SGCircuits
PCB Group
for excellent customer solutions

www.sunshinepcbgroup.com

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Sunshine Global Circuits

Company Profile

September 2025

Core Value

Mission:

Innovation empowers the world with an intelligence network to build a better life promoting low-carbon while providing a strong impetus for realization of dual-carbon goals.

Vision:

To be a global leader in green intelligent manufacturing of Cutting-Edge electronic circuits.

Strategy:

International leadership through innovation.

Sales Distribution

Business Focus

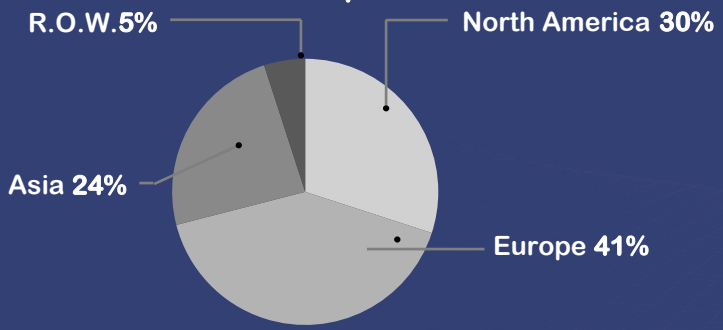
- Mid - high end PCB manufacturer with 85% PCB exported
- Establishing a global production capacity with factories located in Shenzhen, Jiujiang, Germany, and Malaysia
- Serving industrial, medical, energy, communications, automotive, and semiconductor testing industries

2024 Operating Data

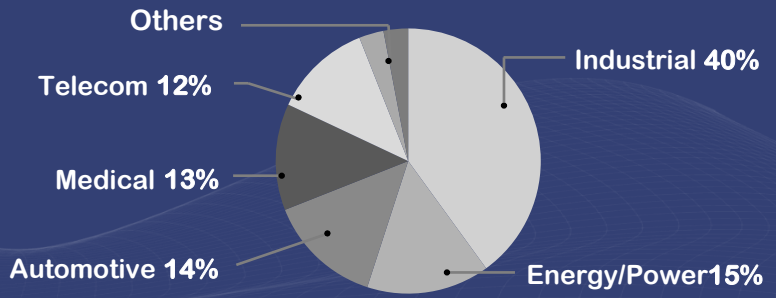
Total Asset	Sales	R&D
487 Million USD	220 Million USD	10.7 Million USD

Sales by Region

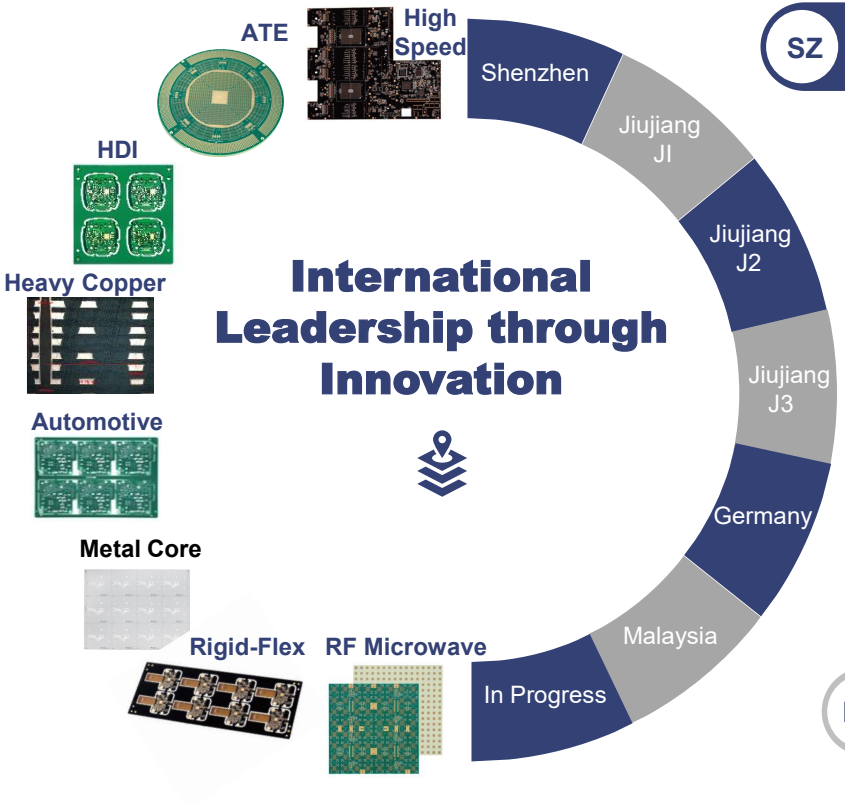
85% Export



Sales by Market



Product Positioning



SZ	ATE, Multi-Layer, Sample/R&D	Capacity: 18000m²/M
J1	Automotive, Metal Core, HDI	Capacity: 70000m²/M
J2	HDI, High Speed, Heavy Copper	Capacity: 60000m²/M
J3	Rigid-Flex, RF Microwave	Capacity: 15000m²/M
GE	Automotive, Sample/QTA	Capacity: 2000m²/M
PV	RF Microwave, Multilayer, Sample/QTA	Capacity: 2500m²/M

Customers

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EMS	flex, JABIL, PLEXUS, GPV, BMK, NEOTech (NATEL EPIC OnCore), SIGMATRON INTERNATIONAL, VENTURE, Zollner, creation TECHNOLOGIES, EmeraldEMS (ELECTRONIC MANUFACTURING SERVICES)
Industrial Technology	DAKTRONICS, Johnson Controls, MOTOROLA SOLUTIONS, Grayhill, Lenze, Miller, ABB, BANNER, IPG PHOTONICS, GENERAC, Basler, ELEMENT ENERGY
Power & Energy	EATON, Advanced Energy, lunar energy, LEACH INTERNATIONAL CORP, GAÏA CONVERTER, ANORD MARDIX
Medical	BECKMAN COULTER, Boston Scientific, ThermoFisher SCIENTIFIC, SIEMENS Healthcare, Dräger, stryker, BD
Telecom	QUALCOMM, Clear-Com AN HME COMPANY, ARRIS, ADTRAN, Grass Valley WE LOVE LIVE, STARRY, COMTECH EF DATA
Transportation	JOHN DEERE, CAT, NIO, ALSTOM, Faiveley TRANSPORT, HL Mando, EBW Electronics, HANON SYSTEMS
Others	Infinitum, FLUKE, Genetec, NXP, SoundOff Signal, Meyer Sound, CRESTRON, qorvo, Extron, AMX by HARMAN, PRODRIVE TECHNOLOGIES

Internationalization Process

With over 20 years of development history, SGC has navigated through numerous opportunities and challenges. Through relentless innovation and advancement, SGC has showcased its profound heritage and exceptional capabilities in the electronic industry.

