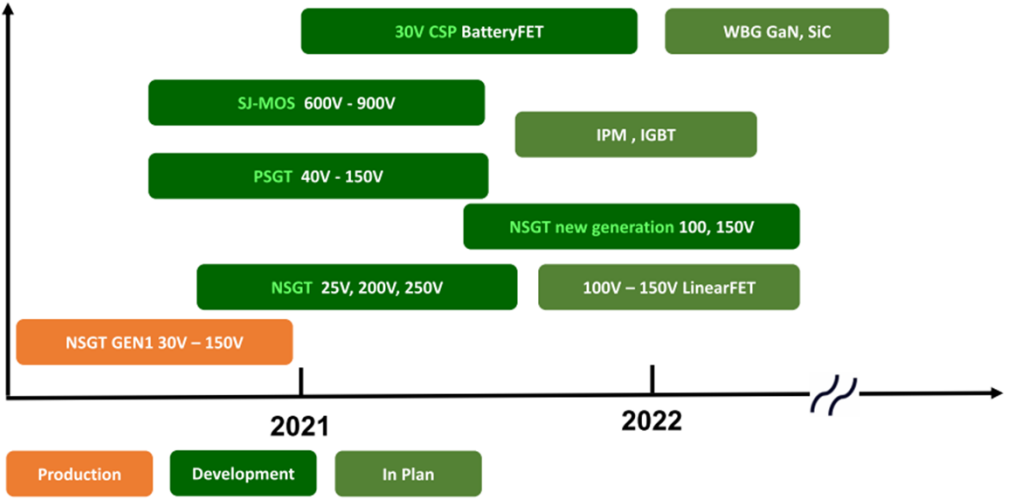
真正掌握核心技术！

新一代屏蔽栅功率 **MOSFET** 技术能大幅降低传导和开关损耗，明显提升系统效率

产品价值定位 –打造高性能与可靠度优势



Development Roadmap



供应链价值定位 –打造供应链与产能保证优势！

设计公司	+	功率封装厂	+	8寸晶圆厂	=	IDM布局
捷捷微电 两大MOS研发中心 技术迭代，产品拓展		捷捷微电 PDFN车规级封装线 持续投资，巨大产能保证		绍兴中芯国际（战略合作，其第一大MOS客户） 上海先进半导体（紧密合作，其第一大SGT MOS客户） 自建8”晶圆厂，2022年Q2量产，巨大产能保证		

設計公司 → 功率封裝廠 → 8寸晶圓廠 → IDM布局

Company Info

Group - Providing You Hybrid and High Power Density Semiconductor Solutions

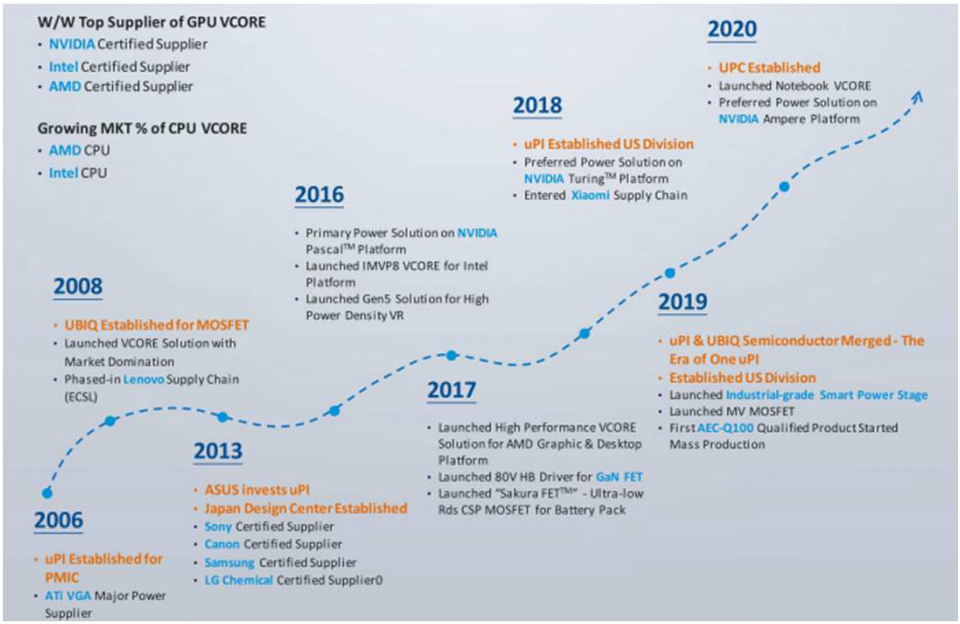
uPI Semiconductor Corp., founded in 2005, is an IC design house designs and manufactures analog and mixed-signal power management solutions in electronic systems.

uPI Group is later associated in 2008, when UBIQ Semiconductor Corp. was founded for Power MOSFET and TVS solutions. Utilizing semiconductor designs and system application know-how, uPI Group positioned itself as a solution provider for hybrid and high power density semiconductor products in computing, gaming, and mobility markets, as well as proprietary solutions in automotive and industrial applications.

Our vision is to offer customers the total power management solutions of superior quality, performance, service, and cost. With more than 20 years of analog power and discrete device experiences, we offer high performance design services with full technology coverage and process development capability. Excellent wafer processing and deep packaging know-hows come standard by working closely with strategic foundries and assembly & testing partners.

