

WISDOM LEADS GLOBAL
ELECTRONIC CORE TECHNOLOGY

智领全球 电子核心 科技

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POE科技·让世界更亲近

POE Manufacturing, Your Global Technology Partner

POE PRECISION ELECTRONICS CO.,LTD/ WANFENG CIRCUIT CO.,LTD

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COMPANY PROFILE



POE started out in 1996 as a PCB company, and has developed to a well known Turn-Key PCB assembly company over the years, providing high and low volume batches at reasonable prices and high quality, from making theboards to shipping the final product and everything in between.

With imported State-of-the-Art fully automatic production machines & professional Sales team, Purchasing team, Engineering team located in China Shenzhen, HK, USA and Canada, POE is able to provide customers with low-cost one-stop contract manufacturing service, including PCB fabrication, components procurement, PCB assembly, programming, cable assembly, final PCBA testing, final case assembly, coating, worldwide shipping.

POE Customers are primarily from USA, Canada, Europe, Australia, Israel, Middle East, Brazil, Argentina, Russia Ukraine, Asia..., and in a wide variety of industries like Medical, Telecommunications, Airplane recorder, Automobile, Database information, 5G, IOT, Robot, Industrial, Home appliance.





Focus Products & Industries

With years of experience in PCB manufacturing and PCB assembly, POE provides flexible manufacturing options that adapt to cost targets, delivery requirements and fluctuating demands in volume. We cover a range of services, such as:

1. Quick turn PCB manufacturing (2layer 24hours, 4layer 48hours... Fastest)
2. FR4 , Aluminum, Flexible, Rogers, Teflon PCB mass production Multi-layer PCB (4-32 layers)
3. Low to high volume surface mount and through-hole PCB assembly
4. 01005s, BGA, uBGA, CCGA CSP and Flip Chip assembly
5. 0.4mm Fine Pitch assembly
6. Prototype and pre-production electronic assembly
7. Surface Mount Technology (Paste and Epoxy)
8. Encapsulation and conformal coating of PCB assemblies Lead-Free assembly
9. Intrusive reflow
10. Press fit
11. Wave/Selective wave soldering
12. Double/Single-sided reflow processing
13. Rework and repairs (Fine Pitch QFP, Area Array Packages)
14. Functional, electrical, and in-circuit testing

By managing the end-to-end production process, we enable our customers to concentrate on their core specialties.

As the leading brand, POE is going to shoulder great social responsibility and operation mission, fully participate in international competition, and strive to become the world-class PCB manufacturer and one stop contract manufacturing facility in Shenzhen China and other countries too.

Valuing Customer We Served

For Design Houses
Startup Companies
Manufacturers and School Projects

We go the way by policy market oriented, customer-oriented, talent as capital, quality as the premise, experience all the scenery on the way. Seriously practice to achieve the lofty level of excellence and surmount the dream.

We have grown up with our clients over the years and built a wide sales network as well as maintaining close cooperation.



Our Advantages

- Quick Turn prototype and mass production PCB
- Strong OEM manufacturing capabilities
- Committed to improving product quality

we are committed to improving our product quality constantly. Our operation is ISO 9001:2015 certified, and our products are CE and RoHS marked. Moreover,we are in the process of applying for the QS9000, SA8000 certifications.

We warmly welcome our customers from home and abroad to visit us!

Please feel free to contact us!

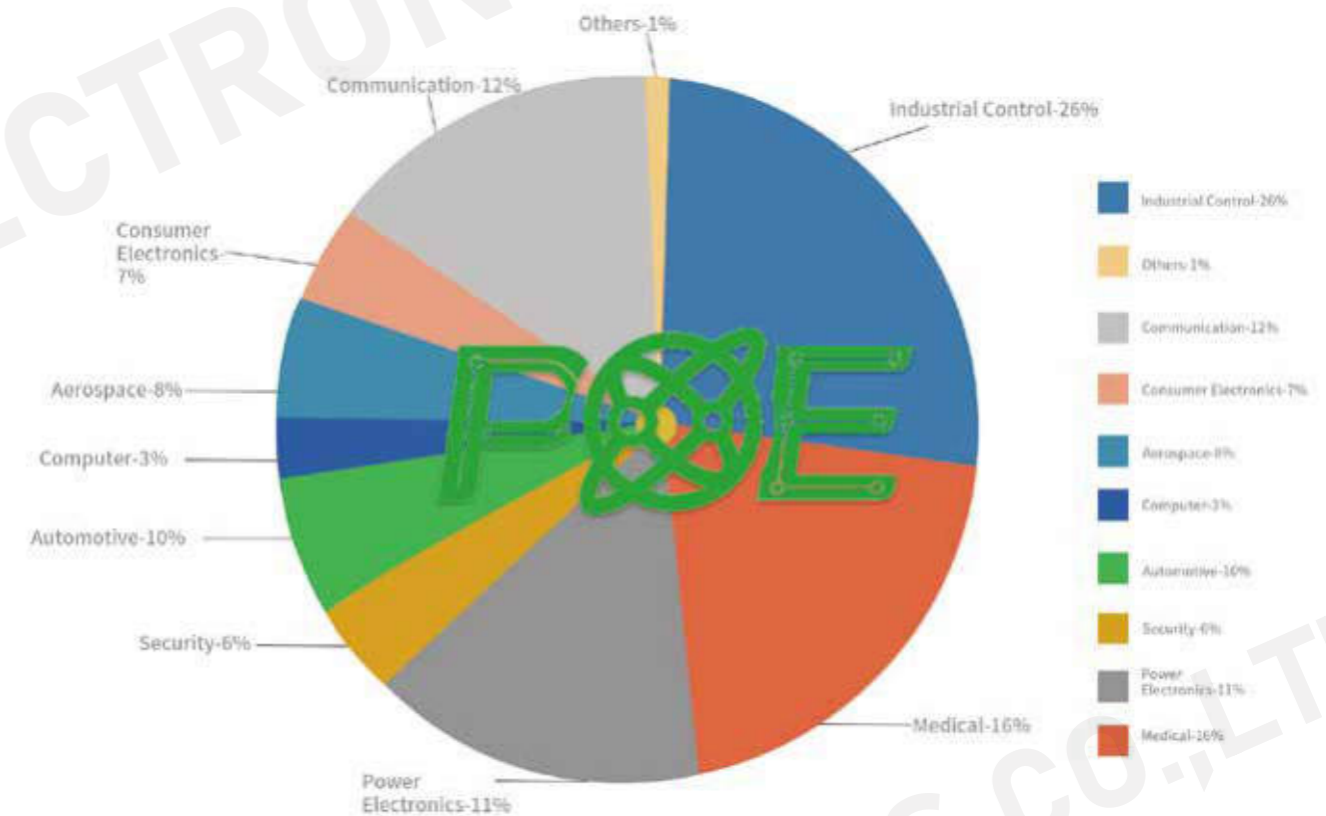


Marketing

Established clients with refined products and excellent service.

Application fields of POE products and distribution of major customers:

Our products are widely used in Medical Instruments, Industrial Control, Power Electronics, Security, Consumer Electronics, Communication, LED Products, Aerospace and others.



POE is ISO9001 and UL certified and IPC-A-600 & IPC-A-610 compliant. Our PCB production capacity can reach 40000 sq.m. per month and EMS assembling capacity at 150,000,000 components per month.

POE offers expertise in checking for your every order. This is an ideal service for PCB prototyping, as well as low volume and medium volume production runs. We verify all details of your files, including BOM (Bill of Materials) and Gerber files, to allow you to correct your PCB design before manufacture, saving significant time and cost, and avoiding unnecessary repeats of the prototyping assembly process.

CULTURE in Mar-Apr 2022

1 POE succeeded in the sales performance target in March!



01

At the beginning of the March, POE set the sales performance target. During the whole month, our colleagues worked very hard even overtime.

02

Thanks for all the hard work and the spirit of not giving up until the last minute, also thanks for the support that all of the customers have given us. POE succeeded in the sales performance target.

03

Meanwhile, outside of work, POE held many activities in March. For example, "Egg smashing lottery", when a small goal has been achieved, we can smash a golden egg and get reward from it.

04

In addition, POE sets many kinds of Team and Individual Awards. Congratulation to all the winners.

2

2022 POE Technologies First Quarter Summary Meeting



POE Technology held a work summary meeting for the first quarter of 2022 on April 18th. Thanks to the strong support from customers around the world and the unremitting efforts of every colleague, In the meeting, there were the following charters: self introduction of new employees, heads of various departments make work summaries, recognition of quarterly outstanding employees and sharing of ways to work efficiently, and work arrangements and priorities for the second quarter.



PRODUCTION EQUIPMENT

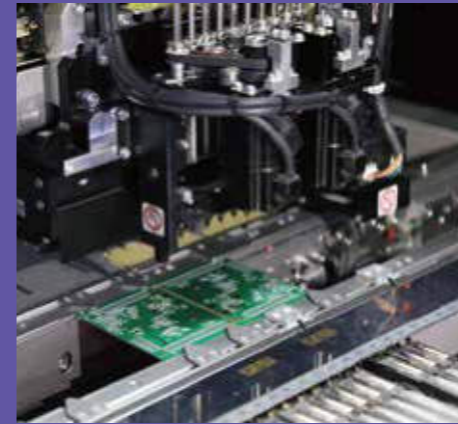
Equipment List

| Number | Equipment | Model | Qty | Brand |
|--------|--|----------------|-----|------------|
| 1 | Automatic Loading Machine | GW-01 | 1 | GuoWei |
| 2 | Solder Printing Machine | CP-400 | 1 | CP |
| 3 | Medium Speed Placement Machine | SM481PLUS | 1 | SamSung |
| 4 | Reflow Soldering Machine | CR-0802 | 1 | HELLER |
| 5 | Voltage Stabilizer | MZVC-15KVA | 1 | MK |
| 6 | Voltage Stabilizer | MZVC-15KVA | 1 | MK |
| 7 | Automatic Loading Machine | ZCW-02 | 1 | ZSW |
| 8 | Solder Printing Machine | GDK-X5 | 1 | HTGD |
| 9 | High Speed Placement Machine | SM471PLUS | 1 | SamSung |
| 10 | Medium Speed Placement Machine | SM481PLUS | 1 | SamSung |
| 11 | Reflow Soldering Machine | CR-1002 | 1 | HELLER |
| 12 | Solder Printing Inspection | RX | 1 | HTGD |
| 13 | Air Compressor | | 1 | |
| 14 | Oven | 100 | 1 | JYH |
| 15 | Solder Paste Mixer | GW-JB90A | 1 | GuoWei |
| 16 | First Article Inspection | FAI-JCX830 | 1 | JCY |
| 17 | Automatic Optic Inspection Machine | VCTA-A410 | 1 | VCTA |
| 18 | Xray Machine | | 1 | Unicomp |
| 19 | Wave Soldering Machine | HWE-350 | 1 | JieBao |
| 20 | Fully Automatic Forming Machine | SC-104A | 1 | ShengChuan |
| 21 | Automatic Forming Machine | SC-104C | 1 | ShengChuan |
| 22 | Semi-Automatic Forming Machine | SC-106A | 1 | ShengChuan |
| 23 | Manual Washer | | 1 | JieTuo |
| 24 | Automatic Coating Machine | | 1 | YdiHui |
| 25 | Automatic Washer | XD-328A | 1 | XinDong |
| 26 | Automatic Packing Machine | Double Machine | 1 | Suhatian |
| 27 | Automatic Sealing Machine | FR-900 | 1 | RuiLi |
| 28 | Fully Automatic Vacuum Packaging Machine | 500type | 1 | RuiChi |





PCBA EQUIPMENT SHOW



Pick & Place Machine



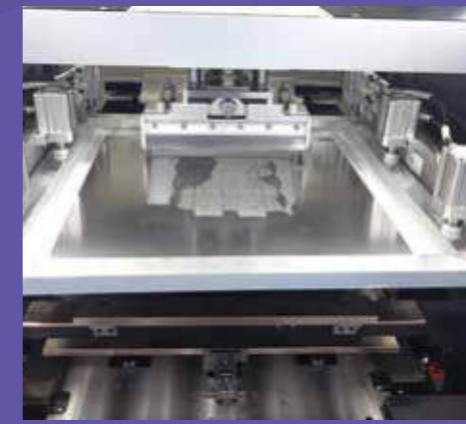
Pick & Place Machine



Manual Visual QC



Automatic Solder Paste



Automatic Solder Paste



AOI



Wave Soldering



Reflow Oven



Pick & Place Machine



Reflow Soldering



Automatic Printing Machine



Plate Washer

PRECISION



Drilling Machine



PTH



CNC Molding



Drilling Workshop



Internal Lamination



Dust-free Development



Figure Electricity



Graphics Transfer

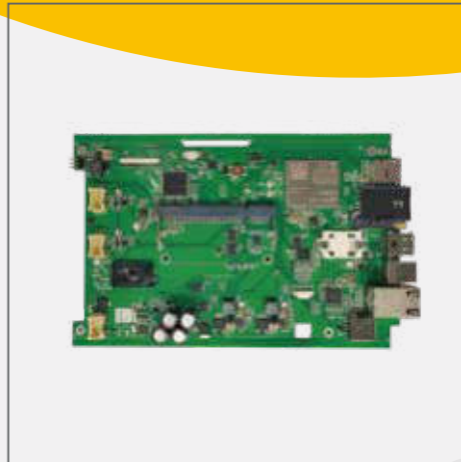
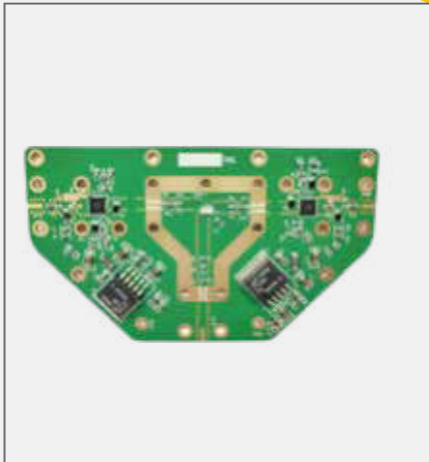