2001

Sunshine Global Circuits Co., Ltd (Shenzhen) was established.

2002-2008

- Sunshine Shenzhen achieves certifications for ISO9001, ISO/TS16949 and ISO14001.

2010-2013

- Sunshine Circuits USA, LLC was established in Plano, Texas.
- Sunshine expands manufacturing outside of China by acquiring a PCB shop in Remscheid, Germany.
- Accredited ISO13485.

2014-2015

- Sunshine Jiujiang begins production and ramps up capacity.
- Sunshine Jiujiang achieves certifications for ISO9001, ISO/TS16949 and ISO14001.
- Sunshine Shenzhen has been certified ISO14067 carbon footprint for PCB.

2016-2017

- Appointed as executive director unit of industry associations CPCA, GPCA and SPCA.
- Awarded "Outstanding Supplier" by international renowned companies such as BMK, Enics, and Flextronics.
- Jiujiang Sunshine phase 1 has expanded its monthly production capacity to 40,000 square meters.
- Successfully launched Rigid-Flex product line.

2018

- Listed on the Shenzhen Stock Exchange(stock code: 300739).
- Sunshine Shenzhen established Green Manufacturing Center.

2019-2020

- Successfully launched IC substrate product line.
- Introduced optical module.
- Jiujiang Sunshine established a national-level laboratory.
- Rigid-Flex product line monthly capacity expanded to 10,000 square meters.
- Comprehensively upgraded SAP system.
- Introduced international human resource man-agreement solution.

2021-2023

- Jiujiang Sunshine phase I has expanded monthly production capacity to 100,000 square meters.
- Launched dedicated production lines for RF Microwave, Heavy Copper, High Speed Linecards, and ATE Boards.
- Accredited AEO from Shenzhen Customs.
- Acquired Vision Industries, a PCB factory in Malaysia.

02 Global Presence

Foundation for Development

Since SGC launched its international strategy in 2006, SGC has always adhered to the principles of integrity in business and win-win cooperation. Committed to expanding overseas markets, SGC has established a comprehensive overseas sales channel and achieved closed-loop operations throughout the entire process, providing global customers with high - quality and high - efficiency services.

Worldwide Reach

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2013
Remscheid, Germany

2012
Chemnitz, Germany

2014
Jiujiang, China

2011
Texas,USA

2023
Penang,Malaysia

2001
Shenzhen, China

Penang
Malaysia (in progress)

Zhuhai
China (in progress)

Frontier
Sales & Tech Support

Texas, USA
Chemnitz, Germany

Factory
Quick turn & Prototypes

Remscheid, Germany
Penang, Malaysia
Shenzhen, China

Factory
Mass Production & Automation

Jiujiang, China
Zhuhai，China (in progress)
Penang, Malaysia (in progress)

Factories

Sunshine Shenzhen HMLV Technology Center	
	
Site Focus	**R&D/Prototype/ QTA/HMLV**
Floor Area	20,000 m^2 (216K ft^2)
Layer Count	2L - 70L
Technologies	HDI, Via Fill/VIPPO Sequential Lamination (N+N), Low Loss Laminates, Advanced Technology
Best Lead-Time	2-8L: 7 working days 10L+: 10-15 working days
Benefits to Customers	Technology (R&D) focus, HMLV support, QTA

Sunshine Jiujiang Volume Production Center	
	
Site Focus	**High Mix L/M/H Volume**
Floor Area	112,000 m^2 (1210K ft^2)
Layer Count	2L - 42L
Technologies	AL-PCB, RF Microwave, High Speed Digital, Rigid-Flex and Flex
Best Lead-Time	2-8L: 7-10 working days
Benefits to Customers	High Volume Support, Smooth transfer from Penang/Germany

Sunshine Europe QTA/Prototype Center	
	
Site Focus	**QTA/Prototype/ Sample**
Floor Area	3,300 m^2 (36K ft^2)
Layer Count	2L - 20L
Technologies	Sequential Lamination (N+N), Heavy Copper, HDI
Best Lead-Time	2-6L: 5 working days 8-16L: 8 working days
Benefits to Customers	Early Engineering Involvement，Frontline support, Domestic Service

Sunshine Penang QTA/ Prototype Center	
	
Site Focus	**QTA/Prototype/ Sample**
Floor Area	2,800 m^2 (30K ft^2)
Layer Count	2L - 16L
Technologies	RF Microwave, Rigid PCB
Best Lead-Time	2-8L: 5-10 working days 10L+: 15 working days
Benefits to Customers	QTA Service, South East Asia PCB option

Factory: Shenzhen, China

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High-mix-low-volume, Quick Turn, High Technology

Up to 70 Layers

7 Steps HDI

ATE PCB

6μm L/S
RDL Laboratory

Glass Substrate Laboratory

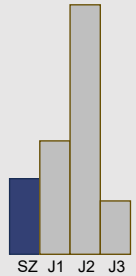
Headquarter
Since 2001

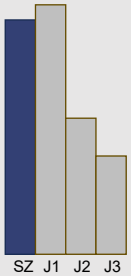
SAP ERP

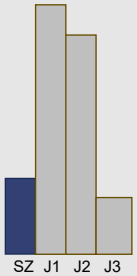
R&D
Center

Corporate Functions
400 Employees

Floor Space (m^2)	Workers	Monthly Capacity (m^2)
20k	510	18k







Factory: Jiujiang

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Visit Jiujiang factory by air or by train

Factory J1 Jiujiang

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Prototypes to Mass Production

Automotive
Industrial Control
Medical Devices

2-16L Rigid PCB's
Metal Backed PCB

Panel-Level Traceability

VDA 6.3

AEO

QUALITY MANAGEMENT SYSTEM
IATF 16949

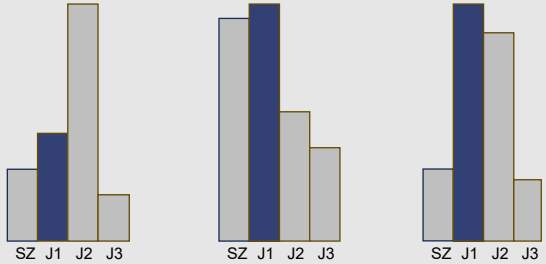
HDI

Stacked Microvias
Sequential Lamination

97
Drill Machines

High Volume

Floor Space (m^2)	Workers	Monthly Capacity (m^2)
30k	574	70k



Factory J2 Jiujiang

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Automated Lines, Substrate-like PCB's