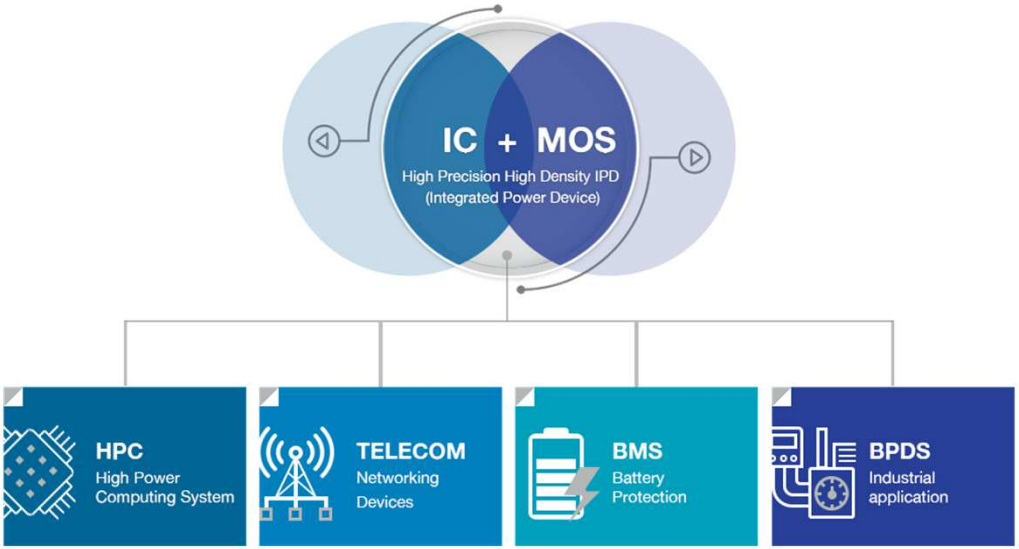
Power Solutions for Today and Tomorrow

Milestones

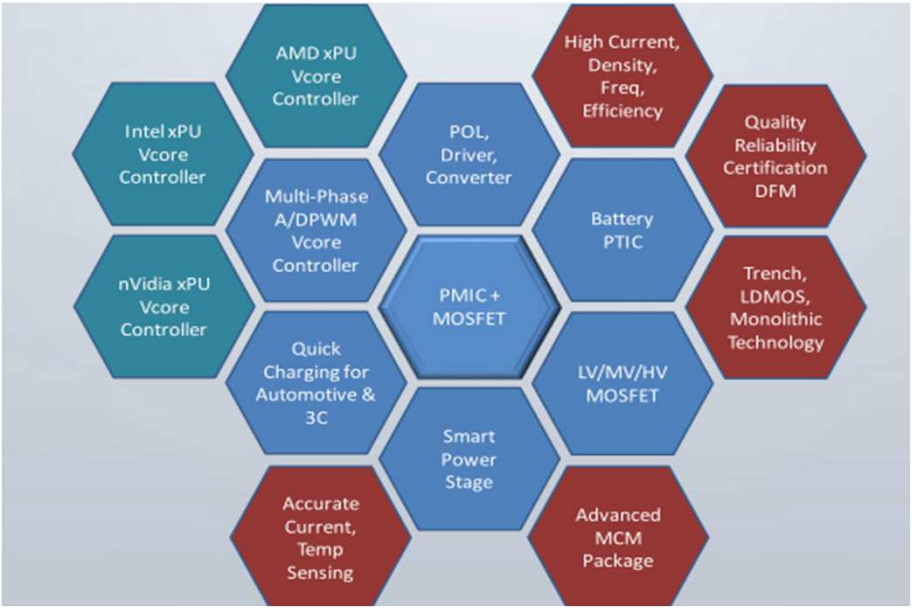


Target Market & Segment

Hybrid and High Power Density Semiconductor Solutions



uPI Core Technology



Value Proposition

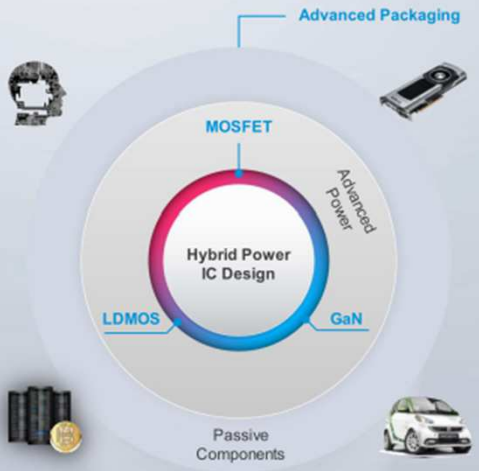
Hybrid and High Power Density Semiconductor Solutions

Technology & Innovation

- ✓ Ultra-high Power
- ✓ Lower Core Voltage
- ✓ High Density & Efficiency
  - Higher Frequency
  - Smaller Size
  - Higher Efficiency

Flexibility

- ✓ Develop for System
- ✓ Develop with Alliance
- ✓ Develop for Customer

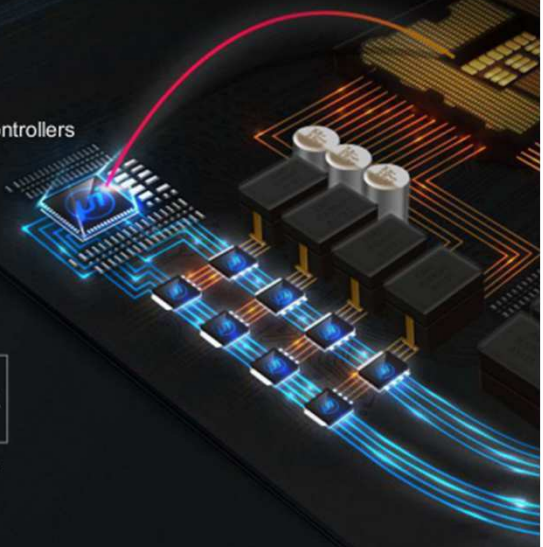


High Performance Power Solutions

uPI SEMI
CONFIDENTIAL

Powering the Most Demanding CPUs, GPUs and MCUs

- ✓ Total Silicon Solution Package
- ✓ CPU / GPU Multiphase PWM Controllers
- ✓ Broad Range of MOSFETs
- ✓ Smart Power Stages



AMD · intel · NVIDIA · XILINX

High Performance Power Solutions

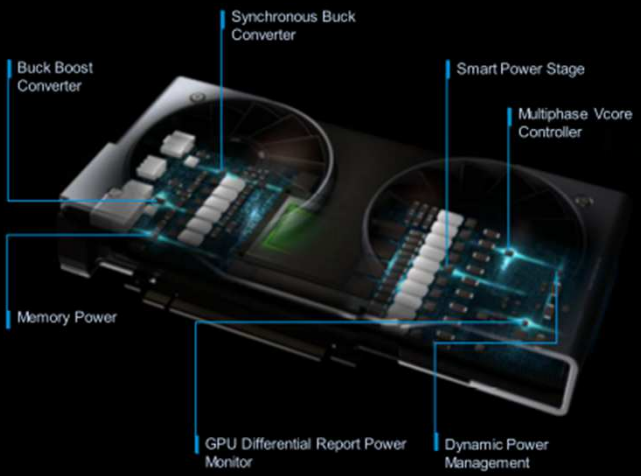
uPI SEMI
CONFIDENTIAL

Powering the Most Demanding CPUs, GPUs and MCUs

NVIDIA

Success story

Total Power Solution for NVIDIA's Turing platform



High Performance Power Stage

Smart Power Stage with IMON/TMON

uPI SEMI
CONFIDENTIAL

Smart Power Stage

Precisely monitors the current (IMON) and temperature (TMON), best-optimized system size and efficiency.

uP9642

High Performance Enterprise Applications

QD9619

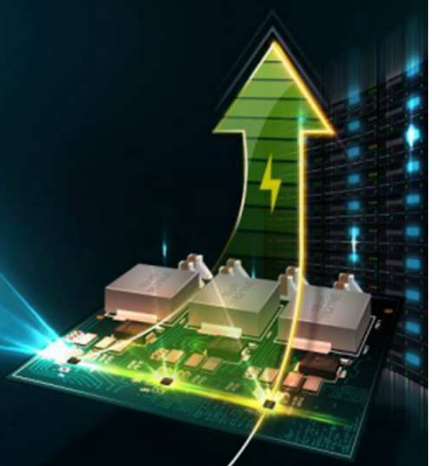
Cost Optimized High Performance Graphic and Notebook System

Driver for GaN Applications

Ultra-high Speed 80V HB

uPI SEMI
CONFIDENTIAL

- ✓ Easy-to-use
- ✓ High Efficiency
- ✓ New Levels of Power Density
- ✓ Smaller, lighter, cooler



Power Density (W/in3)

Switching Frequency (Fsw)

Battery Protection Integration

Reliable / Robust / High Performance

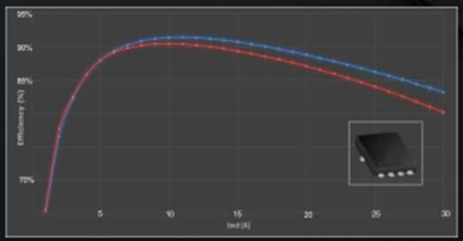
- ✓ Radiation Noise Immunity
- ✓ System Noise Immunity
- ✓ Turbo Boost Compatible

Gen 5 - Advanced Trench MOSFET

Highest Performance at 30~100V

Key Features

- Latest Technologies: Deep-Trench & Charge-balancing
- Best Balance Between Low Ron & Low Qg (FOM)
- Low RDS(ON) for Reduced I2R Loss in High Current Applications
- High Efficiency in Power Switching Applications
- 100% Avalanche Tested



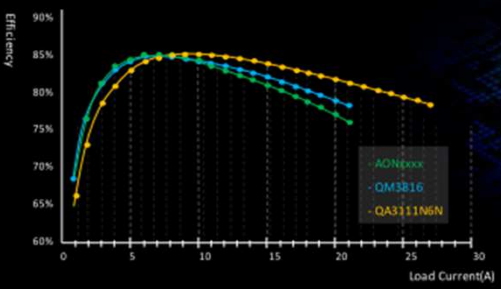
Dual-N MOSFET

Advanced Cu clip, flip-chip packaging

uPI SEMI
CONFIDENTIAL

Robust, Practical MOSFETS

- ✓ 60% Density Improvement
- ✓ High Quality
- ✓ Cost Optimized

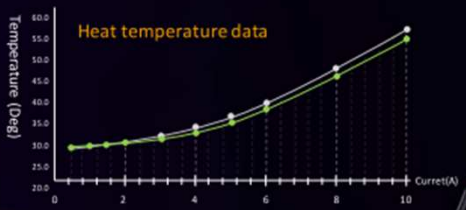


SakuraFET™ for Battery Pack

Ultra Low resistance

uPI SEMI
CONFIDENTIAL

CSP SakuraFET
Thinner. Lighter. Cooler.