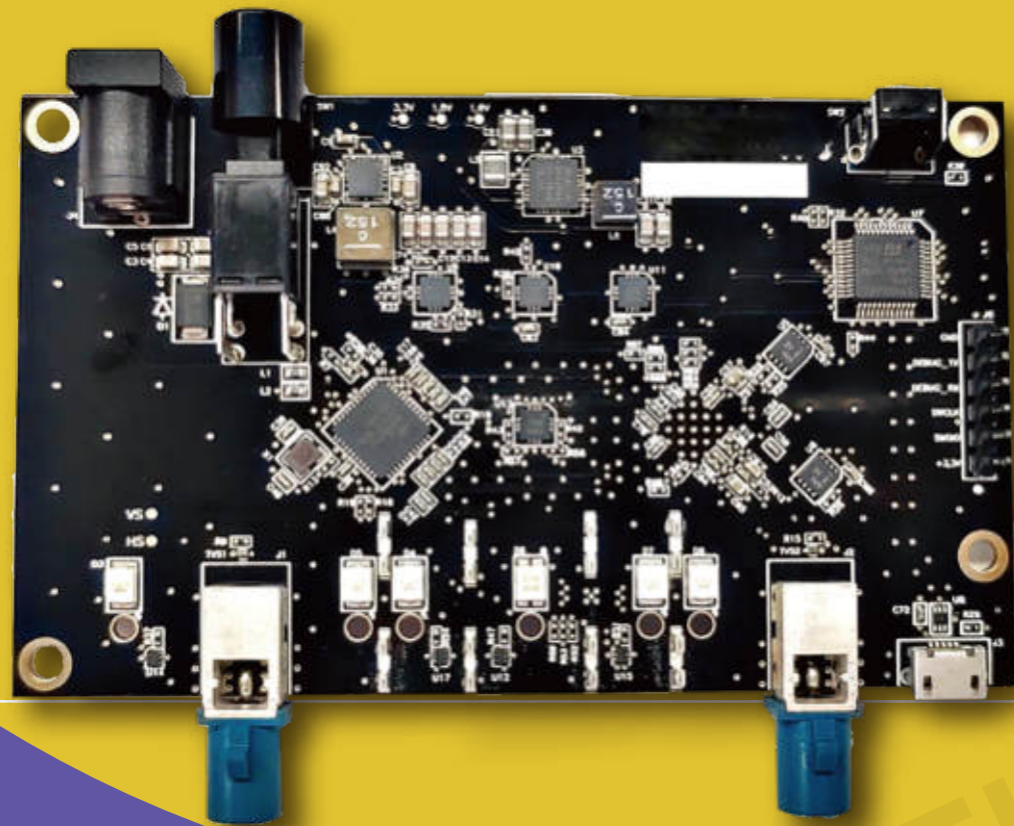
Sink Copper

PCB EQUIPMENTS SHOW

POE continually reinvests in the very latest technology and equipment based on customer demands and industry trends.

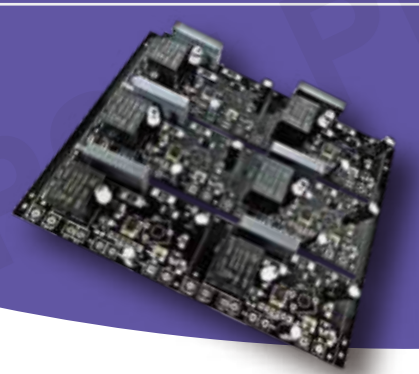
March-April Products





FR4,6Layers
1oz Copper Thickness
ENIG Surface Treatment
Black Solder Mask
Impedance Control

**Automotive
Test Equipment**



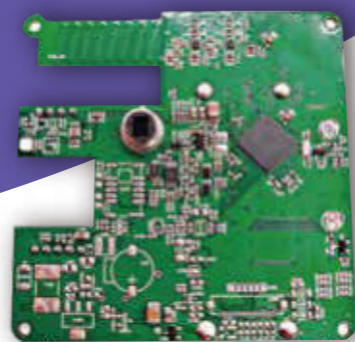
FR4,2Layers
10Z Copper Thickness,
HASL Lead Free Surface Treatment
Black Solder Mask

Climate Control



FR4,4Layers
10Z Copper Thickness
HASL Lead Free Surface Treatment

Industry IoT



FR4,4Layers
10Z Copper Thickness
HASL Lead Free Surface Treatment

Industry IoT



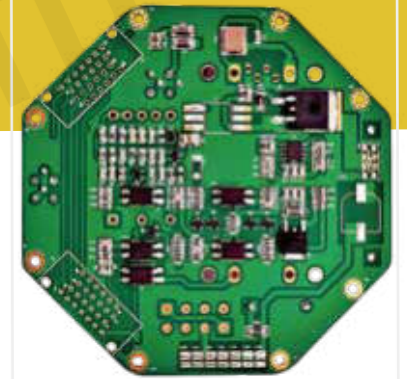
FR4,2Layers
10Z Copper Thickness
HASL Lead Free Surface Treatment
Green Solder Mask