Power & Energy
Heavy Copper Line

Server AI Telecom
High Speed Digital & HDI Line

Max. Thickness
10mm

Max. Copper Thickness
15oz

8-42 Layers

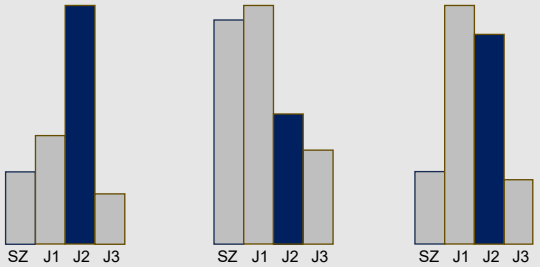
6 Generation Laser Driller

Automated Line
Smart Factory

3D
Back drill
4+/-2mil

100
Clean Room

Floor Space (m2)	Workers	Monthly Capacity (m2)
68k	326	60k



Factory J3 Jiujiang

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Rigid-Flex & Radio Frequency Microwave Product Lines

Rigid-Flex
1-4 Steps HDI，Up to 28 Layers, Air gap,
RF Microwave & High Speed Hybrid Design

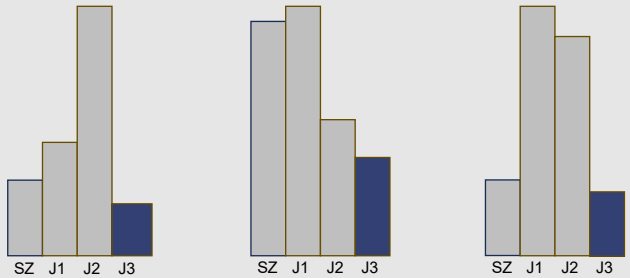
RF Microwave
1-4 Steps HDI, Up to 24L, Hybrid Design,
Cavity, HDI, Backdrill, Embedded Coin

Industrial Control, Medical, Aerospace, Military, Auto

ROGERS CORPORATION
TACONIC

ADAS, Rader Transceiver

Floor Space (m^2)	Workers	Monthly Capacity (m^2)
14k	218	15k



Factory: Remscheid, Germany

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Quick-turn, Prototypes & Low Volumes

Automotive
2-20 Layers

Rigid-Flex
2-12 Layers

Founded 1966
Acquired 2013

37
Employees

ISO 9001
ISO 14001
ISO 50001 CERTIFIED

40min to Düsseldorf

Efficient Quick
Domestic Service
QTA
4Days
2-10Layers

3,300 m² Floor Space
2,000 m² Monthly Capacity

SGC Owned
Land & Building

Seamless transfer to
JJ & Penang Plants

Factory: Penang, Malaysia

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Quick-turn & Low Volumes

Rigid FR4
2-16 Layers

RF Microwave
2-10 Layers

Founded **1989**
Acquired **2023**

100
Employees

CERTIFIED ISO 9001:2015 COMPANY

5 Days QTA
2 to 4 Layers

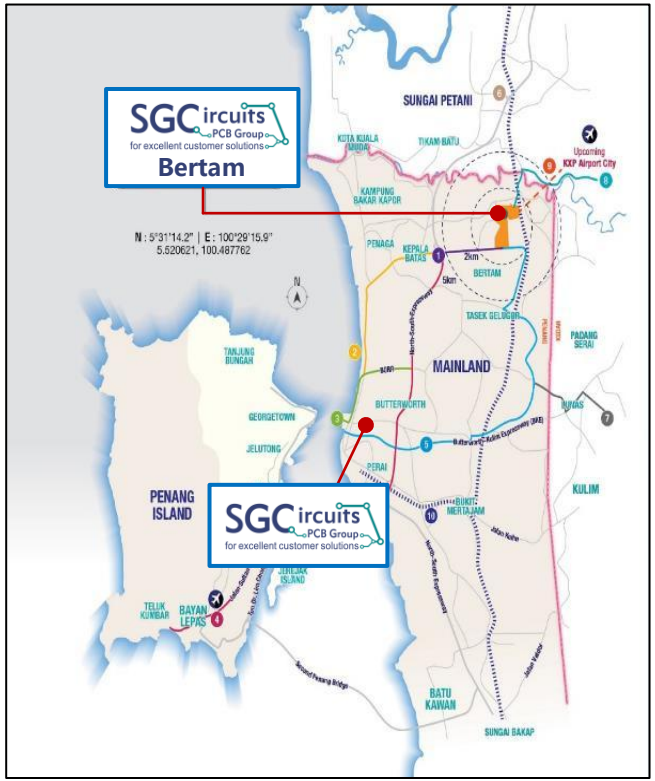
ROGERS CORPORATION
tuc
ARLON ELECTRONIC MATERIALS
TACONIC

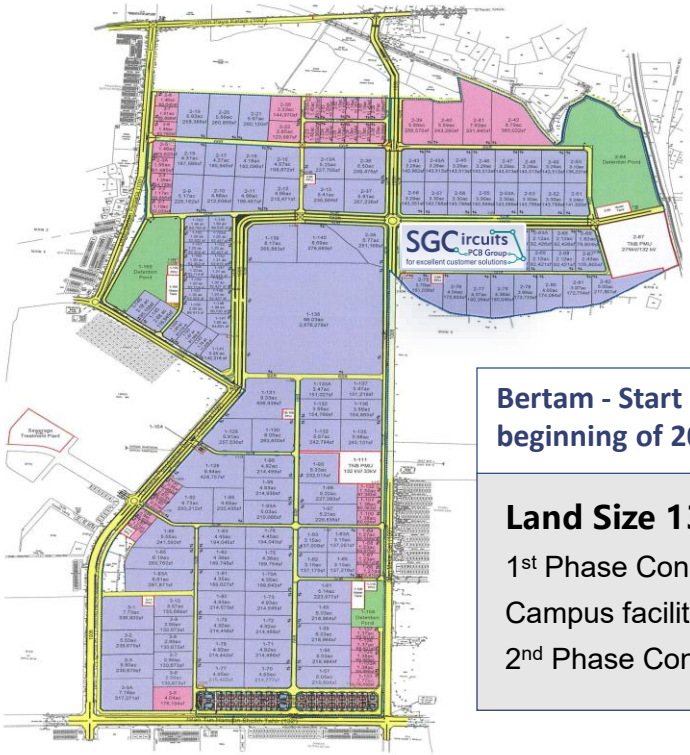
6 Surface Treatment
ENIG, LF-HAL, OSP, Ag
Hard Au, Soft Au

Well-Known Chemical
MacDermid Alpha ELECTRONICS SOLUTIONS
UYEMURA
NIHON SUPERIOR
四国化成

2,800 m² Floor Space
2,500 m² Monthly Capacity

Penang Bertam





Bertam - Start Production at the beginning of 2027

Land Size 133,000 m²

1st Phase Construction: 40,000 m²

Campus facility Area: 10,000 m²

2nd Phase Construction: 40,000 m²

Zhuhai, China

Focus on HDI, higher layer count server

- **Land Size:** 120,072 m^2 (30 acres, 1.3Mft^2)
- **Planned Construction:** 216,842 m^2 (2.33M ft^2)
- **1st phase under construction** 102,371 m^2 (1.1M ft^2)

- South China
- Near Macau
- Doumen Zhuhai
- Fushan Ind. Park

Start Production by the end of 2026

03 PCB Solutions

Leading with Innovation-Driven Expertise

SGC leverages its technological expertise and industry experience to deliver advanced, professional solutions for diverse sectors.