Designed by JPD LABORAToRY in Japan

Company Info

The aims of PANJIT are providing prompt services and best products for our customers, and continuing to improve its expertise.

Founded in May 1986

PANJIT is a public company founded in May 1986. We are a semi-conductor manufacturer, and have IATF-16949,ESD S20.20,ISO-9001,ISO-14001,OHSAS-18001 certifications etc..

Vertical Integrated Technology

PANJIT is vertically integrated with IDM design capability, own wafer foundries and state-of-art production lines.

With insight observation and core technologies, PANJIT is able to continuously launch low profile products and accurate power rating devices which conforms to the customer needs.

PANJIT commits to serve customers with the best service, thus we have established sales offices worldwide. We have sites in North America, Germany, Korea and China which allows us to provide better and prompt service.

YOUR COMPONENT
OUR PROFESSION

Milestones

1986
Establish of PANJIT
Sale discrete devices with the brand name: PANJIT

1999
PANJIT launches OCT in Taiwan

2000
-ISO 14001 certificated
-PANJIT Wuxi Factory into operation
-Joint venture wafer fab - Pynmax Technology set up

2001
-Launch Small Signal product in the market
-PANJIT launches IPO in Taiwan

2005
Maxdiode joint venture with PANJIT
Samsung Eco Partner certificated and Sony & Asus Green Management System Verification
TS16949 certificated

2012
Develop MOSFET products

2013
Launch Super Schottky series

2015
-Launch SiC Schottky devices
-Launch Medium Voltage MOSFET devices

2016
Launch SBA series Schottky (ultra low VF / anti-reverse)

2018
Successfully passed the audit of full IATF16949:2016 certificate

2019
- IBU organization established, and R&D centers located in Hsinchu and San Jose, USA







Products

Diodes

- Switching Diodes
- Rectifiers
- FRED

MOSFET

- Small Signal MOSFET
- MOSFET 20 - 40V
- MOSFET 60 -150V
- MOSFET 400 -1000V
- Super Junction MOSFET 600 - 650V

Bipolar Transistors

- Small Signal Bipolar Transistors
- Low Vce(sat) Power Bipolar Transistors

Schottky

- Schottky Barrier 20 - 200V
- Silicon Carbide base Schottky Rectifier 650 - 1200V

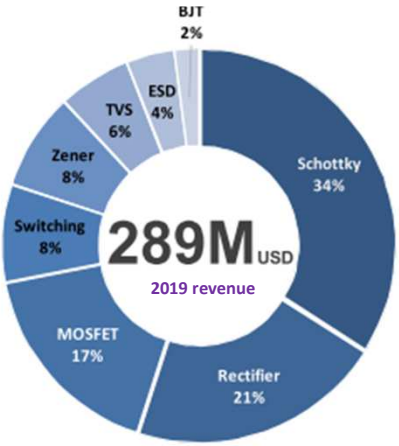
Protection Device

- Transient Voltage Suppressors ≤ 6.6KW
- General Purpose ESD arrays ≥ 0.2pF
- Zener diode ≤ 5W

PANJIT SEMICONDUCTOR

Product blueprint

Proportion of products



Product development blueprint

MOSFET

- MOSFET 60 - 80V
- MOSFET 100 - 150V
- MOSFET 200 - 600V
- SJ MOSFET 600 - 650V

IGBT

- FS Trench IGBT 650 - 750V
- FS Trench IGBT 950 - 1200V

FRD

- Si FRD 600 - 650V
- Si FRD 1000 - 1200V

SiC

- SiC Diode 650V
- SiC Diode 1200V
- SiC MOSFET 900 - 1200V

certificate

Standards	QS9000	ISO 14001	ISO 9001	IATF 16949	OHSAS 18001	ISO 45001	IECQ QC080000	ESD S20.20
PANJIT (TAIWAN)	✓	✓	✓	✓		✓	✓	✓
PANJIT (Wuxi)	-	✓	✓	✓	✓	-	✓	-
Pynmax	-	✓	✓	✓	✓	-	-	-

PANJIT SEMI CONDUCTOR

Core Value

By practicing our five core values, we create more value for our customers and industries, and become a good partner for our customers.

Accountability

We are proactive and brave in accepting challenges and will bring about fruitful results for each task carried out. Before a decision is made, everyone is entitled to make his/her voice heard. After a decision is made, it is respected unanimously and will be enforced to fulfill the ultimate goal. Courage is demonstrated when one steps into the white space.

Customer Focus

We are able to help internal and external customers increase their value and think ahead for the customers. As long as a promise is made, it will be fulfilled. Everyone involved in the Company will be aware of customer demand.

Mutual Trust and Collaboration

We are devoted to building a reciprocal and mutual-trust aura at work taking into consideration the maximum interest of the Company.

Innovation

Product innovation continues to address market demand. Innovation in the midst of culture answers to the corporate culture. Innovation during service makes external and internal customers satisfied.

Learning and Growth

Each individual is keen to learn, which helps accumulate the knowledge and skills required to support daily operations. By constantly enriching oneself, one gets empowered in undertaking responsibilities.

Business Concept

PANJIT holds the spirit of "Innovation", "Development", "Responsibility" and "Sustainability" and has “treating everyone/everything with integrity” as its underlying belief.

PANJIT SEMI CONDUCTOR

Fab And productivity

Pynmax

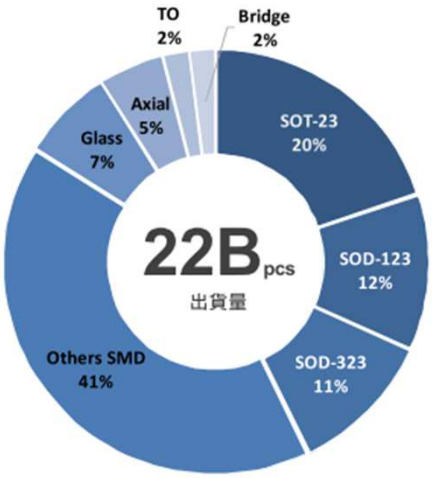
- 4”/5”/6” Wafer：70,000 PCS/M
- 5”/6” Schottky Wafer ：50,000 PCS/M
- 6” ESD/TVS Wafer ：3,000 PCS/M
- 6” Zener Wafer ：3,000PCS/M
- 8”： Setting up

PANJIT(Shandong)

- 4” ESD/TVS Wafer：25,000PCS/M

Packaging and Productivity

RATIO



Productivity

PANJIT(TAIWAN)

Packaging

Small signal & SMD Bridge

Productivity

1,700KK/M

PANJIT(Wuxi)

Packaging

Power device & Axle lead

Productivity

400KK/M

Company Info

CviLux was founded in 1990 under the leadership of Chairman Yang Chao Chun, the business philosophy is active, innovative, and effective. We are a world-leading OEM manufacturer of connectors, flat flexible cables, and cable assemblies which are used to the electronics industries such as industrial, laptop, automotive, communications, optoelectronics, IoT, computers, etc.

Our customers include some of the international renowned manufacturers, and our products are distributed to the EMS qualified manufacturers around the world including Europe, Asia, and America. We obtained the international quality systems and electronics industry certifications.