Alarm System



FR4,4Layers
2MM Board Thickness
ENIG Surface Treatment

Consumer Electronics

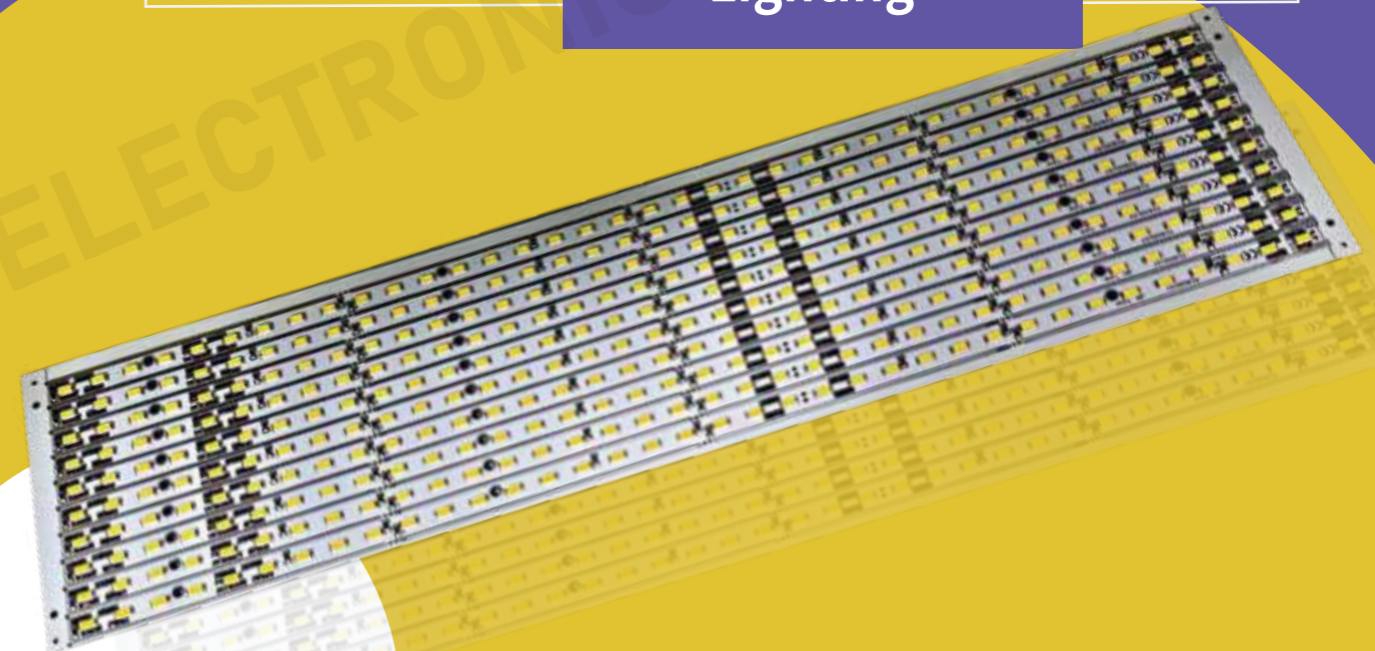


FR4,6Layers
IPC Class III
Standard Followed

Telecommunication

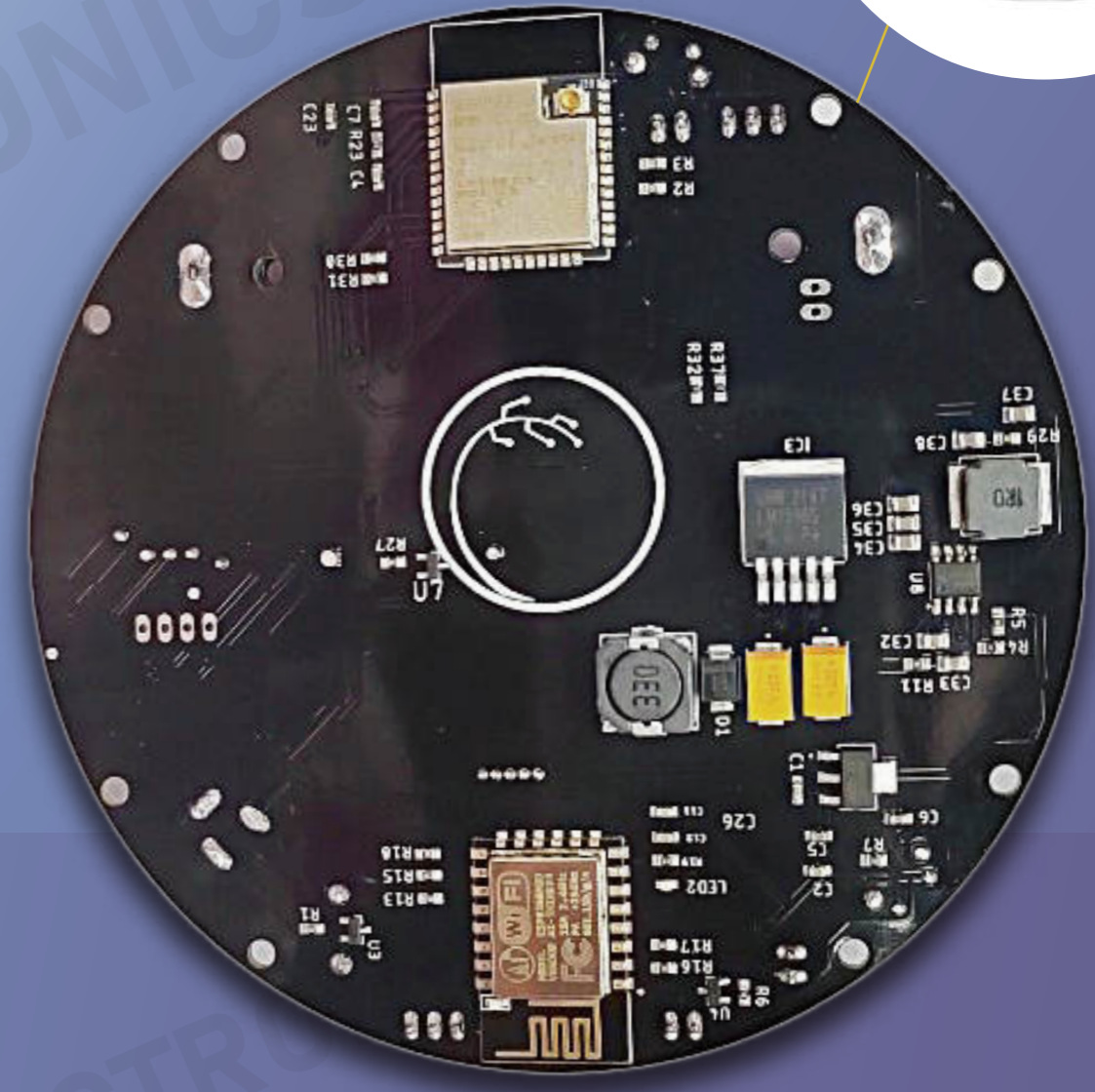
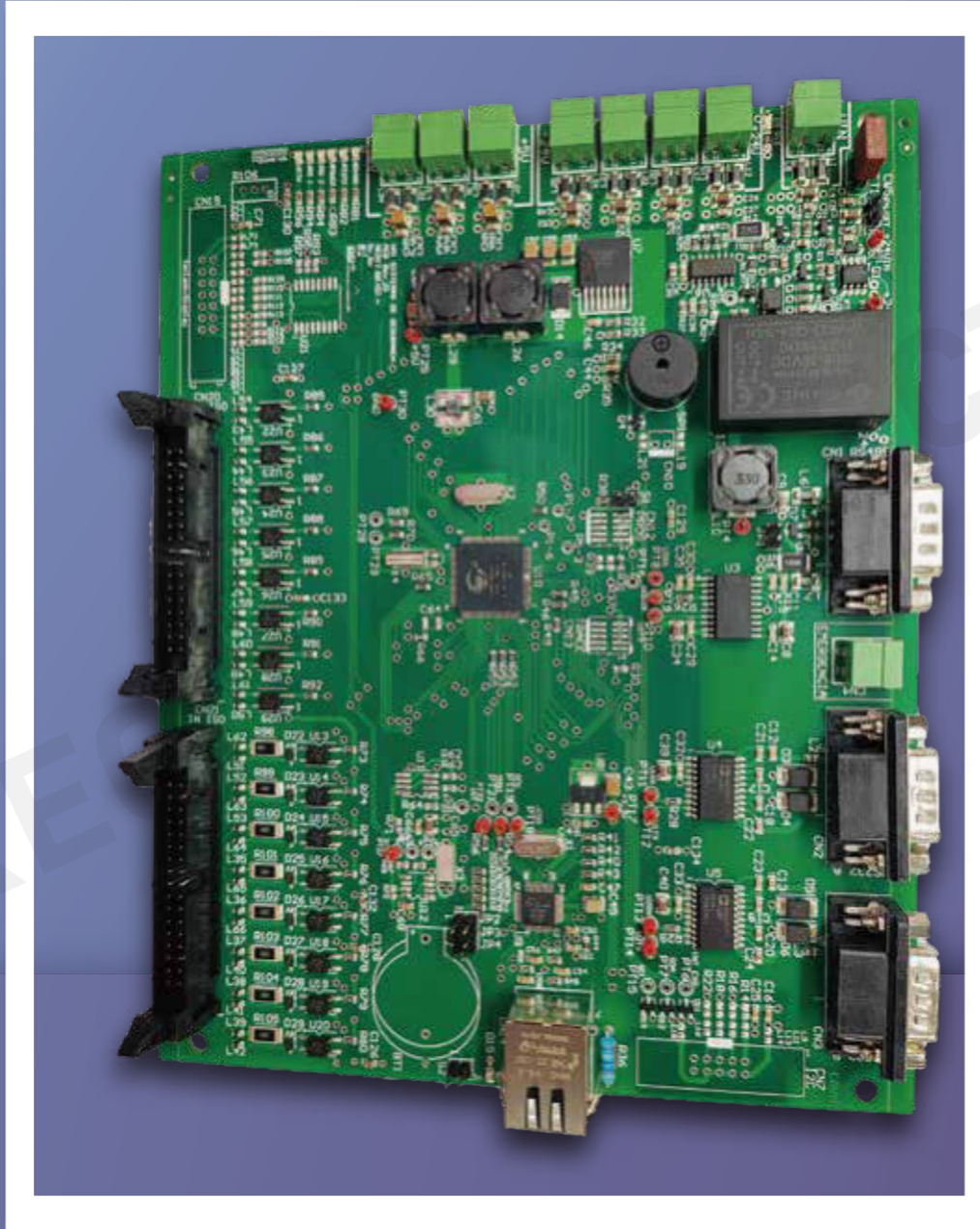
FR4,2Layers
1oz Copper Thickness
HASL Lead Free Surface Treatment
White Solder Mask

Lighting



Safety Industry

4Layers
FR4 TG170
20Z Copper Thickness
HASL Lead Free
Surface Treatment



Detector

2 Layers, 1.6MM
FR4, HASL Lead Free
1oz, Black Solder Mask
White Silkscreen



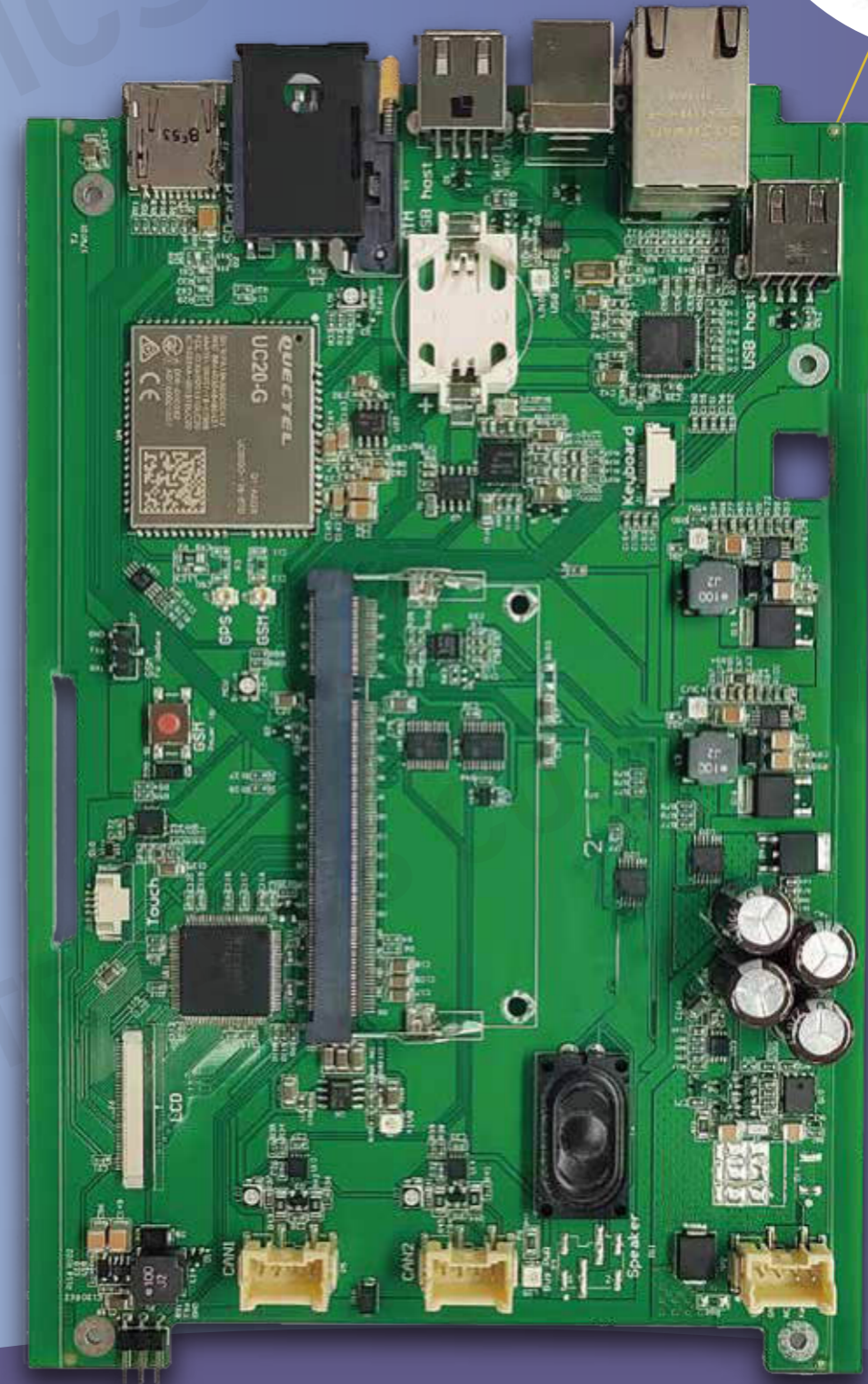
IOT

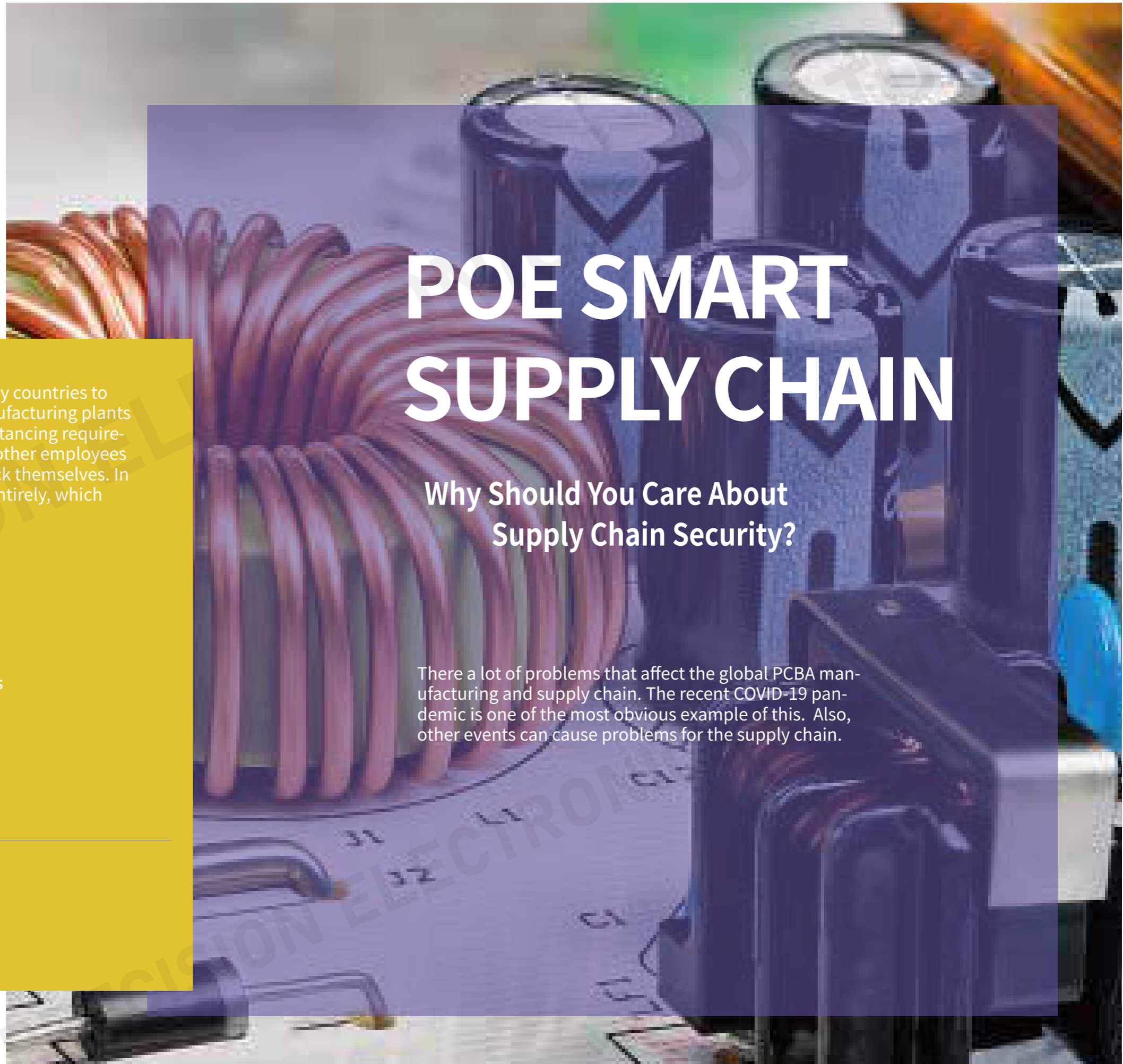
4Layers
1.6MM Board Thickness
1oz Copper Thickness
HASL-LF
Green Solder Mask
and Silkscreen White



Industrial Control

4Layers, FR4
10Z Copper Thickness
ENIG Surface Treatment





1

Materials shortages: Component manufacturers can't get enough raw materials to meet their production quotas.

2

Political disturbances: These problems can affect everything from manufacturing to shipping, and they will result in higher than expected prices or reduced production.

3

Coronavirus: With the restrictions imposed in many countries to combat the recent outbreak of the Coronavirus, manufacturing plants have seen their workforce diminished. New social distancing requirements require workers to be more spread out, while other employees are unable to work due to family conflicts or being sick themselves. In many cases, manufacturing plants were shut down entirely, which further damaged the supply chain.