Product Lines

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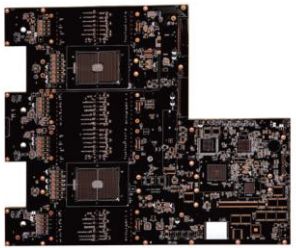
High Speed Digital

Capacity: **36000**㎡/M

- **Layer Count:** 12-40L
- **Board Thickness:** 3.2-8.0mm
- **Aspect Ratio:** 40:1
- **Impedance:** ±7%
- **Stub:** ≤ 0.2mm
- **Lamination Cycles:** 5-7 times



Base Station, Server, High Performance Computing

Heavy Copper

Capacity: **25000**㎡/M

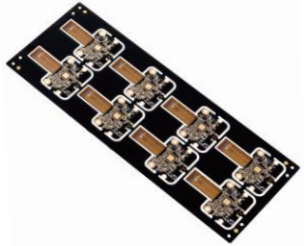
- **Copper Thickness:** 3-12OZ
- **Layer Count:** 2-26L
- **Lamination Cycles:** 1-3 times
- **Impedance:** < 3%
- **Withstanding Voltage:** 2772V dc 60s

Power, Industrial Control, Telecommunication, etc.

Rigid-Flex

Capacity: **10000**㎡/M

- **Total Layer Count:** 30L+
- **Flex Layer Count:** 1-10L
- **Board Thickness:** 0.4-3.5mm
- **Min. Line width/space:** 3.5/3.5mil
- **Lamination Cycles:** 1 ~ 3 times
- **Structure:** HDI (3 steps or above) + Rigid-Flex

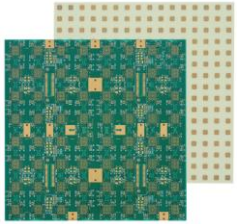


Automotive, Medical, Industrial Control, Aerospace, etc.

RF Microwave

Capacity: **5000**㎡/M

- **Line Width Accuracy:** ±0.6mil
- **Material:** Hydrocarbon, PTFE(with/without glass fiber), PPE, hybrid design
- **Lamination Cycle:** 1-4 times
- **Embedded:** Capacitance/ resistance/copper coin
- **Depth controlled routing,** Cavity metallization

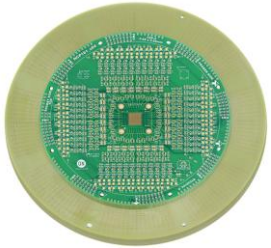


ADAS, RF Module, Base Station, etc.

ATE

Capacity: 1**000**㎡/M

- **Layer Count:** 70L
- **Board Thickness:** 6.5mm
- **Aspect Ratio:** ≥ 40：1
- **Pitch (Min) :** 0.35mm
- **Surface Treatment:** Hard gold plating, ENIG, ENEPIG, etc.
- **Impedance:** ±7%



IC Testing

AI Data Center PCB Solutions

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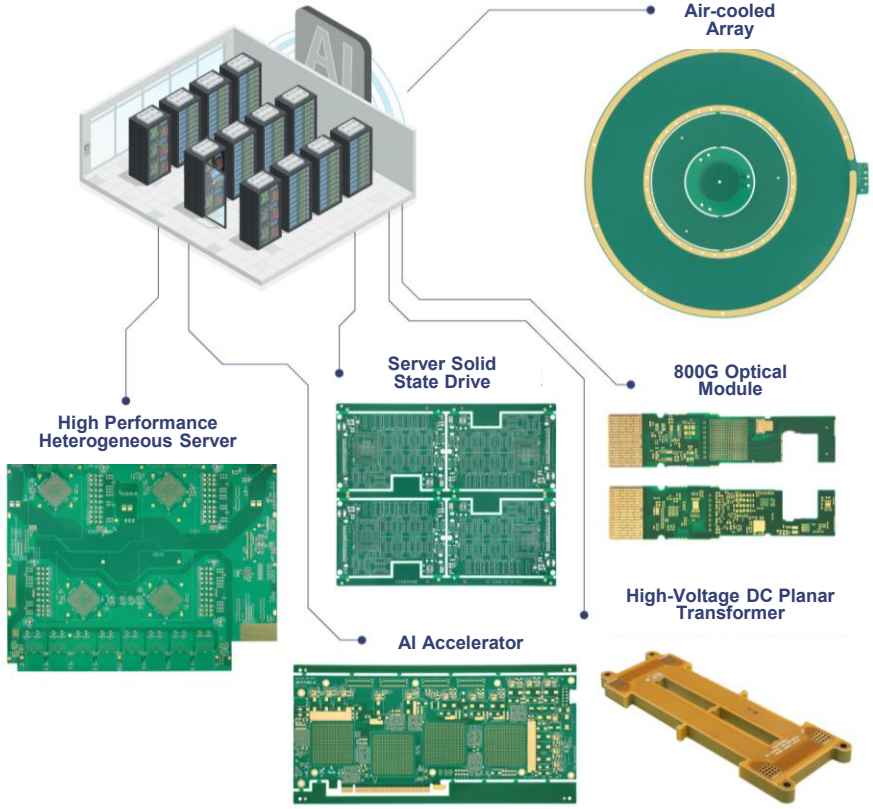

Technology

Item		Mass Production	Sample
Fundamental Capability	Layer Count	42	62
	Max. Board Thickness	6mm	8mm
	Outer Layer Line Width/ Space	3.5/3.5mil	3.0/3.5mil
	Inner Layer Line Width/ Space	3.5/3.5mil(1OZ)	3.0/3.5mil(1OZ)
		2.8/2.8mil(HOZ)	2.5/2.5mil(HOZ)
	Aspect Ratio	20:1	25:1
	Characteristic Impedance	±10%(Inner 1OZ)	±5%(Inner 1OZ)
	Beveling Tolerance	±0.075mm	±0.05mm
High Speed Digital	Registration	4.5mil	4mil
	Back-drill Stub	8mil	6mil
	Min. Hole Size	7mil	7mil
	Brown Oxide Method	Low profile	Low profile
	Low Loss Solder Mask	Y	Y
SI	VNA Frequency	26.5GHz	43.5GHz
	Test Method	Delta-L 4.0	
	Test Probe Frequency	40G/Delta-L 4.0	40G/Delta-L 4.0
Special Process	N+N, Hybrid Design, HDI, Deep Micro-via, Stepped Gold Finger, Variable Length Gold Finger, QR Code, POFV, Back-drill, Press-fit Hole, etc.		
Surface Treatment	OSP, HASL, Gold Finger, ENIG, etc.		