CviLux is a financially stable company listed on the TWSE (8103.TW), the headquarter is in Tamsui and the main manufacturing facilities located in Tamsui, Dongguan, Suzhou, Chongqing, Anhui, and Laos. CviLux aims to become a world-leading corporation in profitability and corporate branding. The vision is to have our shareholders and employees be part of the future success, when our products connect the world to you.

Strength

- Public Company under Well-organized Financial Condition
- Qualified Supplier for well-known EMS Plant around the world
- Well-developed Global Sales Channels
- Turnkey solution from Product Development to Production
- Full Operation and Management Information System
- International Qualification and Industrial Certificate

CONNECT THE WORLD
CONNECT THE FUTURE

Milestones

- Established in 1990, CviLux's main business was trading connector-related injection-molding products and components.
- In 1996, CviLux was incorporated, and established the Product R&D Department. In the same year, CviLux obtained the ISO 9002 certification.
- In 2000, the mold processing and manufacturing center was established in Changping, Dongguan, which is responsible for the R&D, design, and production of precision mold, jigs, and automatic machines.
- In 2002, CviLux established CviLux Electronic Technology (Suzhou) Co., Ltd., the main businesses are manufacturing and sale the connectors and flat flexible cables. We obtained ISO 9001 certification. In September, 2002, CviLux became a publicly owned corporation.
- On May 22, 2003, CviLux was listed on the ESM and established Dongguan Qunhan Electronics Co., Ltd., engaged in the manufactures and sales of flat flexible cable and cable assembly.
- On March 29, 2004, CviLux was listed on the GTSM.
- In 2005, CviLux obtained ISO 14001 certification.
- In 2007, Hanchun Investment Co., Ltd. was established, the main business is for general investment.
- On September 29, 2009, the Company was listed on the TWSE.
- In 2010, the Dongguan Changpingyi factory was turned into CviLux Electronics (Dongguan) Co., Ltd., the main businesses are manufacturing and sale the connectors. In the same year, CviLux established CviLux Electronic Technology (Chongqing) Co., Ltd. with the main business of manufacturing and sales the flat flexible cables and cable assemblies. CviLux Electronics (Chongqing) Co., Ltd. obtained QC080000 certification.
- In 2012, CviLux obtained ISO 14064 and ISO TS16949 certification.
- In 2013, CviLux Technology (Shenzhen) Co., Ltd. was established, the main businesses are manufacturing and sales the connectors. In the same year, the Electronic Products Division is established for the develop and sale the Apple MFi licensed and certified electronic accessories including storage drives.
- In 2014, CviCloud Information Technology (Shenzhen/Hong Kong/Taiwan) Co., Ltd. was established with the main business of software and hardware system integration services. CviLux obtained OHSAS18001 certification.
- In 2015, AnHui CviLux Technology Co., Ltd. and CviLux Lao Co., Ltd. were established, the main businesses are manufacturing and sales the connectors and flat flexible cables.
- In 2016, Hanrou International Co., Ltd. was established with the main business of develops and sales of skin care products. In the same year, CviLux Type C Cable is certified by the USB IF.
- In 2017, CviLux was established in the United States, and in the same year, CviLux was awarded the TOP5000 The Largest Corporations in Taiwan by CCIS.

Certification

Quality Policy

Committed to quality improvement and stability, and gained customer trust and satisfaction

Enviromental Policy

CviLux Group is a leading manufacturer of connectors, flat flexible cables, and cable assemblies. The main materials used in the production process are: copper, plastics, and cables. We aim to protect the environment and achieve a sustainable development. CviLux Group is committed to continuous environmental improvement through:

- Regulatory compliance: comply with both local environmental regulations and international environment standards.
- Reducing production waste: promote production waste reduction to ultimately achieve pollution prevention.
- Green and sustainable design: adopt green product designs to reduce environmental impact.
- Education and training: regularly implement environmental education and training for all employees to raise environmental awareness in the workplace

Safety and Health Policy

- Comply with safety and health laws, regulations, and other requirements
- Promote safety and health management education and training to raise the employees' safety and health awareness, establish and review safety and health management objectives
- Ensure workplace safety by strict pollution source control, infectious disease prevention, safety and sanitation facilities improvement, and hazard elimination
- Establish a good communication with the employees, suppliers, contractors, and related groups to ensure the CviLux environmental protection policies and requirements are fulfilled

Certificates

	ISO9001	IATF 16949	ISO14001	QC 080000	ISO 45001	ISO 27001
Taiwan	v		v	v		v
Dongguan	v	v	v	v	v	
Qunhan	v	v		v	v	
Suzhou	v	v	v	v	v	
Chongqing	v		v	v	v	

Environmental Protection

ESG

Environmental/HSF Policy

CviLux Group is a professional developer, manufacturer, and seller of connectors, flat flexible cables and wire harnesses. The main materials used in the production process are: copper, plastic, and wires. In order to do our part for environmental protection and ensure business sustainability, CviLux Group is committed to continuous improvement as well as the following:

- Compliance with Laws and Regulations: To comply with relevant environmental protection laws and regulations, and to strive to meet relevant international environmental protection standards.
- Waste Reduction in Production: To continue promoting waste reduction in production
  to make good on our commitment to prevent pollution.
- Green Design: To develop green product designs to reduce their environmental impact.
- Education and Training: To continuously organize environmental awareness education and training for all employees and to create an environmentally friendly workplace.

Safety and Health Policy

- To follow and comply with relevant safety and health laws, regulations, and other necessary requirements.
- To promote education and training activities related to safety and health management, to improve employees' safety and health awareness, while continuing to set and review safety and health management goals.
- To pay attention to pollutant control and the prevention of infectious diseases. To improve safety and health facilities and strive to eliminate harmful elements and conditions to ensure a safe and healthy workplace.
- To establish robust communication channels to communicate our environmental safety policies and related requirements to employees, suppliers, contractors, and relevant groups.

Cystech Electronics Corp.
全宇昕科技股份有限公司

Company Info

CYStech Electronics Corp. is one of Taiwan's leading companies in Power Device developing & supplying globally.

With more than 19 years' experience in developing technology and more than 25 years' experience in manufacturing Power Device , we are clear understanding of your specific needs to help you creat a competitive advantage.

With stringent control in manufacturing process , the superior quality products are broadly applied in the computing , consumer electronics , communications and industrial segments.

BACKGROUND

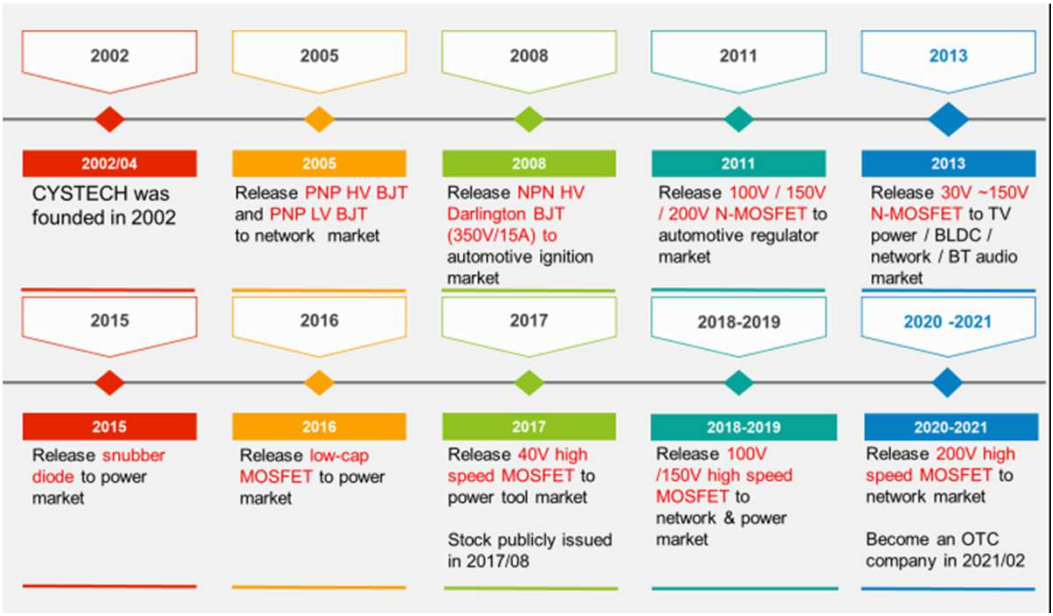
R&D 19 Years Design Experience in Power Device
PRODUCTION 25 Years Production Experience in Power Device

