

# **HYBRIONIC PTE LTD**

## ***Ownership***

It is a private incorporated company limited which are owned by Singaporean.

## ***History***

The company was first established in Singapore in early 1991. Its principal activities are design, manufacture and special packaging of thick film hybrid micro-circuits.

## ***Employees***

Total number of employees at Hybrionic is about 120, divided into the following disciplines: Manufacturing - 74 per cent, Engineering - 20 per cent and Administration - 6 per cent.

## ***Management and Approvals***

The management team at Hybrionic is: -

- Managing Director - Mr. H.S. Tan
- Operations Director - Mr. L.Y. Chong
- Engineering Manager - Mr. Franky Tang
- Admin./Materials Manager - Ms. Doris Yong
- Quality Assurance Manager - Mr. Henry Lim
- Finance Manager - Mr Eric Kuan
- Assistant Marketing Manager - Mr. Aldrin Tan

The company has individual approvals from companies such as Agilent, Delphi, Minicircuits, Motorola, Siemens Medical, Tektronix and etc.

## ***Overseas Trading***

Hybrionic is supplying high quality products to customers in the Far East and Asia-Pacific region, China, the Middle East, North America, South Africa and Europe.

## ***Customer Service***

Our company policy is to develop long term business partnerships by joint efforts with our customers to design and hybridise electronic circuits for production. With these objectives, we have made investments in design service support for our customers from initial concept to product development and manufacture.

### *Company Mission*

Our company direction is guided by our mission statement, which we are determined to achieve and maintain. It states that we want to be:

***A CUSTOMER ORIENTED COMPANY THAT DESIGNS,  
MANUFACTURES AND SUPPLIES QUALITY SPECIAL  
HYBRID MICRO-PACKAGES TO WORLDWIDE MARKETS***

### *Principal Activities*

At Hybrionic, we specialise in the design and hybridisation, manufacture of commercial grade thick film, chip and wire, and discrete hybrid microcircuits consisting of active, passive and combination circuitry. We have a high technology facility with the most advanced equipment available, clean rooms for thick film printing and wire bonding, as well as final assembly and packaging. Total factory area is 20,000-sq. ft. (1,860 sq. meters).

### *R&D Engineering*

Our highly qualified Design, Project, and Process Engineers have extensive experience in active, passive, digital and analogue thick film hybrid microcircuits. Using the most advanced hybrid design workstations, we design, thermal analyse, simulate the final hybrid design, and are able to quickly determine the best construction and packaging for a specific customer application.

Tests are made through CAD simulation analysis and breadboard examples to eliminate potential problems for each individual design proposed. This ensures that the hybrid design works first time, and the customer receives the most effective and reliable products.

We work closely with our customers on test specifications and manufacturing processes to build specific test procedures for functional and in-circuit testing.

### *Manufacturing*

Hybrionic's manufacturing facility is in specialised controlled environment for high quality custom designed hybrid micro-electronic circuit packages.

Our highly trained operators use the most advanced manufacturing and test equipment to produce a wide variety of complex hybrid microcircuits of consistent quality and reliability.

Specialised equipment includes high speed, high volume active laser trimming facilities to accurately adjust resistance, capacitance, frequency and voltage.

All manufacturing processes are monitored by Statistical Process Control to ensure consistent high quality.

Process flexibility includes through-hole and fill-hole screenings for SIP and DIP packages, and discrete hybrid microcircuits are assembled by automatic pick-and-place, and lead attachment equipment.

High-speed in-process computer testing equipment is used to ensure that every product meets our customers' specifications.

### *Material Control*

Production schedules and issuing of materials are controlled by MRP system. This is used from the first stage of production to ensure close material control, production control, and traceability of each component. It has the effect of enhancing the standard of quality and reliability of each manufactured component from incoming to outgoing QA inspection.

Batch or lot control is maintained throughout the manufacturing process. Our aim is to achieve JIT in all manufacturing operations.

### *Quality Assurance*

Quality is practised in all aspects of our operations at Hybrionic, not just in manufacturing.

Quality systems in Hybrionic are certified with ISO 9001, TS 16949, Ozone Depleting Substance Free Process.

We work closely with our customers to establish and maintain test procedures that will ensure the highest standards of quality and reliability. Our QA Engineers review and finalise with our customers on all specifications.

All incoming materials are quarantined for QA testing and only released for production after approval.

Statistical Process Control is implemented throughout all production processes, and finished products are thoroughly inspected and tested by QA staff before release for shipment.

Test facilities include vibration, shock, centrifuge, thermal shock, temperature cycling, moisture resistance, high temperature pressure cooking, burn-in and life testing. The test procedures are to ensure consistent quality and reliability in manufacture. Each stage of design, manufacturing and QA tests are recorded to assure complete traceability of batches or lots.

### *Fine Line Photo-imaging Screening Process*

To meet today's high speed and high frequency modulations; the new process will enable us to reduce the line width and spacing to **0.025 to 0.050mm (0.001" to 0.002")**. This process will be cost effective, as it requires fewer steps than MCM-D. This will extend the density capability of the thick film process to allow densities typically achievable using more mostly thin film processes.

### *Other Base Materials*

We have developed in-house capabilities in producing modules with many base materials other than ceramic substrates. They are: **Polymer, Stainless Steel and Aluminium**. We are continuously developing new capabilities in enhancing capabilities to meet customer needs. We welcome customer enquiries in meeting their special requirements.

*Special Packages*

We have high volume production in the following packages:

CSP – Chip-Scale-Packaging of ICs  
Vacuum Sealed in PGA & Metal Cans  
Thick Film Heater Plates – for special heating requirements

*Company Address: -*

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