High Speed Solutions

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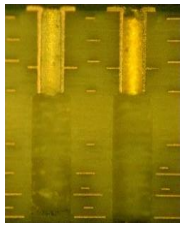
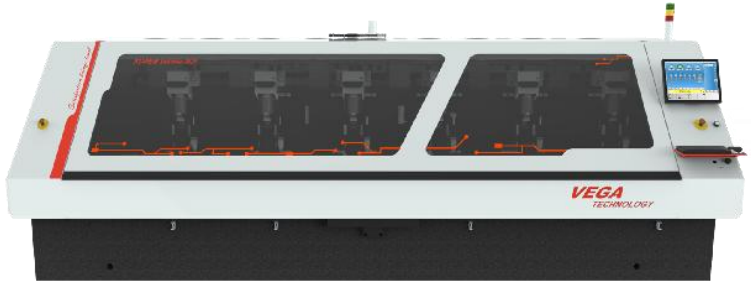
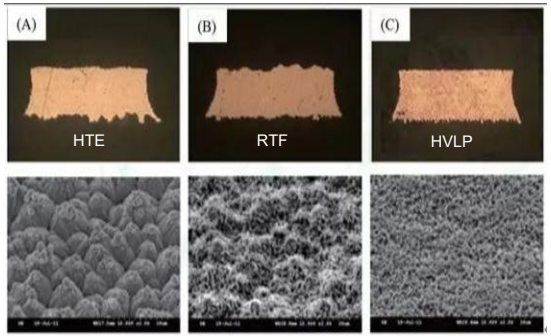
3D Back-drill Stub≤6mil



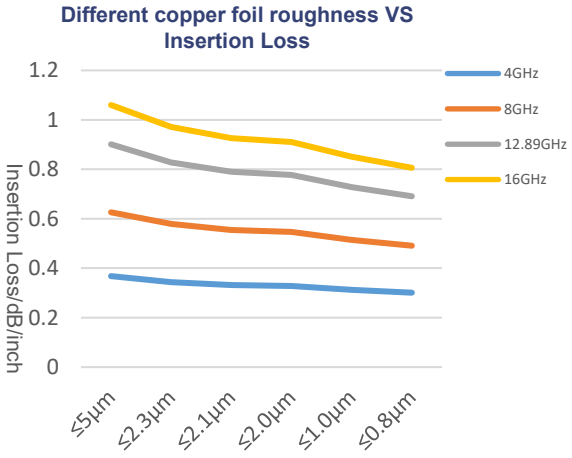


43.5 GHz VNA

Copper Foil Study



Type	Roughness (Rz)	4GHz	8GHz	12.89 GHz	16GHz
RTF	≤5μm	0.368	0.626	0.901	1.06
RTF2	≤2.3μm	0.344	0.579	0.827	0.971
RTF3	≤2.1μm	0.332	0.555	0.79	0.926
HVLP	≤2.0μm	0.328	0.547	0.777	0.911
HVLP2	≤1.0μm	0.312	0.515	0.728	0.851
HVLP3	≤0.8μm	0.301	0.491	0.691	0.806



High Density Solutions

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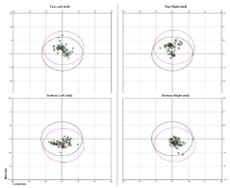
High Layer Count Registration & High Aspect Ratio