COMPANY QUALITY POLICY

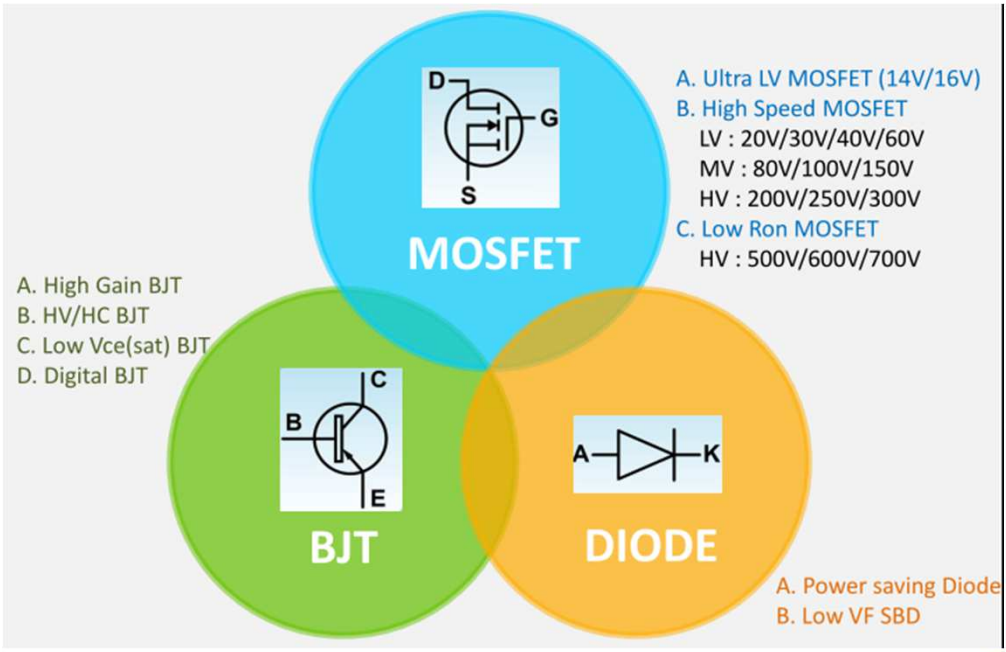
Follow the requirements of environment and quality system,implement the quality service policy of CYS thoroughly.