Whatever the cause, fluctuations in your supply chain might impact your product delivery, including:

Component shortages for building circuit boards. Materials used in the manufacturing of circuit boards are not readily available.

Communication breakdowns between you and overseas manufacturers.

Labor shortages in the areas of the problems that affect your manufacturers.

Fluctuating prices that cause your board production to be over-budget.

Shipping problems that delay you from getting the product back into your factories.

POE SMART SUPPLY CHAIN

Why Should You Care About Supply Chain Security?

There a lot of problems that affect the global PCBA manufacturing and supply chain. The recent COVID-19 pandemic is one of the most obvious example of this. Also, other events can cause problems for the supply chain.

Here at POE, we are ready to help you with your PCB manufacturing. We are fully compliant with the government regulations regarding this crisis in order to ensure the safety of our customers and our staff. At the same time, we are still maintaining our manufacturing lines in order to be responsive to the essential business needs of our customers. We are committed to making sure that your critical needs will still be taken care of during the pandemic.

To provide you with the highest quality service, we have an extensive network of suppliers to make sure that we have the components and materials available that your projects need. Our production lines are also optimized for low-volume high-mix manufacturing. Not only does this serve the needs of our customers for their prototype and NPI projects, but we can quickly take on your projects to fill a need until your mass production facilities are ready to support you again.

We also still stand by our commitment to provide all of our customers with the best engineering and manufacturing support. While we currently need to limit direct with customers contact to comply with governmental regulations and enforce necessary social distancing measures, we are still heavily engaged with our clients.

HOW POE CAN HELP



Key Features of Effective Supply Chain Management



01

Transparency

The transparency in supply chain management means each link shares the information freely that is essential for managing costs and meeting expectations. It can build trust among supply chain partners, which can finally establish a strong and reliable relationship to support the operation of the whole supply chain.

02

Timely Communication

Good communication makes sure that each link in the supply chain can operate well. It can avoid many problems such as loss of goods and customer dissatisfaction, even if there are some changes or problems in the supply chain, companies can make quick responses.

03

Risk Management

During the operation of the supply chain, it is inevitable that unexpected situations or new problems may occur, so the ability to handle the emergencies is important. Effective supply chain management can prepare a formal contingency plan soon that can be implemented immediately and finally resolve the problem.

04

Analysis and Prediction

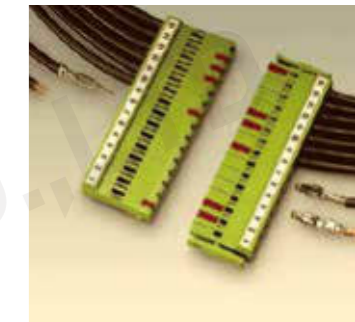
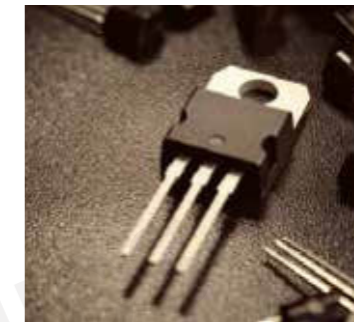
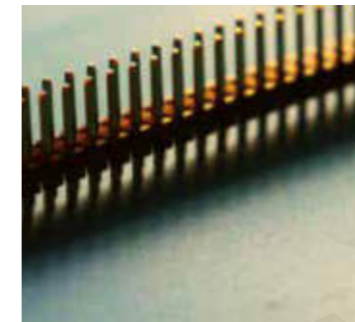
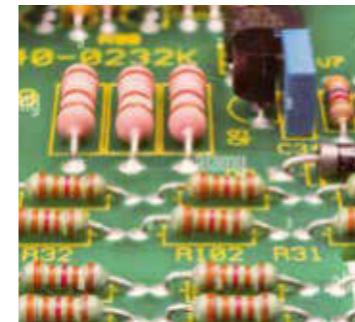
Effective supply chain management can analyze the current situation of enterprises including their strength and weakness, in addition, it can help to predict the customer needs so you can make plans for future production in advance, which is beneficial for the sustainable development of enterprises.

Our global manufacturing network gives us a deep understanding of the PCB market and its drivers, enabling us to deliver expert solutions at every point of the supply chain.

We share our knowledge and experience to benefit our customers, from quotation to order fulfilment.

Our team of experts are here to guide and advise you. With the continuous development of the POE PCB Assembly business, we have added component sourcing services, which can improve the efficiency of the PCB assembly production line and give you more time for project engineering and design. POE has established reliable business relationship with brand components distributors and suppliers.

Features of Our Supply Chain Service



1. We purchase parts from leading authorized distributors of electronic components. (Note: Without your approval, no substitutes will be used)
2. We purchase parts from the channels you recommend.
3. Complete set or consignment: You provide us with all the components.
4. Combination: You provide some components and we provide the rest.

The component procurement service has several options for you to choose flexibly:

OUR Advantages:

- Forecast every component to assure availability
- Analyze Bill of Materials (BOM) and production documentation to ensure component uniformity and data integrity
- Recommend alternative components to reduce cost while maintaining product quality
- Provide expertise and purchasing power through extensive global supplier relationships to reduce overall material cost
- Perform continuous supplier development and assessment to ensure supplier stability, delivery capabilities, and compliance
- Implement comprehensive documentation system to provide a range of traceability from simple to complex:

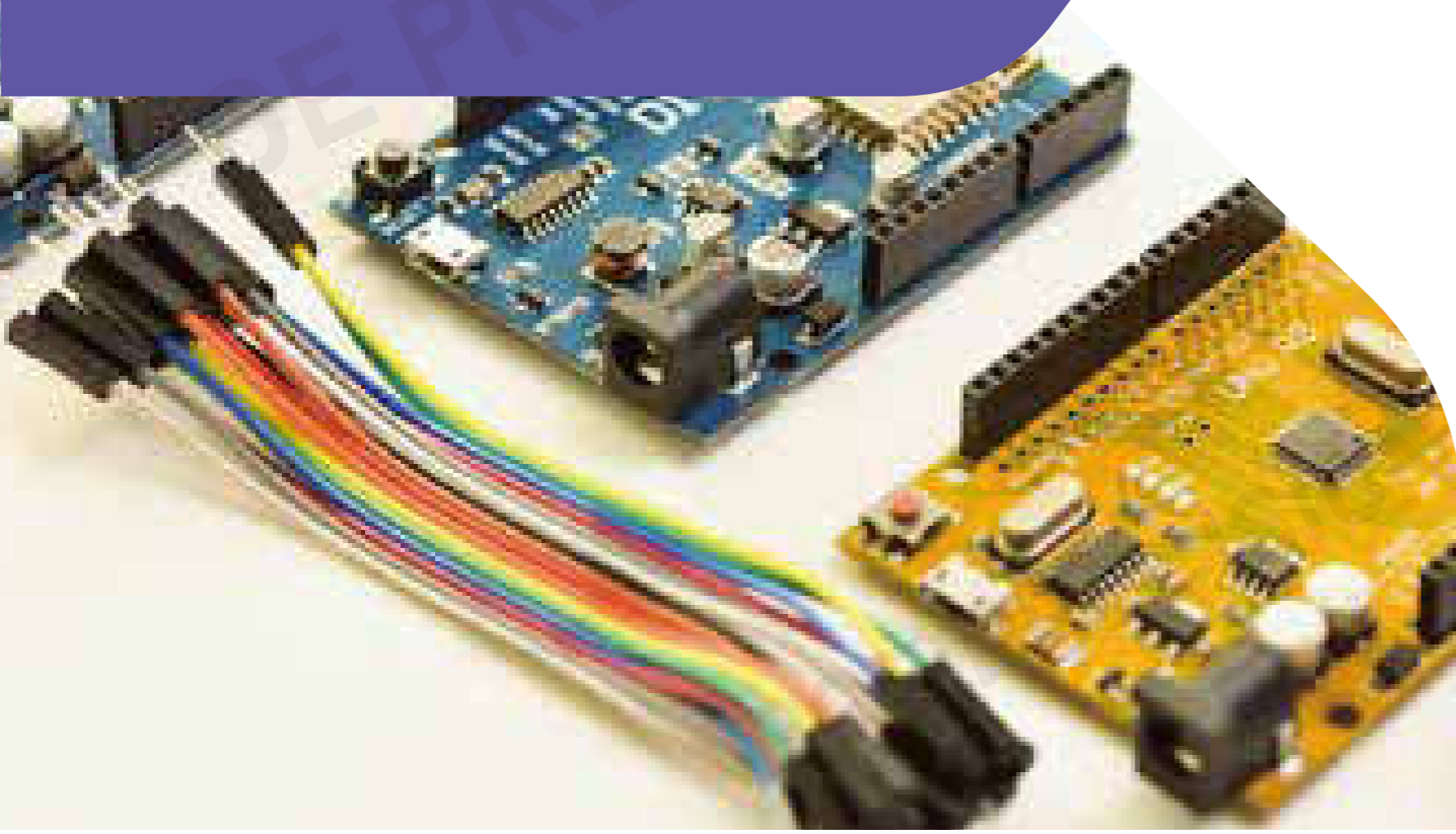
Batch / Serial Number

Brand

Country of origin

Every part by supplier

Lot Specific



5 STEPS OF SUPPLY CHAIN MANAGEMENT WORKS



Planning

Planning is the first stage, all resources should be planned ahead to meet customers' needs and achieve the expected performance which is beneficial for the sustainable development of enterprises.



Sourcing

Select good suppliers and manage their relationships. In this stage, it is also necessary to establish some procedures for regulate procurement, inventory management, and payment.



Manufacturing

Organize the required activities such as raw material acceptance, product manufacturing, quality inspection, shipping packaging, and delivery planning.



Delivery and Logistics

Coordinating customer orders, arranging deliveries, dispatching goods, issuing invoices to customers, and receiving payments.



Returning

Develop a network that supports taking back products including defective products and excess products. This stage also refers to inventory and transportation management.



Global sourcing

We take pride in our powerful intelligence collection for procurement activities at home and abroad, sophisticated ability to manage supplier information, and strong ability to balance procurement resources. Supported by our enterprise resource planning (ERP) system and our PLM platform, our capabilities ensure constant procurement in a systematic and efficient environment.

Complete procurement/qualification process

Supplier audits and risk analysis

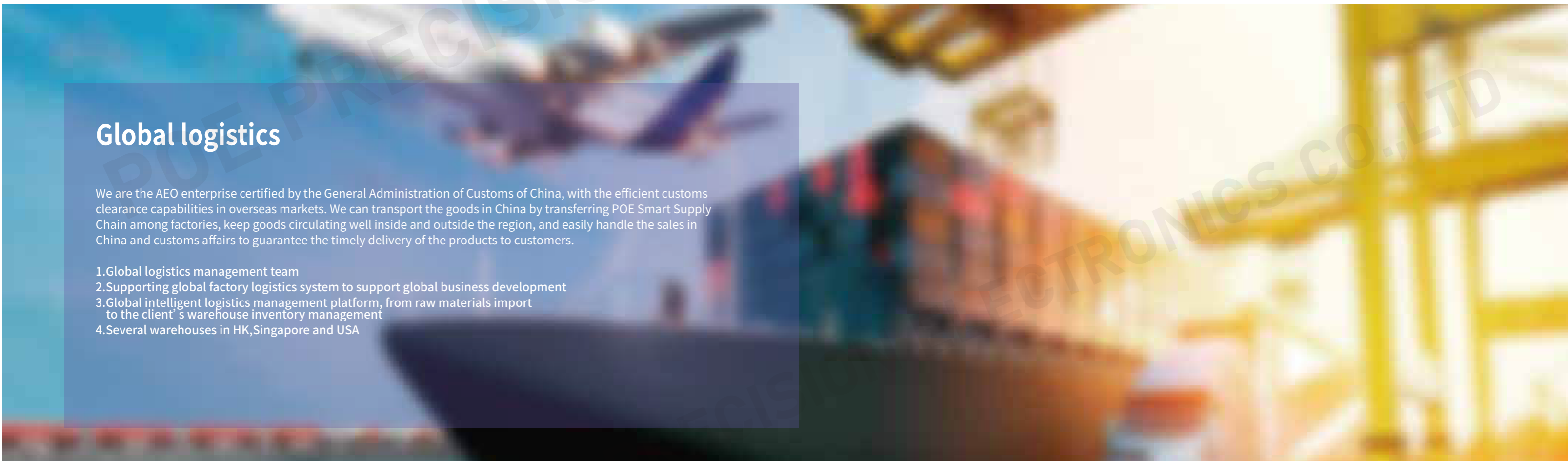
Structural parts, electronic materials, equipment and accessories procurement



Global logistics

We are the AEO enterprise certified by the General Administration of Customs of China, with the efficient customs clearance capabilities in overseas markets. We can transport the goods in China by transferring POE Smart Supply Chain among factories, keep goods circulating well inside and outside the region, and easily handle the sales in China and customs affairs to guarantee the timely delivery of the products to customers.