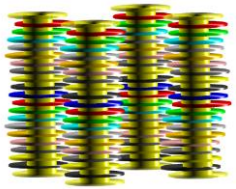
High Layer Count Registration System

CCD Masslam
Accuracy ≤3mil

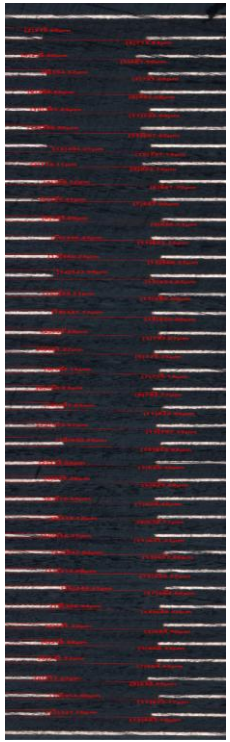
XACT PCB

Registration Measurement System



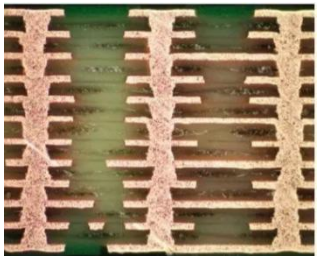


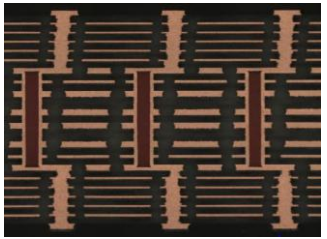
40L Layer to Layer

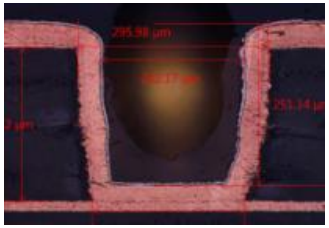


50:1 Aspect Ratio

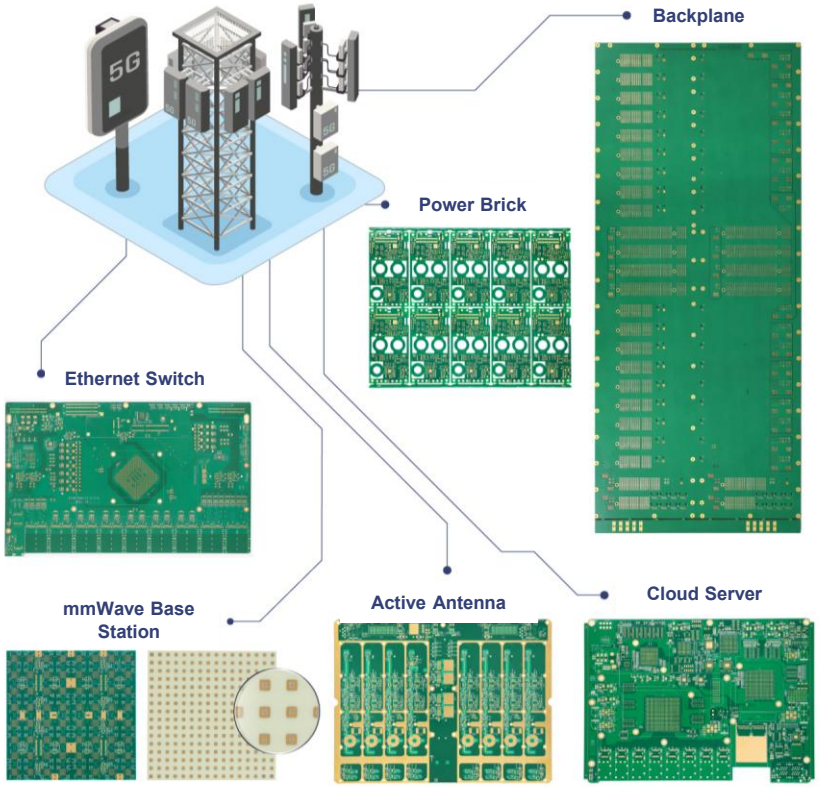
HDI & Deep Micro-via







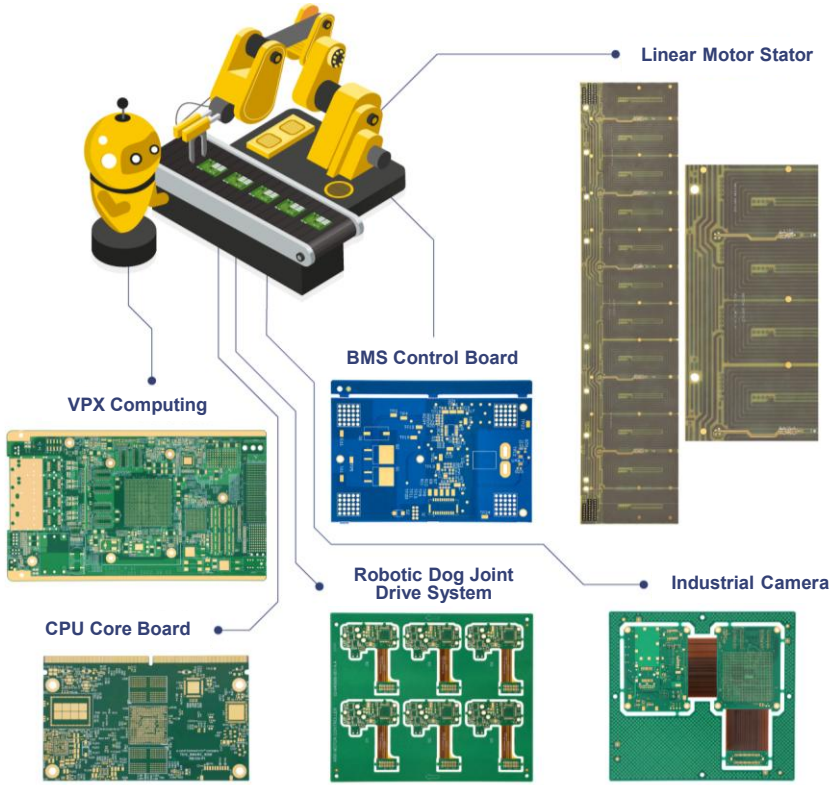
Data Communication Solutions



Technology

Item		Mass Production	Sample
Backplane	Max. Layer Count	60	70
	Max. Board Thickness	8mm	10mm
	Aspect Ratio	23:1	25:1
	Max. Dimension	1200*680mm	1200*680mm
Line Card	Max. Layer Count	42	62
	Max. Board Thickness	6mm	8mm
	Aspect Ratio	23:1	25:1
	Max. Dimension	1200*680mm	1200*680mm
Min. Line Width/Space	Inner Layer	2.8/2.8mil	2.5/2.5mil
	Outer Layer	3.5/3.5mil	3.0/3.5mil
Registration	Same Core	±25um	±20um
	Different Core	±4.5mil	±4.0mil
Min. Hole Size	Mechanical	≥0.15mm(6mil)	≥0.13mm(5mil)
	Laser	50-150um	50-200um
Max. Copper Thickness		4OZ	6OZ

Industrial Control & Robot Solutions



Technology

Item	Mass Production	Sample
Layer Count	2-30	2-40
HDI	3+N+3	7+N+7
Mechanical Drill	0.2mm	0.15mm
Laser Drill	100-150um	75-200um
Max Copper Thickness	6oz	15oz
Rigid-Flex Structure	Symmetric Structure, Air-gap, Flytail Structure, Multi-layer Flex Circuit	
Surface Treatment	ENIG/OSP/Immersion Tin/Immersion Silver/ENEPIG/Gold Finger/Soft Gold/Hard Gold	
Special Process	Resin Plug, Mechanical/Laser Micro-via, Depth Controlled Drilling/Routing, Edge Plating, Semi-Flex, POFV, Partial Heavy Copper (Variation 1OZ), etc.	
Laminate	S1000H, S1000-2M, S1150G, S1151G, Autolad1, Autolad1G, Autolad3, Autolad3G, IT-158, IT-180A, TU-865, EM827, VT-47, 370HR, R-5775	
Reliability Test	CAF, HAST, Thermal Shock, Constant Temp. and Hum., IST, Solderability, Thermal Stress Test, Ionic Contamination, Ionic Chromatography, etc.	

ATE Solutions

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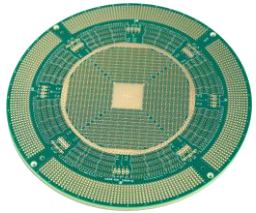
Product Display

Wafer Testing

ATE Probe Card

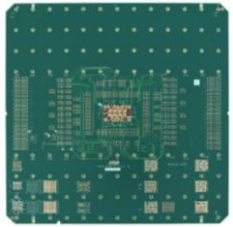


Description

- Material：HTG FR4
- Layer Count：44
- Board Thickness: 6.350mm
- Min. Hole Size：0.2mm
- Aspect Ration：32:1
- BGA Spacing：0.65mm
- Surface Treatment：Thin Gold Plating + Selective Hard Gold Plating
- Warpage：0.10%
- DUT Flatness：50μm

Finished Good Testing

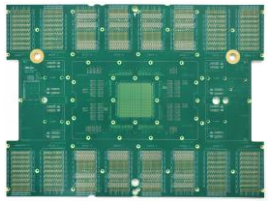
ATE Load Board



Description

- Material：Megtron 6
- Layer Count：34
- Board Thickness: 5.08mm
- Min. Hole Size：0.13mm
- Aspect Ration：39:1
- BGA Spacing：0.40mm
- Surface Treatment：Thin Gold Plating + Selective Hard Gold Plating
- Warpage：0.15%

ATE Load Board

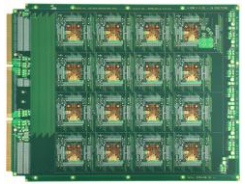


Description

- Material：Megtron 6
- Layer Count：70
- Board Thickness: 6.60mm
- Min. Hole Size：0.2mm
- Aspect Ration：33:1
- BGA Spacing：0.65mm
- Surface Treatment：Thin Gold Plating + Selective Hard Gold Plating
- Warpage：0.1%
- DUT Flatness：50μm