Advantage

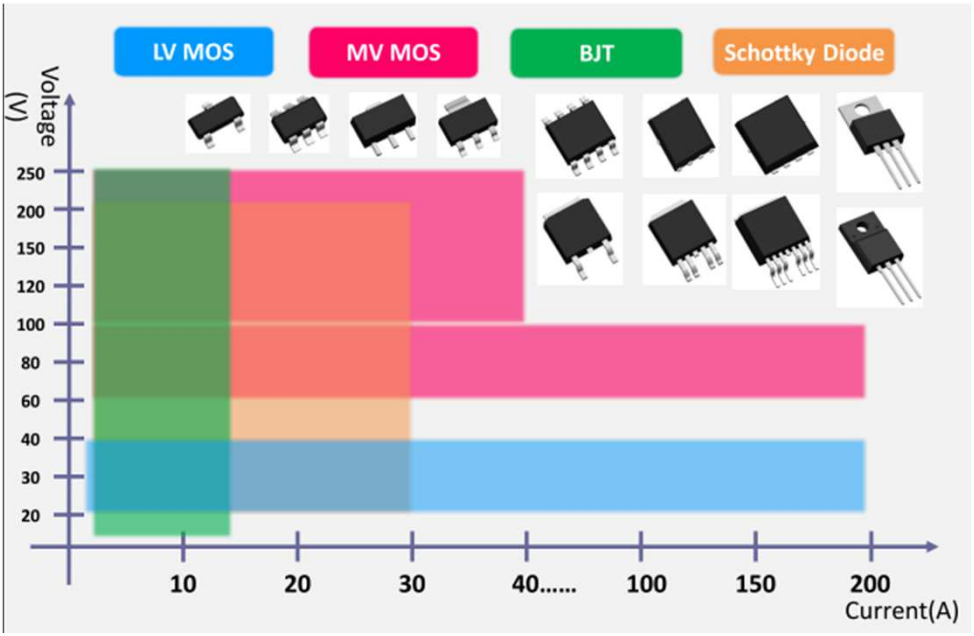
Milestones

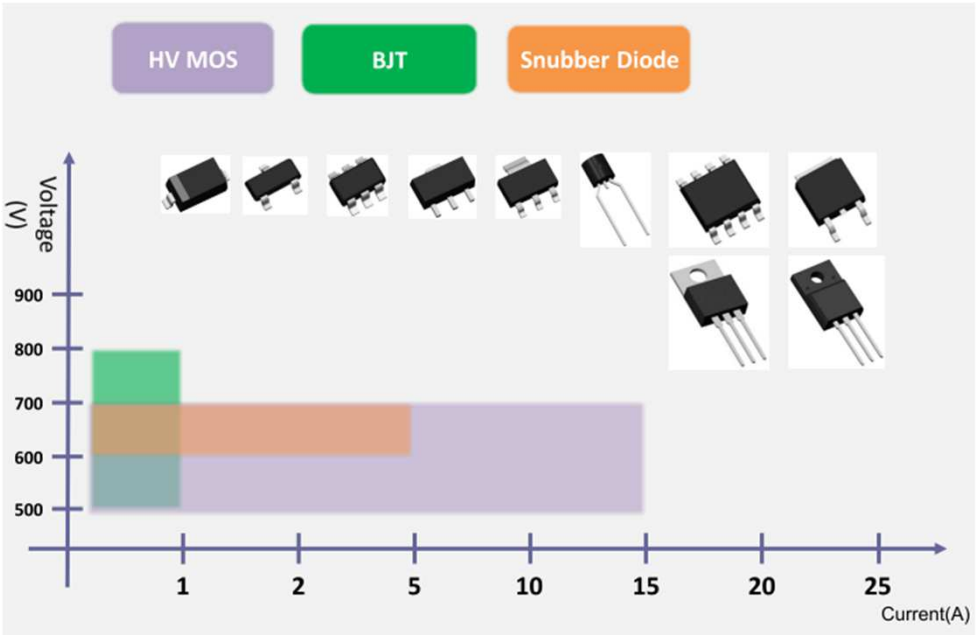


Product overview

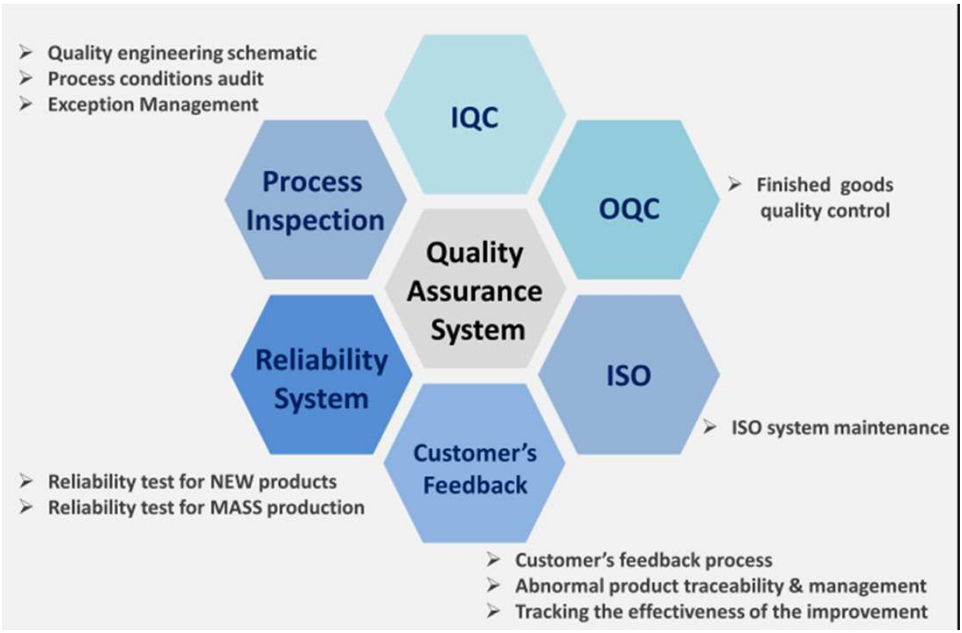


Product lines

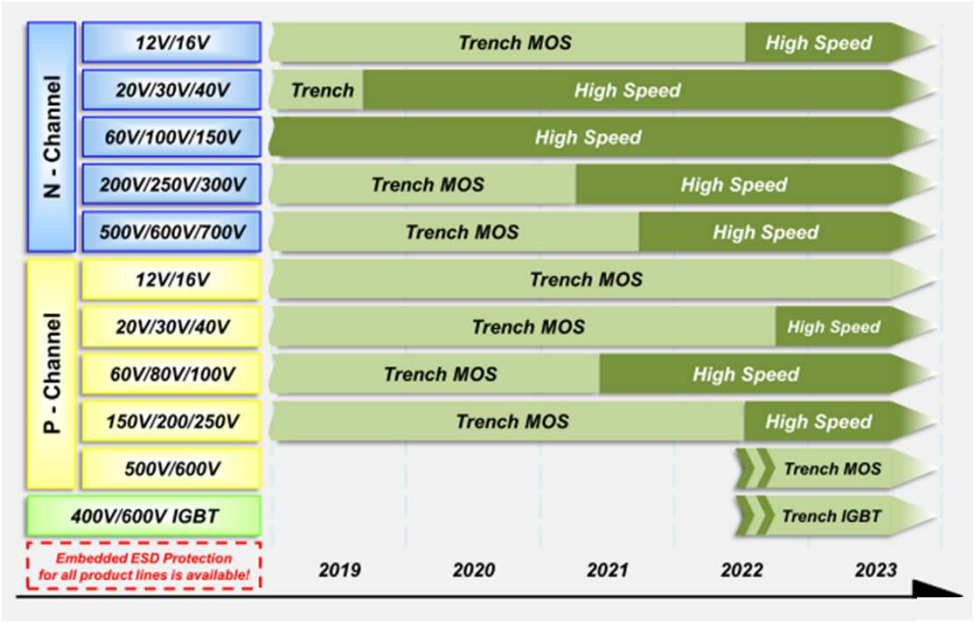




Quality Assurance System



Product Roadmap (MOSFET)



Company Info

Excelliance MOS

Excelliance MOS Co., Ltd. (EMC), founded in 2008, is a power device and IC design company, specializes in power semiconductor process development, high efficiency power device, IC and system design by the capability of vertical integration.

The manager and technical teams of EMC have over 15 years experience and had demonstrated their capability successfully. The developed devices can be applied widely to the power system of electronic products, such as, personal computer, notebook, pad, monitor, TV, LED lighting, switching power and other consumer electronics.

EMC consistently delivers inventive power solutions according to customers' requirement and adds value to end products by synthesizing technological innovation, uncompromised quality, and devotion to customer service.

OUR UNIQUENESS

GREEN YOUR POWER

Core & Power MosFETs Family

N Channel
- 20V-30V: NB, MB, Battery, Networking and General Load SW
- 60V-150V: Display, Auto, Power Tools and SR(Syn. Rectification)
- 500V-700V: AC-DC SMPS and Telecom

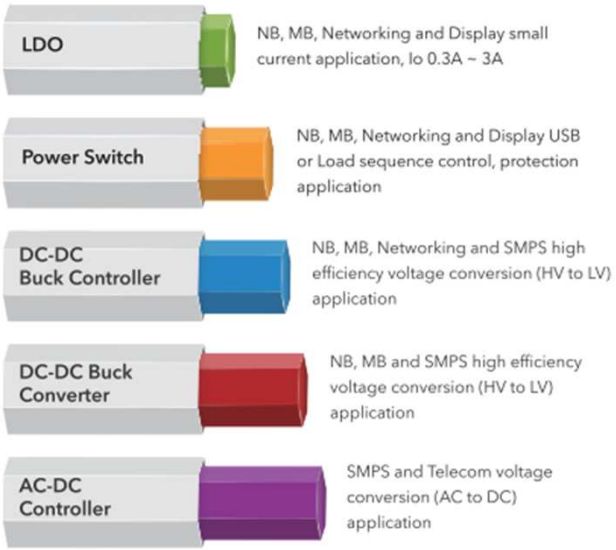
P Channel
- 20V-30V: NB, MB, Air Cleaner, Battery and General Load SW
- 40V-100V: Display and Networking

N+P Channel
- 20V-100V: Fan control, Charger and Inverter

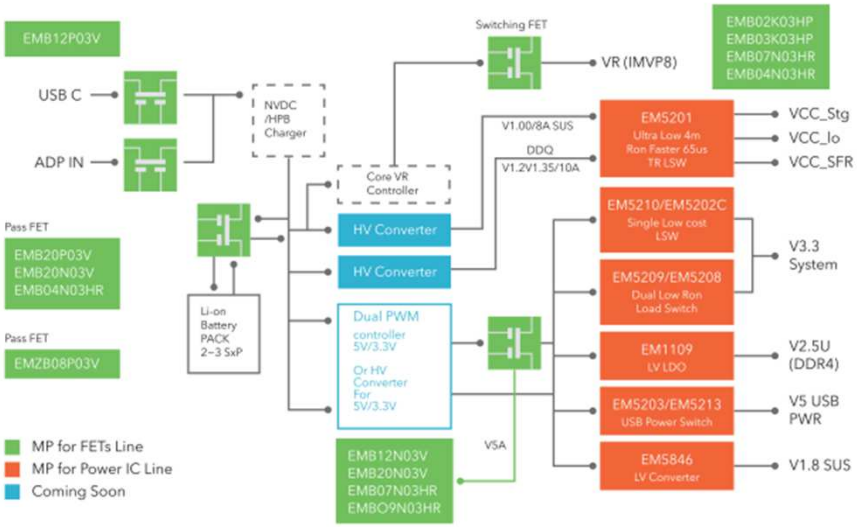
Schottky (Specific Low-Vf)
- 50V-120V: AC-DC SMPS and Telecom