- 1.Global logistics management team
- 2.Supporting global factory logistics system to support global business development
- 3.Global intelligent logistics management platform, from raw materials import to the client's warehouse inventory management
- 4.Several warehouses in HK,Singapore and USA



POE Customized PCBA Manufacturing Service

- ISO9001:2015, ISO13485:2016, IPC-600 and IPC-610 commitment quality certifications.
- Accurate quote in less than 1 day.
- Performs entire turnkey process in as fast as 3 days.
- Emphasizes DFM to eliminate time-consuming back-and-forth design corrections.
- Sources components from the most reputable suppliers in the industry to reduce procurement time.
- Performs multiple automated inspections during assembly to ensure PCB quality for prototyping.
- Provides support throughout the PCB manufacturing process, beginning with design.
- Smooth transition from prototyping to production.

POE PCB Stencil Service

There are 4 points to be notified about POE stencil making:

01

Specifications

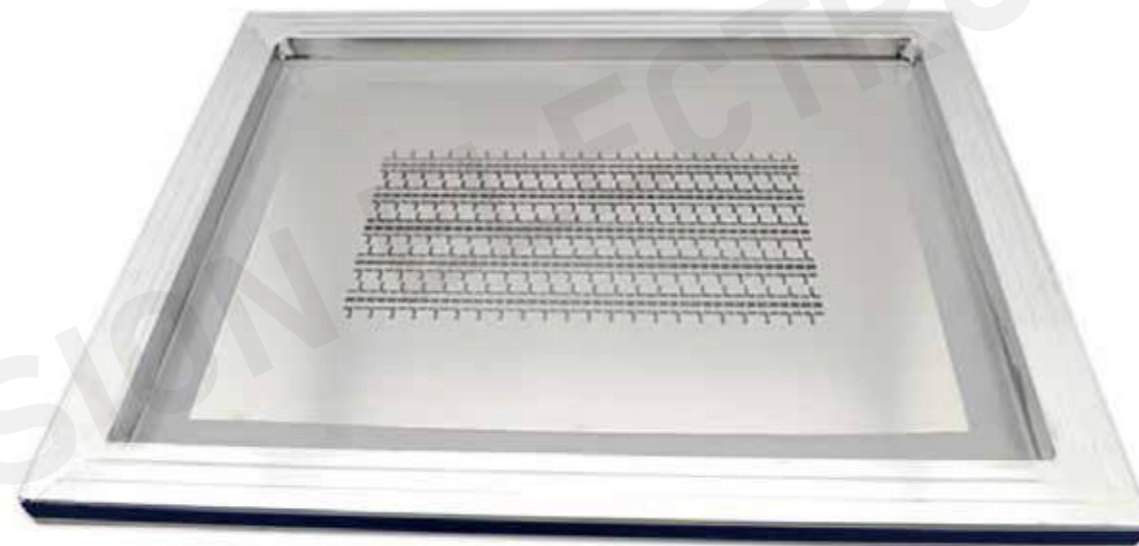
Commonly used size are 37*47cm, 42*52cm, 52*52cm, 55*65cm, and different specifications of SMT stencil can be customized according to customer requirements.

02

MARK point location

There are two kinds of marks on stencil for your SMT machine placement: Through hole MARK points and half-mark MARK points. Usually we use the technology of half mark.

Our current stencil is a laser stencil, using 304H-TA steel sheet with laser cutting, The stencil we use for SMT is a solder paste mesh, the 52*52cm size, half-marked, polished, laser-printed stencil model onto the steel sheet.



03

Polishing process

Grinding polishing, etched polishing, electrolytic polishing are the 3 main processes. Usually we use grinding polishing, etched polishing and electrolytic polishing need to be charged extra. For PCB boards with IC pin spacing equal to or less than 0.5MM or with BGA package, etching polishing process or electrolytic polishing is recommended.

04

Function of SMT stencil

Solder paste net and red glue nets recommended.

Aspects influence the quality of the stencil

1.Treatment Technology

etching polishing process or electrolytic polishing is much more flat .

2. Material

Including frame, wire mesh, steel sheet, adhesive and so on. The screen frame must be able to withstand a certain program of relay and have a good level; the wire mesh is best to use polyester mesh, which can keep the tension stable for a long time; the best steel sheet is No. 304, and the matt one is better than the mirror one.

3. Pads Opening on PCB design file

4.The way to use it

5.Cleanness

6.Storage



TECHNICAL DATA SHEET

QUALITEK →

DELTA → 691A -HS Solder Paste

brief introduction

691A-HS is a highly active rosin type tin paste suitable for the radiator. Shows superior wettability, suitable for welding high copper oxide surfaces. Less residue after reflow, and the residue color is transparent.

apply

mesh / tin powder size

200 + 325 Items: 4,575 microns
3,25 + 500 Items: 2,545 microns
400 + 635 Items: 2,038 microns

Injector allocation

| Needle specifications | Needle inner diameter | | Applicable powder type |
|-----------------------|-----------------------|--------|------------------------|
| | inch | micron | |
| 18 | 0.033 | 838 | -200+325 |
| 20 | 0.023 | 584 | -325+500 |
| 21 | 0.020 | 508 | -325+500 |
| 22 | 0.016 | 406 | -325+500 |
| 23 | 0.013 | 330 | -325+500 |
| 25 | 0.010 | 254 | -400+635 |
| 27 | 0.008 | 203 | -500 |

alloy

| Alloy type | melting point, °C |
|-------------------|-------------------|
| Sn 42/Bi 58 | 138 |
| Sn 63/Pb 37 | 183 |
| Sn 96.5/Ag3.5 | 221 |
| Sn 96.5/Ag3/Cu0.5 | 217 - 221 |

tenor

Typical: 85% -90%

Return curve

The return curve depends on the melting point of the solder and the heat resistance of the element. 691A-HS can be used in a variety of reflow equipment (such as infrared, vapor phase, hot air convection, laser fixed-point heating, etc.). The ideal heating speed is 2.5-3.0°C / s ec (the heating limit is 4.0°C / sec).

Physical and chemical properties

Color and appearance: Metal gloss
 Tin head test: bronze mirror
 Welder residue after reflow: passe
 Halogenin content: s through
 dynamic viscosity: <60%
 Malcom (Tester)¹: <0.20%
 Brookfield (Tester)²

adhesive force³

Paste time: 120 - 180 kcps 300 - 600 kcps

Transportation and storage

Recommended storage temperature: 100gF @ 24 hours

storage life

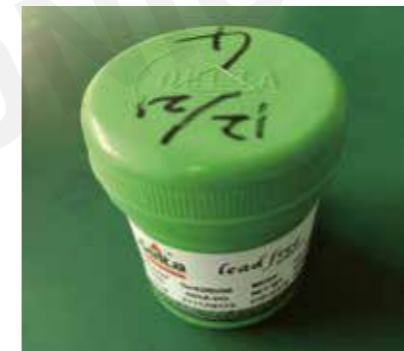
Did not open the pot: 2 - 10°C

- 1. Malcom PCU-203-Series, 10 RPM, 25°C
 - 2. Brookfield RVTD, TF spindle, 5 RPM, 25°C
 - 3. Press, JIS Method
- Six months from the production date

DELTA is a registered trademark of QUALITEK

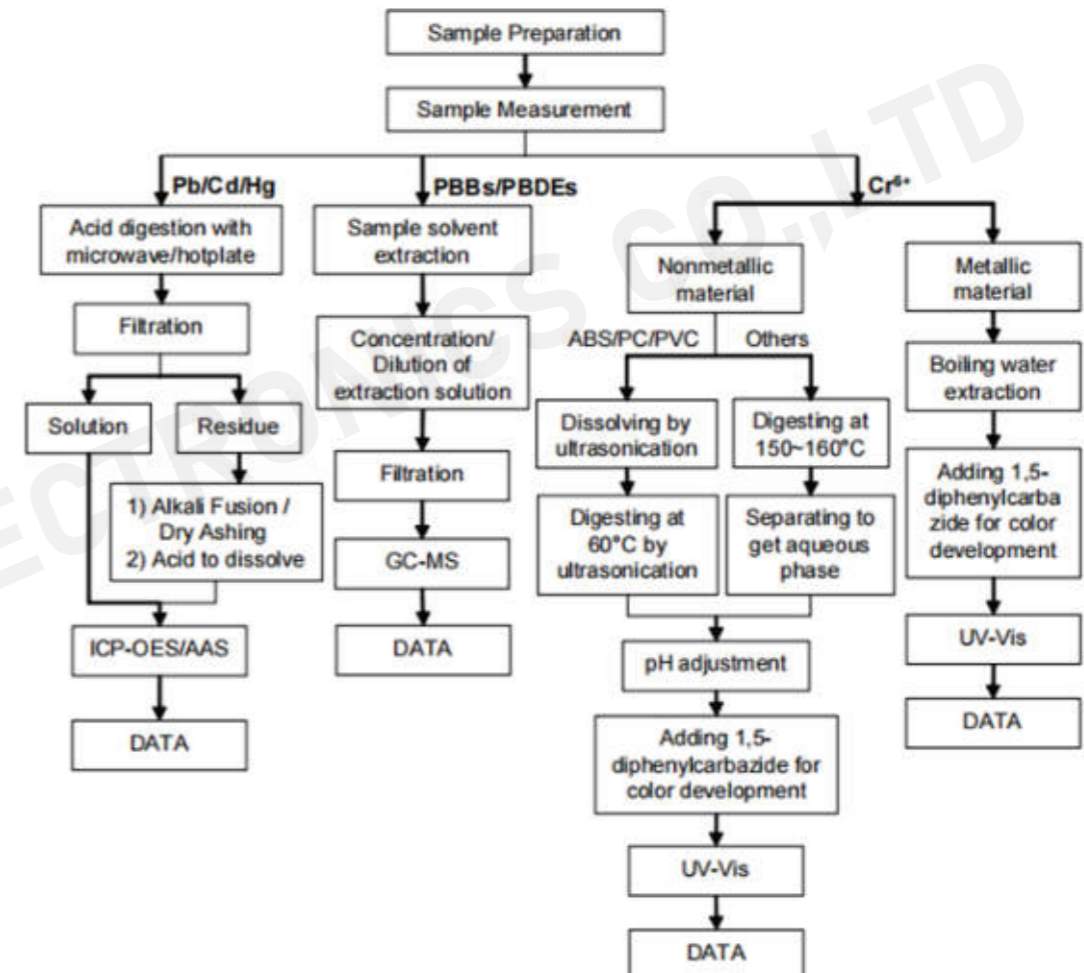
Solder Wire and Paste Materials

POE use DELTA 691A-HS Solder Paste for SMT and DIP production which is a world famous brand. Different quality of solder paste result in different assembly quality: 691A-HS is a high active rosin type solder paste for heat sinks. Demonstrates superior wet ability and is suitable for soldering high oxide copper surfaces. After reflow, there is little residue and the residue color is transparent. This is also ROHS and ISO9001: 2015 certified. Here on the left is the datasheet:



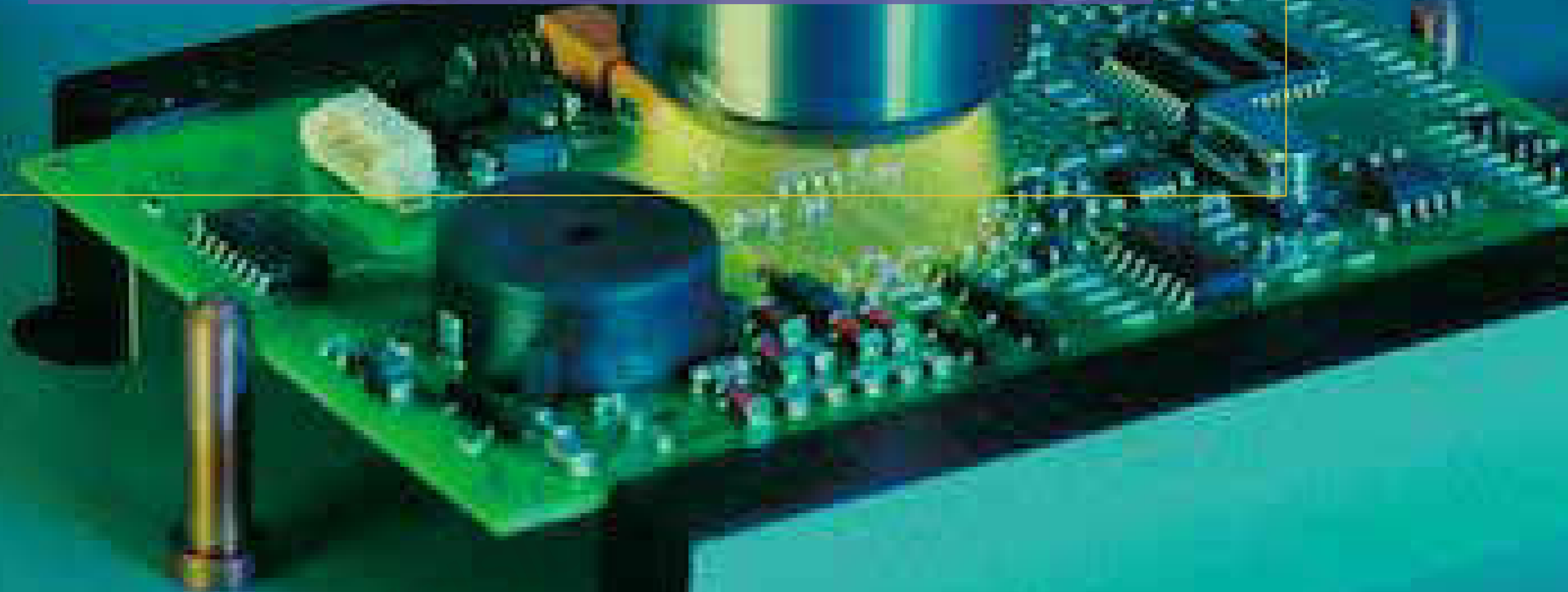
Pb/Cd/Hg/Cr⁶⁺/PBBs/PBDEs Testing Flow Chart

1) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr⁶⁺ and PBBs/PBDEs test method excluded).