Aging Testing

ATE Burn In Board



Description

- Material：PI
- Layer Count：16
- Board Thickness: 1.6mm
- Min. Hole Size：0.13mm
- Aspect Ration：12:1
- BGA Pitch to Pitch: 0.35mm
- Surface Treatment：Gold Plating + Gold Finger Plating
- Warpage：0.20%
- DUT No.：16

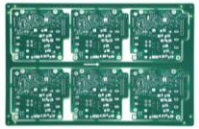
Technology

Item		Mass Production	Sample
Max. Board Thickness (mm)		6.5	8.0
Max. Layer Count		60	70
Aspect Ratio		42:1	50:1
BGA Spacing(mm)	PTH	0.40	0.35
	HDI	0.35	0.30
Trace Spacing (mil)	Inner	3.0/3.0	2.0/3.0
	Outer	3.5/3.5	3.0/3.0
Tolerance Of Impedance	Inner	±10%	±5%
	Outer	±10%	±7%
Warpage (%)		0.3%	0.1%
DUT Flatness(μm)		50	40
Flatness of POFV (μm)		No dimple	No dimple
Surface Treatment		Hard Gold、Gold Finger、ENIG、ENEPIG	

Automotive Solutions

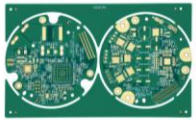
Power Battery System

- Charge Controller
- Power Converter
- BMS



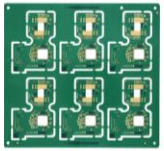
Chassis System

- Suspension System
- Steering Controller
- Brake Controller
- ESP



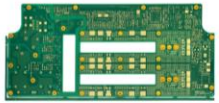
ADAS

- Stereo/Tri-Camera System
- Lidar
- mmWave Radar
- Ultrasonic Radar
- GPS & IMU
- ADAS Domain Controller



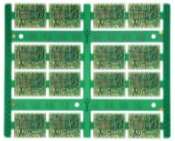
Motor & Drive

- Motor
- Drive Controller
- Inverter
- Cooling System



Intelligent Cockpit

- Multi-Screen
- Intelligent Meter
- Streaming Media Rearview Mirror
- Microphone and Audio System



Vehicle to Everything

- Vehicle Gateway
- High Performance Computing Platform
- Wireless Communication Module

Technology

Item		Mass Production	Sample
Min. Line Width/Space	Layer Count	2-12	2-20
	Outer (1oz)	132um/132um	114um/114um
	Inner (0.5oz)	64um/64um	64um/64um
Min. Hole Size	Mechanical	0.2mm	0.15mm
	Laser	75-150um	75-200um
HDI	Structure	2+N+2	3+N+3
	Aspect Ratio	≤0.8:1	≤1:1
Laminate	FR4	S1000H, S1000-2M, S1150G, S1151G, Autolad1, Autolad1G, Autolad3, Autolad3G, IT-158, IT-180A, TU-865, EM825	
	RF Microwave	RO3003G2, RO3003, RO4350B,	
RF Line Width Accuracy		±15um	±12um
Max. Copper Thickness		6 Oz	
Surface Treatment		ENIG/OSP/Immersion Tin/Immersion Silver/ENEPIG	
Reliability Test		CAF, HAST, Thermal Shock, Constant Temp. and Hum., IST, Solderability, Thermal Stress Test, Ionic Contamination, Ionic Chromatography, etc.	
Special Processes		Resin Plug, Mechanical/Laser Micro-via, Depth controlled Drilling/Routing, Edge-Plating, Semi-Flex, POFV, Partial Heavy Copper (Variation 1OZ), Hole Copper Thickness 60um, Metal-Backed, etc.	

Certifications

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ISO 9001:2015 (Manufacturing)	IATF 16949:2016 (Automotive)	ISO13485:2016 (Medical)	ISO45001:2018 (Healthy & safety)	ISO 14001:2015 (Environment)	ISO 14067:2013 (Carbon Footprint)	QC080000:2017 (Hazardous Substance)	ISO27001:2022 (Information Safety)	AS9100D:2016 (Aerospace)	ISO50001:2018 (Energy)

Shenzhen

Jiujiang

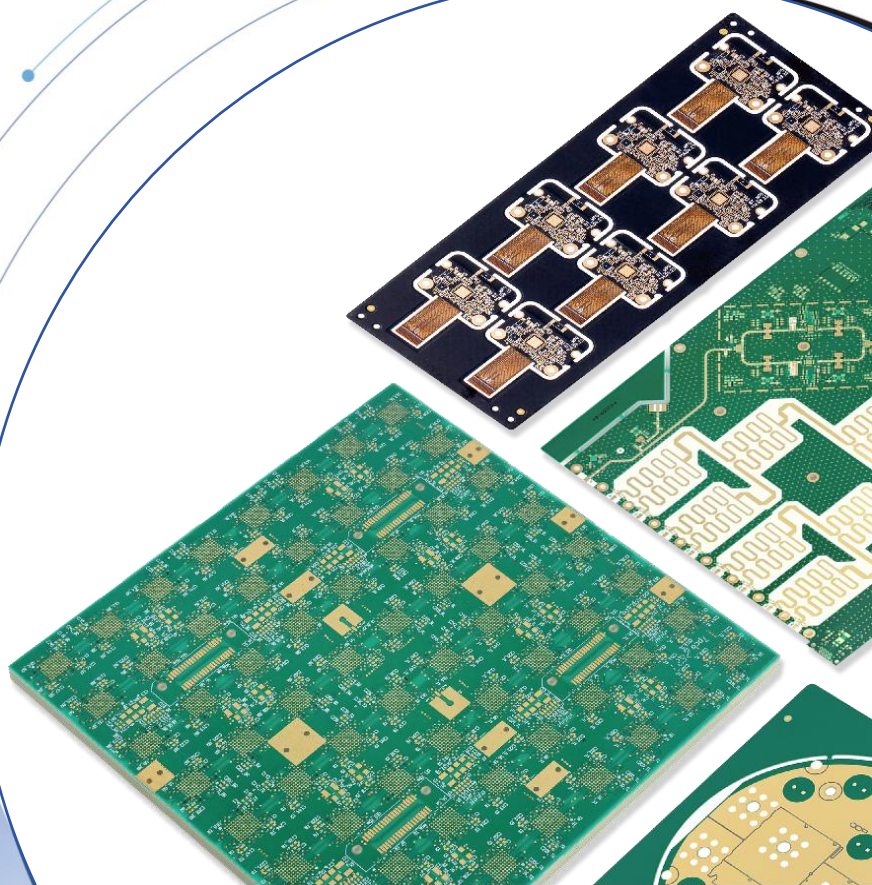
Leadtime

- Production lead-time is 4 to 5 weeks
  - Lead-time for FR4 not in stock is 2-4 weeks
  - Special material and thick cu foil may require longer LT
- NPI Support
  - Quick turns available, from 5 to 15 days (based on mat'l/tech)
  - DFM, stack-up, impedance simulation by Sunshine FAE's
  - R&D and NPI teams to support advanced products