Core of Power ICs

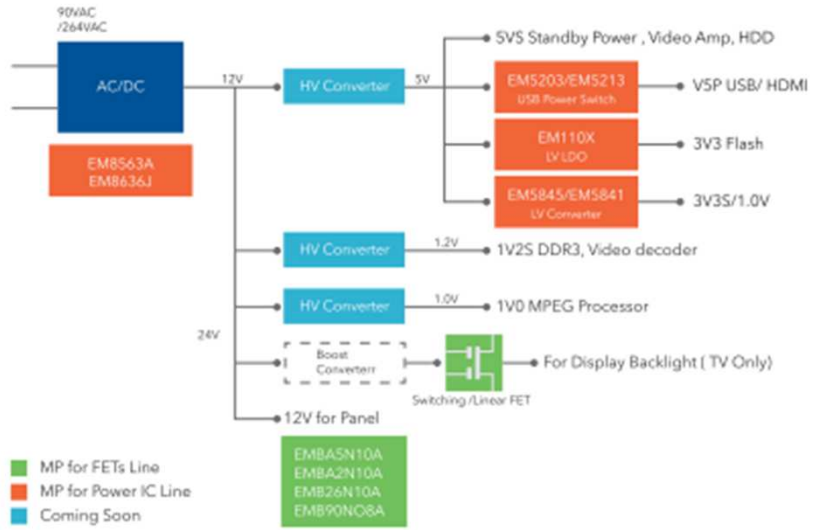
Power ICs Family



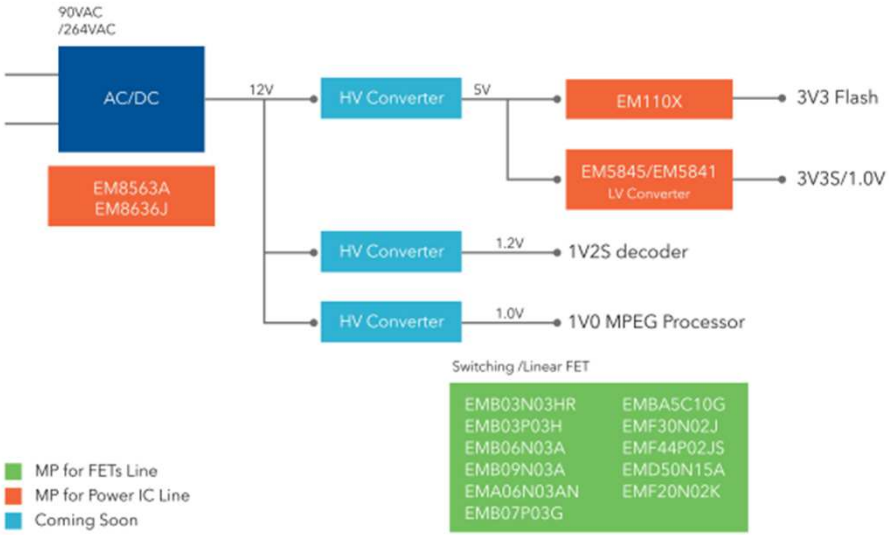
Power Solutions for NB & M/B



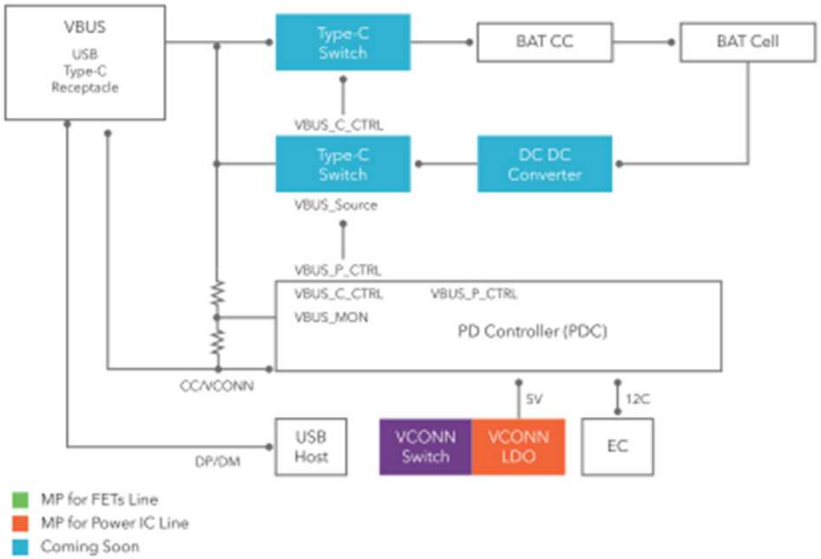
Power Solutions for TV & MNT



Power Solutions for Network



Power Solutions for USB-PD



transphorm

Company Info

Transphorm is a Pioneer and Leading Provider of Gallium Nitride ("GaN") Power Semiconductor Devices

Transphorm is a global semiconductor company, leading the GaN Revolution with the highest performance, highest reliability GaN devices for high voltage power conversion applications. To ensure this, Transphorm deploys its unique vertically-integrated business approach that leverages the industry's most experienced GaN engineering team at every development stage: design, fabrication, device and application support. This approach, backed by one of the industry's largest IP portfolios with over 1000 patents, has yielded the industry's only JEDEC- and AEC-Q101-qualified GaN FETs. Transphorm's innovations are moving power electronics beyond the limitations of silicon to achieve over 99% efficiency, 40% more power density and 20% lower system cost—and here's how we do it.

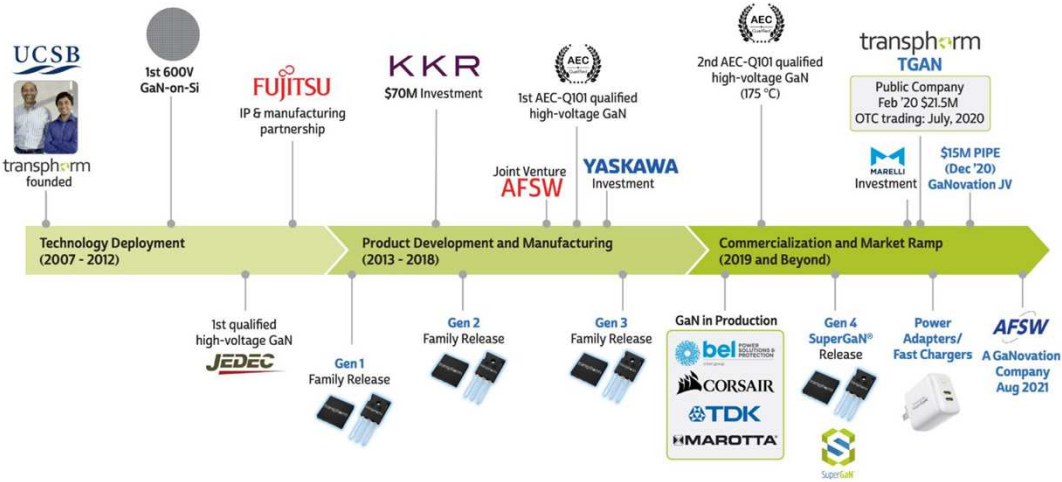
End Market Applications: Power Converters/Inverters

- Automotive EV and Charging
- Power Adapters / Compute
- Data Center / Comm Infrastructure
- Broad Industrial

Products

- Leader in high voltage 650V GaN, with a 900V offering
- Comprehensive portfolio with multiple generations; 10 billion operating hours and <1 failure per billion hours in field
- First JEDEC and AEC-Q101 qualified 650V devices available in the market

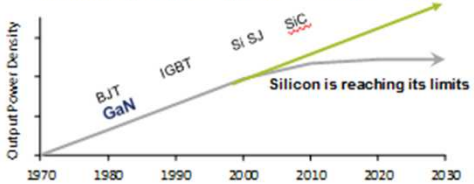
Milestones



GaN is the Future of Power Semiconductors …and Transphorm is a Pioneer & Leader in GaN!