CONFORMAL

COATING

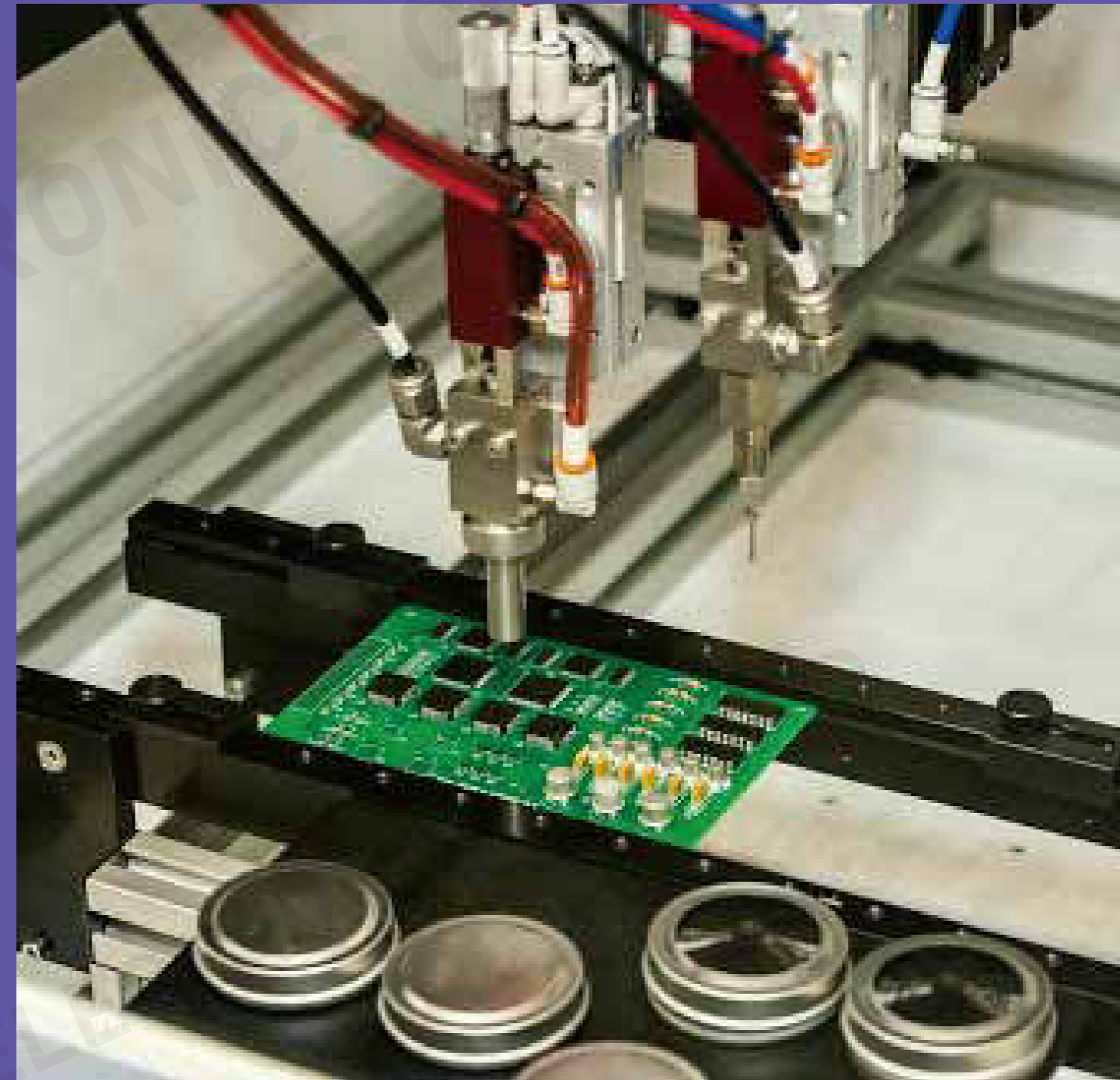


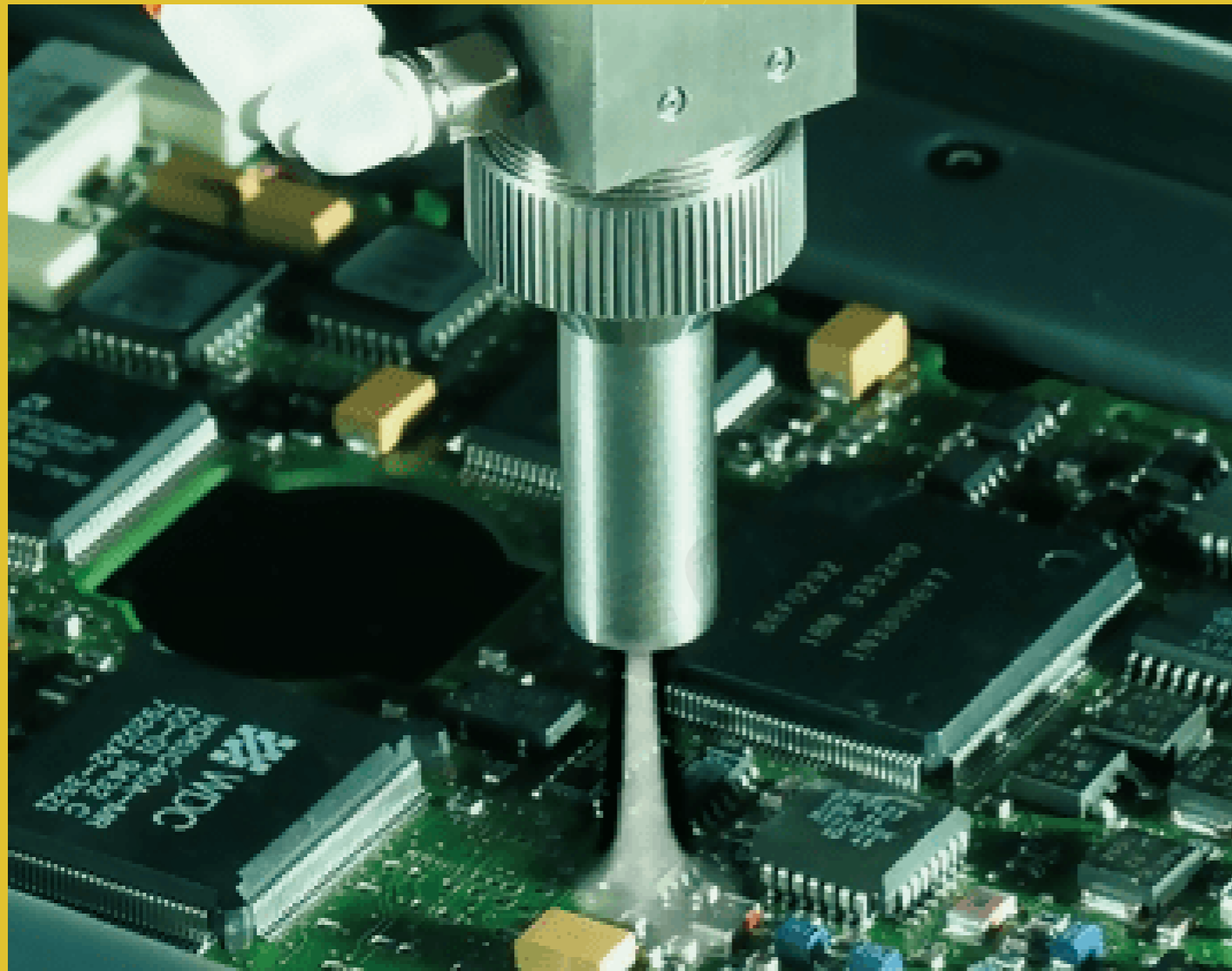
Conformal Coating

With the increased popularity of miniaturized electronics and circuitry, conformal coating use has skyrocketed to solidify its relevance in a wealth of modern PCB related applications. It is crucial to choose the ideal type of coating and application methods for your electronics.

Conformal coating is a specialty polymeric film forming product that protects circuit boards, components, and other electronic devices from adverse environmental conditions. These coatings conform to the irregular landscape of the PCB providing increased dielectric resistance, operational integrity and protection from corrosive atmospheres, humidity, heat, fungus, and airborne contamination such as dirt and dust.

Conformal coating is used to protect electronic circuit and its components from the environment and corrosion. Coatings can be applied in a number of ways, including brushing, spraying, dispensing and dip coating. POE is able to make conformal coating according to customers' requirement including thickness, area, material and so on.





Why Conformal Coating on PCBs?

Achieving maximum benefits from coatings requires coordination of the PCB design, coating selection, and application with the proper cleaning protocol. If there is ever a reason to decide to coat or not to coat...

Here are the top 13 reasons to coat:

1. Reliability is critical for electronic devices
2. Inhibit corrosion and protect the assembly against chemical and corrosive attack
3. Provide resistance to fluids and humidity
4. Temperature resistance protect circuit boards from adverse environmental conditions
5. High abrasion and chemical resistance depending on its chemistry
6. Prevent arcing
7. Provide coverage of sharp edges (components)
8. Simple application in most cases
9. Specialized formulas to provide uniform, thin films (flexibility)
10. Prolong the life span of the product
11. Breathable protective layer
12. Insulating properties allow a reduction in PCB conductor spacing of over 80%
13. Minimal effect on component weight (lightweight)

Different types of conformal coating materials or chemistries are used depending on the specific needs of your PCB are. Frequently used as below:

Acrylic Resin (AR): It is the most commonly used because it is economic and protects a broad range of contamination. It is not the highest level of protection, and do not protect against solvents or solvent vapors. It has a very high level of dielectric strength and can be easily removed, making PCB rework very practical.