04 Product Innovation

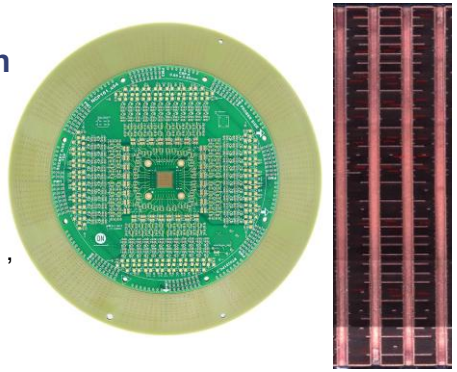
Empowering the Intelligent and Interconnected World

Product quality is the lifeblood of a company and the cornerstone of its sustainable development. By driving economic growth through technological innovation and enhancing customer satisfaction through meticulous manufacturing craftsmanship, SGC is committed to becoming a global leader in the green intelligent manufacturing of cutting-edge electronic circuits.

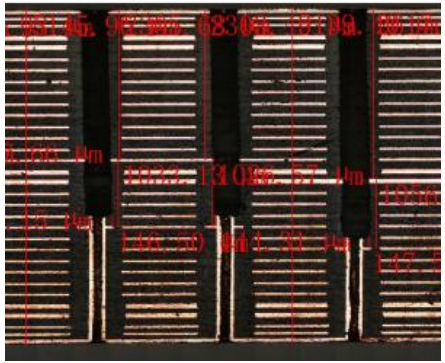


Technology Development

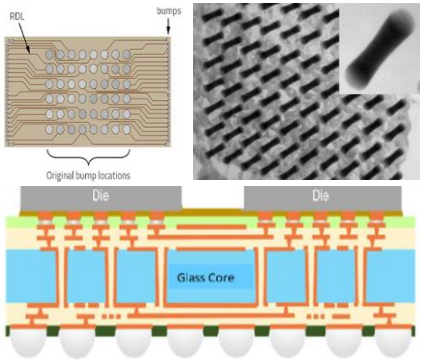
- **Sunshine is committed to and continuously engaged in R&D for PCB and Semiconductor technologies**
- **R&D projects for PCB's:**
  - High layer count 60+ with Aspect Ratio of 50:1
  - High speed and high computing power
  - Addition of new materials including extremely low loss materials , low profile copper foils and low profile oxide solution
  - Controlled impedance tolerance of +/- 7% or below
  - Controlled back drill stub length tolerance of 4 +/- 2mils
  - Thermal management solutions
  - PCB package, embedded passives and active components
  - High-density interconnects, stacked microvias 7+, 9+
  - Every Layer Interconnect structures (ELIC) and Deep Micro vias
- **R&D for Semiconductors:**
  - Substrate-like PCB's (SLP)
  - Modified Semi Additive Process (MSAP)
  - Pure Glass PCB, Redistribution Layer (RDL), Thru-Glass Via (TGV)
- **Green manufacturing technologies**



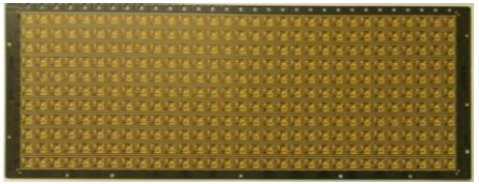
High layer & High Aspect Ratio



Back drill



Glass base package substrate



IC Substrate

PCB package

05 Green Factory

Dedicated to Sustainability and Carbon Reduction

SGC is committed to environmental sustainability and actively pursue carbon reduction initiatives to minimize our ecological footprint.

Environment

SGCircuits PCB Group
for excellent customer solutions

Our mission is to be an industry leader in the sustainable manufacturing of PCB's

Certifications:

- ISO-14001 Environmental Mgmt System
- ISO-14067 Carbon Footprint
- ISO-45001 Occupational Health & Safety
- ISO-50001 Energy Management System
- QC-080000 Hazardous Substance Process Management

Extensive use of energy saving and resource reduction measures in our facilities

- Ground heat pumps and solar panels
- Water conservation and copper recycling

Green Manufacturing Technology Center (GMTC)

- Inkjet printing of solder mask
- Additive process - conductive paste printing

CO2e Emissions 2024

Total:
90,658
tCO2e
(Scope1 & 2)

Intensity:
418
tCO2e/million USD
(Scope1 & 2)

Target in 2025Y

- Photovoltaic power generation: **1040t**
- Green energy: Reduce **6,517.76t (SZ) and 8,741.76t (JJ) in 2025Y**
- Energy-saving renovation: Reduce **1480t (SZ) and 4,569.54t (JJ) in 2025Y**

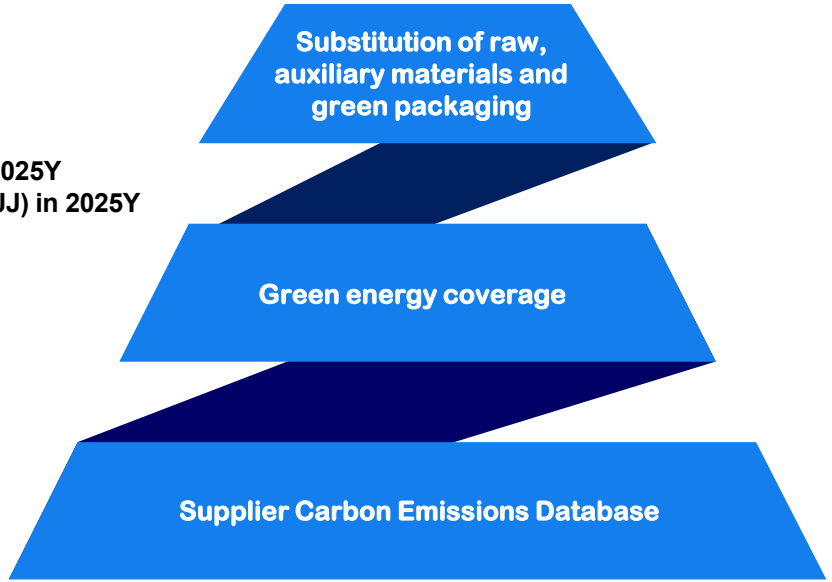
Mid-Term Goal

- Using 2029 as the basis year, carbon dioxide emissions are projected to decline by 50% from 2030 to 2039. (Scope1&2)
- The remaining 50% is projected to decline to **0** tCO2e from **2040-2049**. (Scope1&2)

Long-Term Goal

- Carbon dioxide peaking by **2029.** (Scope1&2)
- Carbon neutrality by **2050**. (Scope1&2)

IMPLEMENTATION PATHWAY



10/9/2025

Thank You.

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