"Moore's Law" for Power Electronics

GaN Provides the Path to Continue to Scale Power Densities



GaN versus Silicon & Silicon Carbide (SiC)

Intrinsic Performance Advantages

- GaN offers higher efficiencies with lowest losses in power conversion at any voltage range
- GaN can operate at much higher frequency

Relative Cost Advantages

- GaN on Silicon less expensive than Silicon Carbide
- GaN offers lower system cost than Silicon
- Roadmap for GaN to approach cost parity with Silicon at device-level

99% *Efficiency*

40% *Higher Power Density*

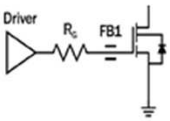
20% *Lower System Cost*

Smaller, Lighter, and Cooler Power Systems Drives Increased Functional Value

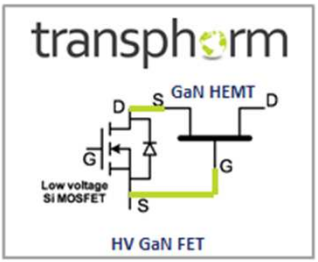
Transphorm GaN Advantage in Power Systems
Efficiency, Simplicity of Design, and Gate driving, Reliability

Higher Efficiency With High Reliability

Standard Gate Driver:
- Any AC/DC analog controller with gate driver
- Or discrete gate driver



Simplest GaN FET Drive



Package Variety:
- Leadless PQFN
- Leaded TO-220, TO-247, TO-263

Higher Efficiency | **Smaller Size** | **Qualification** JEDEC + AEC-Q101 | **Field Reliability** > 108 hours < 1.0 FIT | **In High Volume Production**

In-House Capabilities Span Complete Value Chain

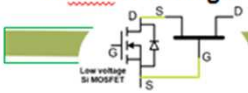
Control over the entire GaN technology value chain

In-House Material Growth Capability (MOCVD and Epi Wafer)

- Five 6-inch production reactors (two in Japan and three in Goleta)

High-Volume Wafer Fab In Japan (Joint Venture)

1. GaN FET design



2. Epi technology and manufacturing

3. Wafer fab

- Capacity to handle tens of millions GaN parts / year, scalable on demand
- High volume 6-inch manufacturing (former high-quality Fujitsu Fab)

4. Packaging

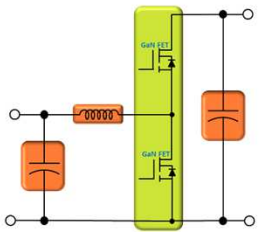
5. Applications-driven resources

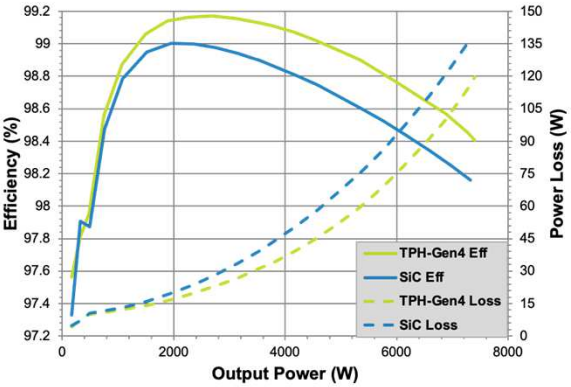
6. End market/application

SuperGaN® TP65H035G4WS vs. SiC MOSFET

GaN wins at 100 kHz: up to 20% reduction in power loss 3 kW to 7.2 kW

Half Bridge Synchronous Boost Converter		
Specification	**GaN FET**	**SiC**
On resistance @ 25°C	35 mΩ	30 mΩ
Input Voltage (V)	240	240
Output Voltage (V)	400	400
Operating Frequency (kHz)	100	100
Gate drive voltage	0 to 12 V	0 to 18 V
Gate drive resistor	30 Ω	0 Ω



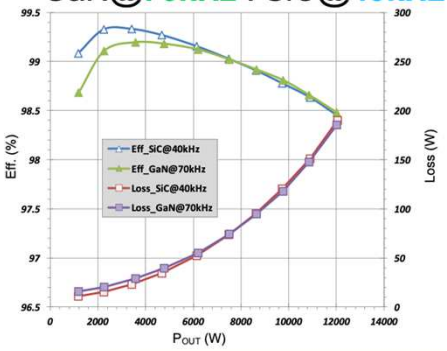


Comparable $R_{DS(ON)}$ devices at 25°C

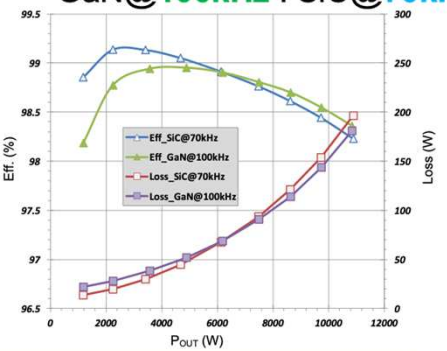
Performance Test—GaN vs. SiC at Various PWMs

Able to drive > 40% faster Switching and Achieve Similar Performance

GaN@70kHz : SiC@40kHz



GaN@100kHz : SiC@70kHz



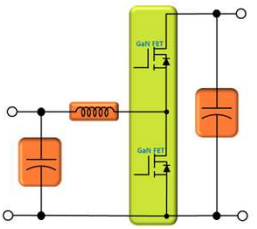
12 kW: V_{IN}:240 V, V_{OUT}: 400 V Half-bridge Synchronous Converter

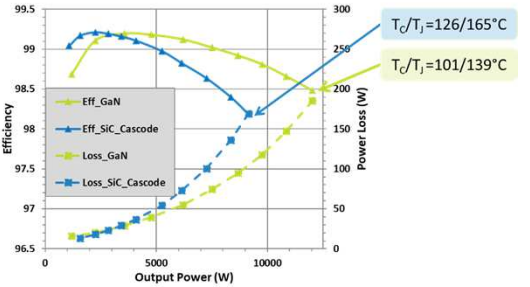
- GaN at 70kHz matches SiC at 40kHz at high power levels (75% higher frequency)
- GaN at 100kHz exceeds SiC at 70kHz at high power levels (43% higher frequency)

SuperGaN® TP65H015G5WS vs. SiC Cascode FET

GaN shows up to 30% reduction in power loss at 9.2 kW

Half Bridge Synchronous Boost Converter		
Specification	**GaN FET**	**SiC**
On resistance @ 25°C	15 mΩ	18 mΩ
Input Voltage (V)	240	240
Output Voltage (V)	400	400
Operating Frequency (kHz)	70	70
Gate drive voltage	0 to 12 V	0 to 15 V
Gate drive resistor	15 Ω	0/50 Ω

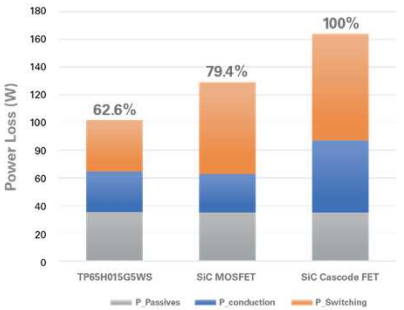




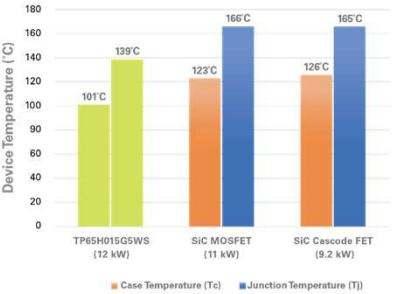
Device Power Loss Comparison at *9.2 kW
(*Limited due to SiC device junction temperature)

SuperGaN® TP65H015G5WS vs. SiC Cascode FET

Reduction of 17% to 37% Power Loss Across both SiC Devices



Device Power Loss Comparison at 9.2 kW



Junction Temperature at Maximum Power

Device Power Loss Comparison at *9.2 kW
(*Limited due to USiC device junction temperature)

Maximum power Comparison
(*SiC limited by device junction temperature)

ALLSOR

ALLSOR TECHNOLOGY CORPORATION

Hsinchu

5F.-3, No. 6, Taiyuan 1st St., Zhubei City,
Hsinchu County 302 , Taiwan (R.O.C.)
Tel+886-3-560-1155

Taipei

10F., No. 68, Sec. 4, Chenggong Rd.,
Neihu Dist., Taipei City 114 , Taiwan (R.O.C.)
Tel+886-2-2792-4598

New Taipei

9F., No.19, Lane 3, Sec. 1, Jhongjheng E.
Rd., Danshuei Dist., New Taipei City 251,
Taiwan (R.O.C.)
Tel+886-2-2620-1000

Dong Guan

Room 101, No.3 Tai he road Huan Zhu Li
Village Chang Ping Town Dong Guan City
Guang Dong Province China
Tel+86-769-82827098

E-mail : service@allsor.com