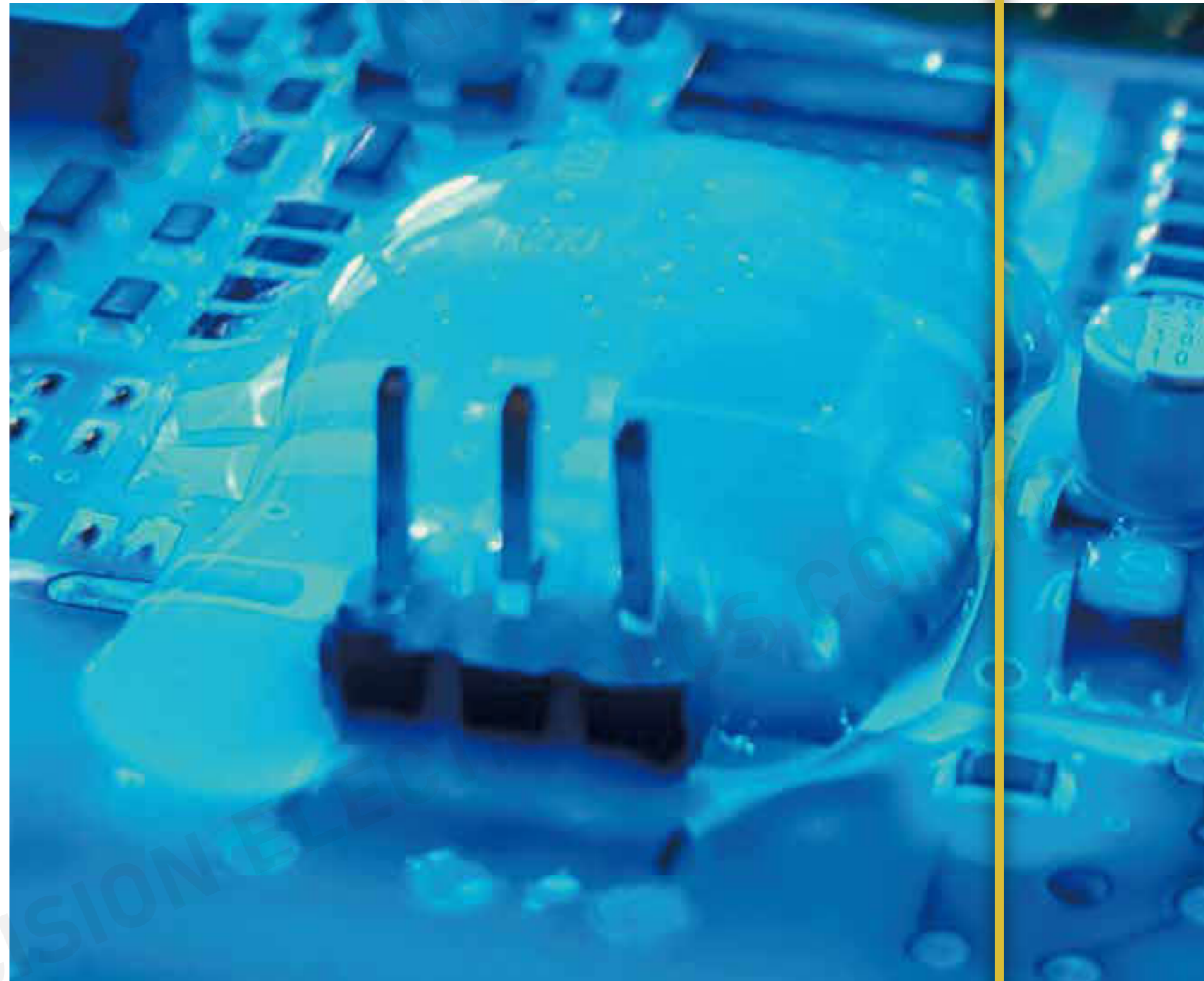
Silicone Resin (SR): Silicon coatings have a wide temperature range of protection and are chemical, moisture, and salt spray resistant. Due to its rubbery nature, it isn't abrasion-resistant, but it does hold up very well against vibration stresses. These coatings are often used for environments with high humidity but are difficult to remove and require specialized solvents for PCB rework.

Urethane Resin (UR): These coatings are excellent at resisting abrasion as well as being moisture and chemical resistant. Because of these qualities, urethane coatings are often used in aerospace applications due to their ability to resist fuel vapors. On the other hand, like silicone, this coating is very difficult to remove and requires specialized solvents for PCB rework.

Epoxy Resin (ER): Epoxy is somewhat different from the other conformal coatings in that it used to completely encapsulate the electronics in a solid layer of material. This provides excellent protection against humidity, abrasion, and chemical contamination. However, the hard coating is almost impossible to remove once they have cured.

These conformal coating products are qualified by different industry standards including IPC-CC-830B and IPC-A-610.

The Different Types of PCB Conformal Coatings



The use of conformal coatings is particularly important in automotive, military, aerospace, marine, lighting, industrial and green energy applications. However due to the rapid expansion of the electronics industry, conformal coatings are also finding their way into the domestic and mobile electronics industries, providing the necessary combination of high performance and reliability within a vast array of electronic devices.

Which industry requires Conformal Coating?

Conformal Coating FAQs Please feel free to contact POE Sales Engineering Team

- A: How do I apply a conformal coating?
- A: How do I cure a conformal coating?
- A: What are the electrical requirements?
- A: What will the pcb board layout be?
- A: Will it require rework and repair?
- A: What will the volume of production be?
- A: What will the final enclosure be like?
- A: How thick should I apply conformal coating?



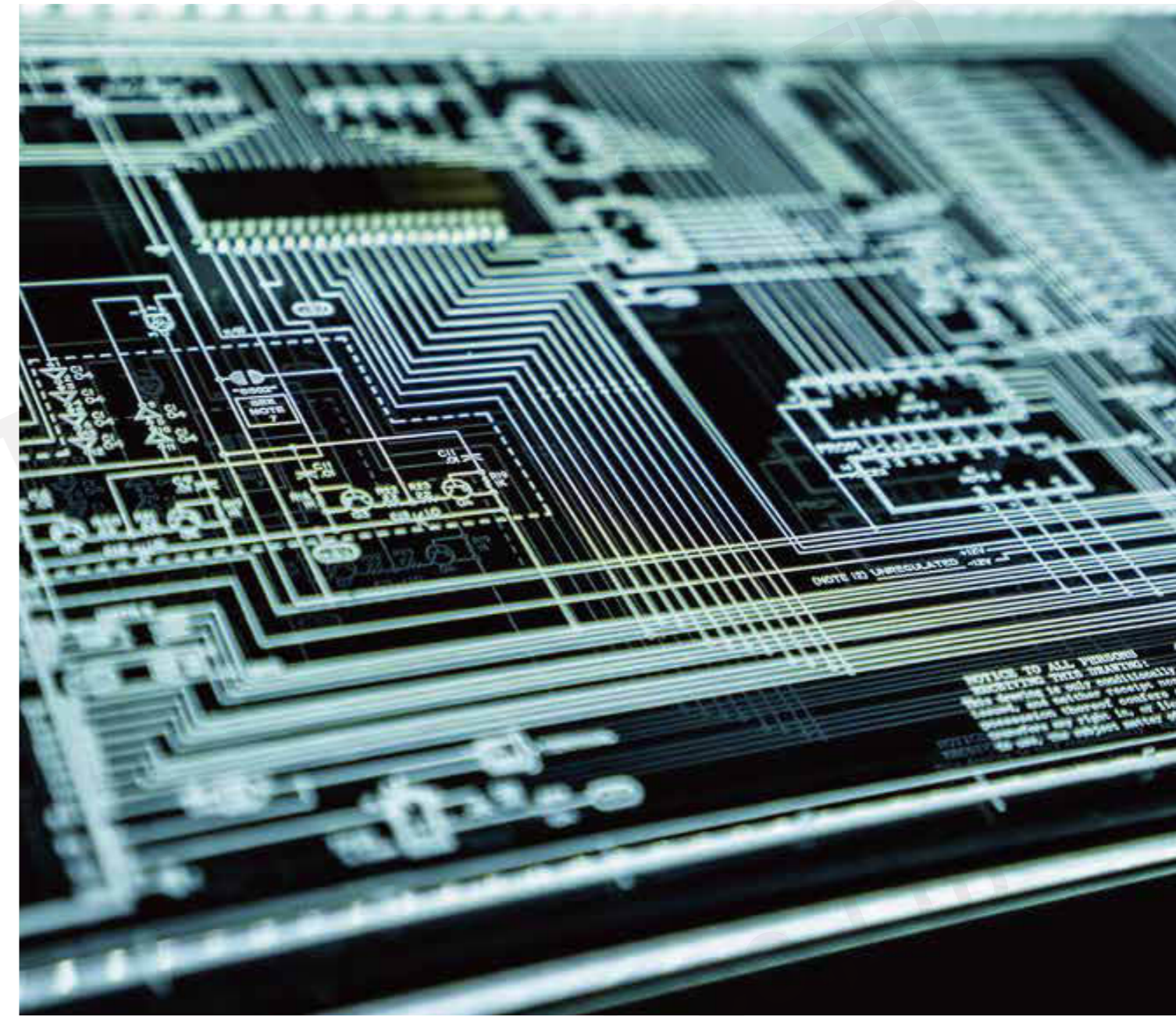
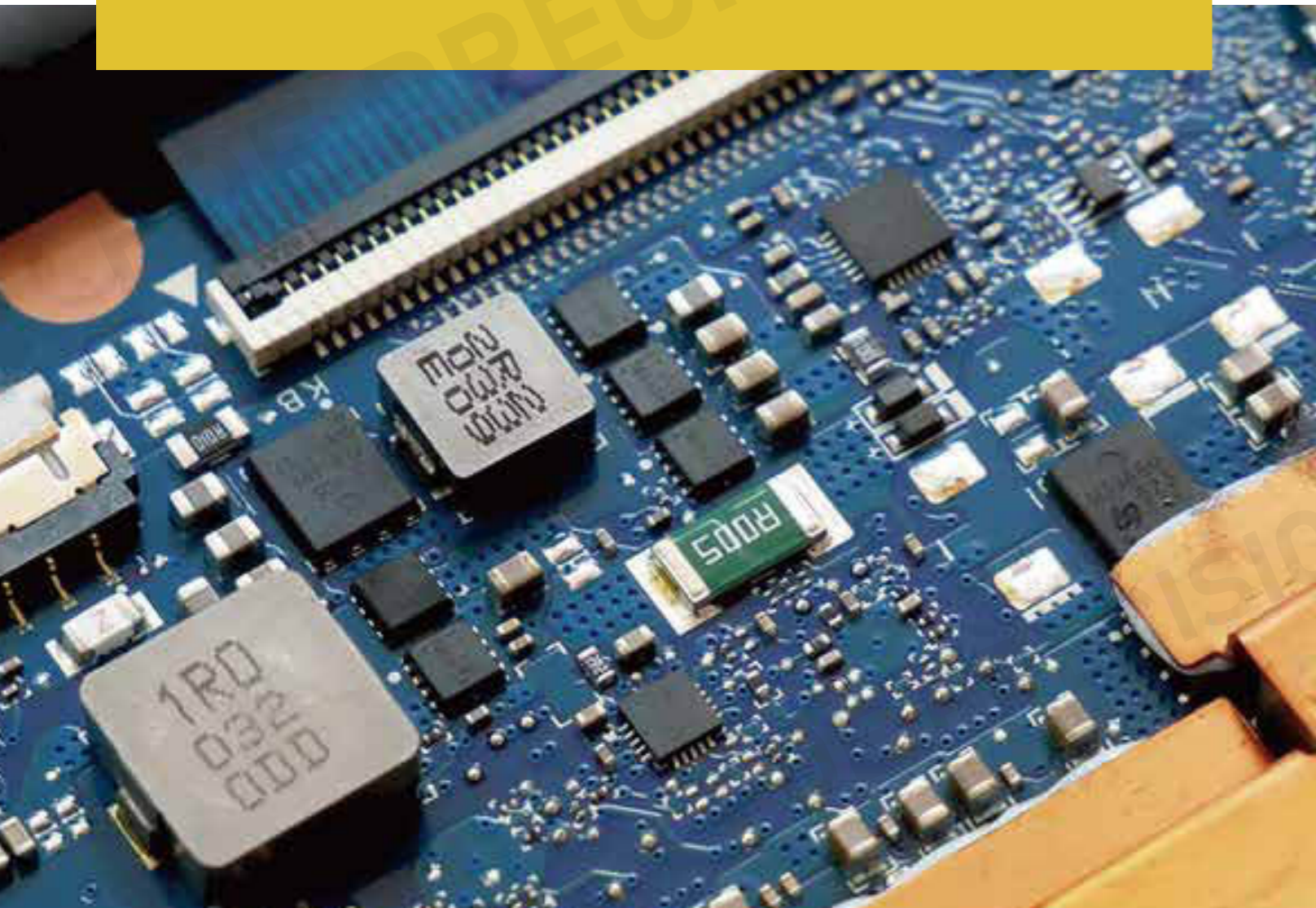
Q A

INDUSTRY

NEWS

1. The electronics industry is facing a significant semiconductor crisis due to extremely reduced stock, long lead time, and surging demand. The current shortage is arguably the worst in history, and a full recovery expected to take years.

Current crisis has its roots in the COVID-19 pandemic of 2020, but not in the way one would expect. Global lockdowns of non-essential services and industries saw many confined to their homes, but those involved with essential services such as food and semiconductor production continued to operate. The demand for semiconductors in computing saw a sharp rise due to the many millions working from home who need new computers, laptops, tablets and office equipment.



2. The problem of chip shortage was reported at the beginning of 2021, with an estimated 6 months to see new parts leaving foundries. However, it is March 2022, still no sign of the chip crisis is getting better.

Recently, German IC producer Infineon said that chip shortages in crucial areas could persist right up to 2023. Infineon further mentioned that current production rates are around 20% short for the cellular industry and 10% for other sectors. While this may not seem like much, it must be considered that large businesses will often buy up entire supplies leaving none for others (just like how toilet paper randomly became a rare commodity at the beginning of the pandemic).

3. The global chip shortage causes semiconductor companies to rush to increase production capacity, and they started by rolling out more advanced nodes and building new semiconductor foundries. The desire to build new foundries has also been fuelled by the need to gain semiconductor independence and to cope with increasingly stringent international trade restrictions in China.

4. Chip shortages are expected to wipe out \$210 billion of sales for carmakers this 2021, with production of 7.7 million vehicles lost. “Never seen anything like it,” Elon Musk, Tesla Inc.’s chief executive officer, tweeted. Samsung warned that it saw a “serious imbalance” in supply and demand globally. TSMC forecast the shortages could extend into 2022. Some broadband providers were facing delays of more than a year when ordering internet routers. Apple said in April that supply constraints were crimping sales of iPads and Macs, which it said would knock \$3 billion to \$4 billion off its third-quarter revenue. In July it added iPhones to the list. Nintendo Co. said that shortages were slowing production of its Switch gaming device. Toyota Motor Corp. suspended output at 14 plants in September.

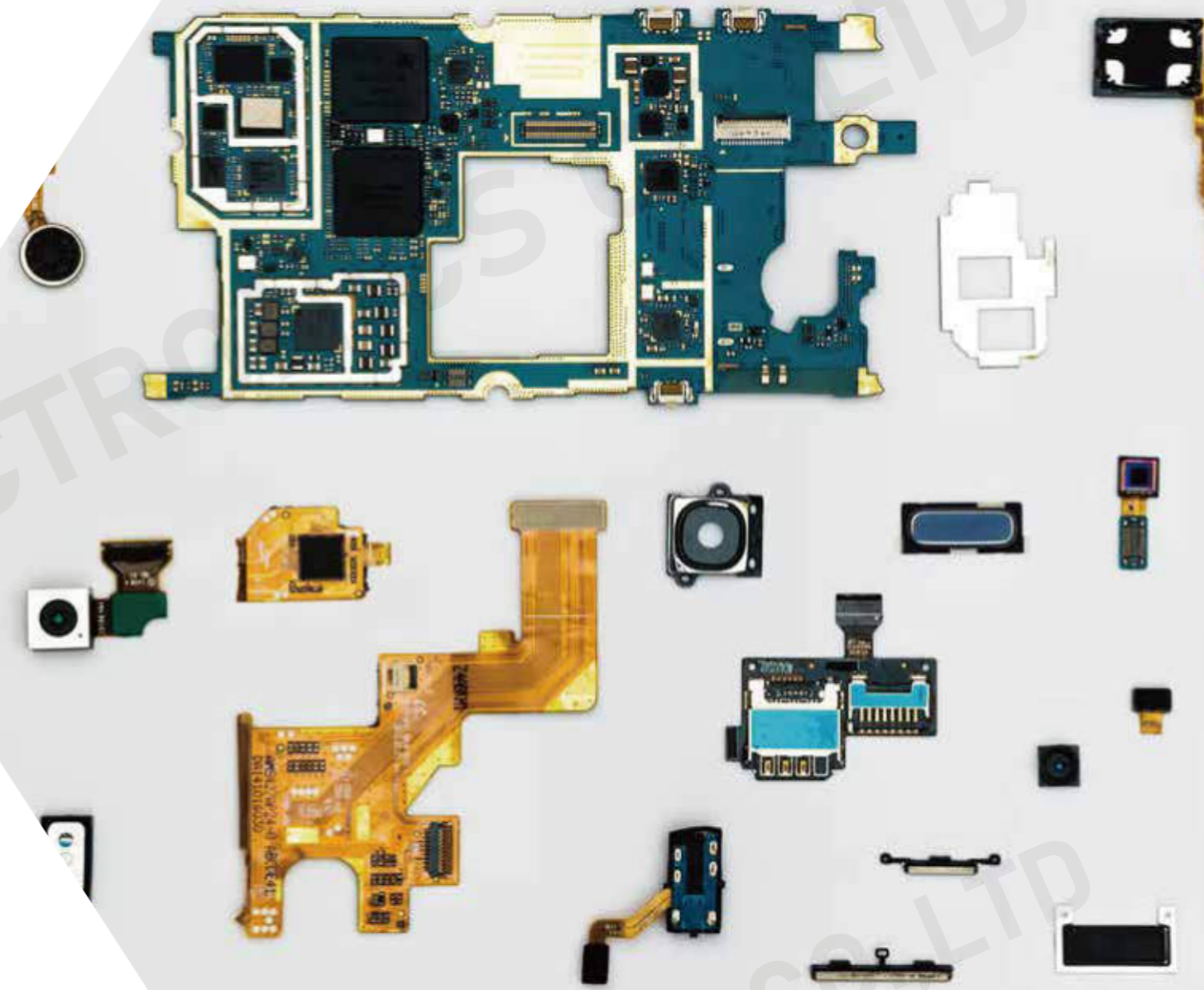
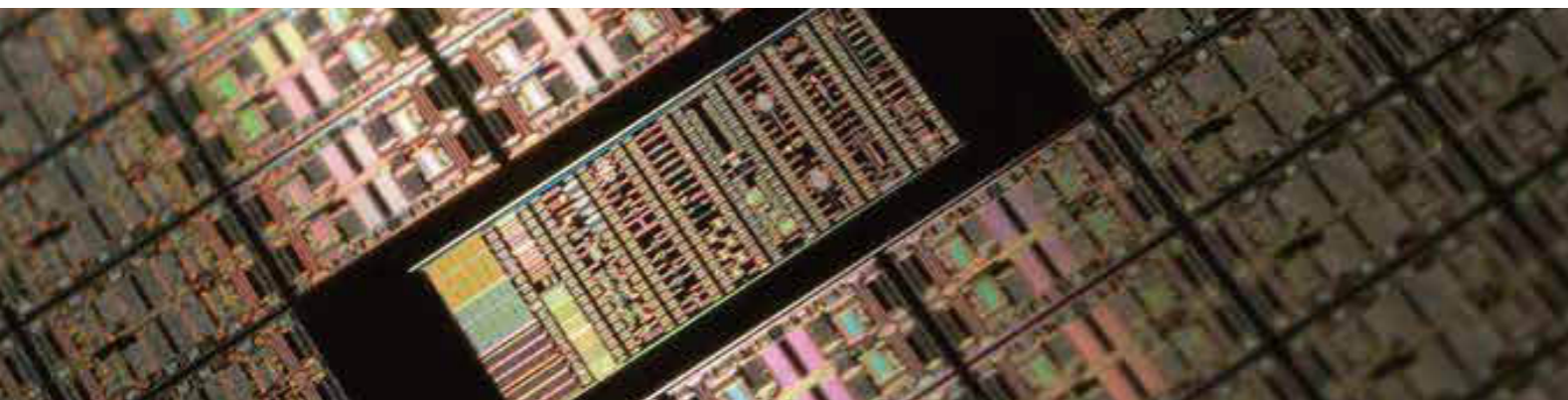
5. What is a chip?

The chip is made of a conductive material, such as silicon. It performs a variety of functions, and could make electronics smart. Chips are divided into memory chips and logic chips. Memory chips that store data are relatively simple and have become cheap commodities, while logic chips that run programs and act as the brains of devices are more complex and expensive.

6. Why chip makers are hard to replace?

Manufacturing advanced logic chips requires extraordinary precision, along with huge long-term bets in a field subject to rapid change. Plants cost billions of dollars to build and equip, and they have to run flat-out 24/7 to recoup the investment. But it’s not just that. A factory also gobbles up enormous amounts of water and electricity and is vulnerable to even the tiniest disruptions, whether from dust particles or distant earthquakes.

7. The COVID-19 pandemic caused disruptions in supply chains and logistics, coupled with a 13% increase in global demand for PCs owing to some countries’ shift to a stay-at-home economy, impacted the availability of key chips necessary for the manufacturing of a broad swathe of electronics. The pandemic’s impact on the manufacture of semiconductors in South Korea and Taiwan was cited as a cause for the shortage, with constrained supply impacting industries as broad as console gaming and the automotive industry.



8. Chip shortage has squeezed global automakers since late last year, which is a snapshot of how the COVID-19 pandemic and geopolitical uncertainties have distorted supply chains in the highly globalized semiconductor industry.

9. Simple components—power-control integrated circuits, microcontrollers, and sensors—have become a key pinch point. These devices are far simpler than the CPUs and GPUs used in smartphones and game machines and are made using older manufacturing methods that require less complexity. But they’re in just about every electronic product, from microwave ovens to medical devices and toys.

CUSTOMER REVIEWS



DT Dariya, 15:05
Hello Vicky, how are you?
are you here>
i have some news for you. Your samples of PCB were best from all samples we have got from chinese manufacturers

Andries, 22:45
Thanks we received the boards. the quality looks good.
Hi Andries, great glad to know that
Andries, 1:14
Board is working

For Christmas?
We are working every day)))
Board is work)))
Thanks
Great

but as i am already satisfied with your quality, i dont want to go other places
i want POE to process my order
i will be Happy

This weekend we have taught several blind people and they are delighted
And you are also part of all this
Does it work well?
My pleasure
Yes, it works perfect!!!!

GB Geno, 8:21
Hey Vicki, we received the first package and everything looks great! We are supposed to receive the 2nd set of boards on thursday. Once we check them over and run some tests, we will be ordering 100-200 more.



Responsibility

product and service
to make customers
more competitiveness.



CSR Statement

POE is actively practicing social responsibility and exploring sustainable development roads with customers, employees, partners, the environment, and communities. In this process, POE will strive to continuously create economic value through sustainable development management, and work with various stakeholders to address the social and environmental challenges of global development through cooperation.

Being first exposed to the concept of sustainable development of the system in 2015, POE has continuously improved its social responsibility concepts and practices, and formed a social responsibility management model based on international standards such as ISO9001:2015, etc, one of the important long-term development strategies. In 2016, we improved on the previous social responsibility management model and established a CSR management committee to promote the company to better identify and respond to the opportunities and challenges encountered in the practice of social responsibility.

At this stage, POE will focus on providing a sustainable development connection foundation for the Internet of everything, and committ to making the connection more valuable, promoting green development and building a better world.

Fight the COVID-19

Facing the current global epidemic, we take measures:

Body temperature measurement: ask employees to measure their body temperature when they come to the workplace.

Barrier/barrier device: Screeners should wear masks and wash their hands with soap at least 20 seconds.

Personal protective equipment: equip employees with protective equipment such as gloves, masks, disinfectant, etc.

Social distance: reduce the gathering of people and control the distance.



Environmentally friendly

We implement green environmental protection measures. It pursues energy conservation, safety, and environmental protection in each and every link in our operations and pro-actively promotes the concept of manufacturing being dedicated to the balance between the needs of mankind and nature.

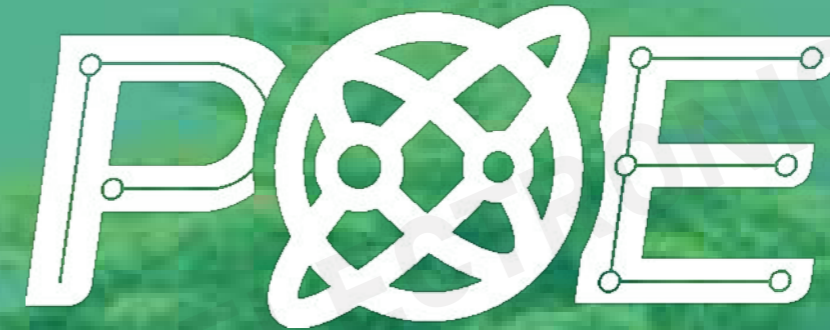
We follow relevant laws, regulations and other requirements.

Reducing material and energy consumption and reasonably disposing of waste to build on the foundation towards achieving clean production.

Ensuring a good production environment to guarantee production safety and employees' health.

Providing every employee with training that spreads our environmental direction to strengthen environmental awareness and fulfill environmental responsibilities.

Periodically reviewing our environmental management system in order to continue to improve it and prevent any negative impact on the environment.





Employee health and safety is the foundation of the corporate culture at POE. We promote the values of being people-oriented and safety first, and encourage employees to regard their own health and safety



The workshop is the core of the PCB factory and the "home" we rely on. Regular training of the workshop environment and personnel requirements are indispensable and important link.



POE adhere to clean production in accordance with the environmental management system and pay attention to environment and safety control of the production process and the labor protection of employees. We rigorously implement any relevant laws regulations including the "Safe Production Law," the "Fire Prevention Law of PRC", and the "Code of Occupational Disease Prevention", to establish safe production responsibilities at every level.

Lead Free

POE's RoHS Solution

In today's era, environmental responsibility is a key aspect of business innovation. POE provide products and solutions to help customers grow in their own industries. Our RoHS-compliant PCB boards do not contain lead, and we follow the worker's contact and recycling rules of the directive. Creating the future involves not only technological advancement, but also compliance with standards for a safe industry and the planet.

POE has been making lead-free boards since 2012. Our lead-free boards are made with laminate that have a higher Td to withstand the increased temperature and well times required during assembly. The surface finishes are also RoHS compatible.

Lead-Free PCB Assembly

Lead Free ROHS compliant PCB assembly services have been part of our capabilities for years. Our long history in electronics manufacturing provides our customers with exceptional quality and high yields using this new technology every day. Attention to detail along with unsurpassed customer service contributed to POE long term collaboration with customers.

In addition to Lead Free processing, POE also offer high quality SnPb solder solutions for productions without requirement of ROHS specification.

