



# Semiconductor Backend Tools Catalog



**2022**



# AT A GLANCE



Oricus Semicon Solutions is an innovative Semiconductor Tools manufacturing company who, with almost 100 years of collective expertise, craft high tech bespoke tooling solutions for the global Semiconductor Assembly and Test industry.

From one-off customised products to large scale production, our R&D strength, precision manufacturing experience and problem-solving capabilities are impeccable. With a passion for engineering and customer oriented service, we deliver price competitive precision Semiconductor Tooling solutions to a global market with a local presence.

Oricus is made up of a global network of professionals with strong commitment and passion for our work. The company is managed and operated with a spirit of professionalism based on the foundation of integrity, equality and respect. We are determined, objective with a sense of ownership to deliver on our goals. We value our values, professionalism, passion, perseverance and our relentless pursuit to deliver value for our customers.



**Authenticity**



**Expertise**



**Professionalism**



**Perseverance**



**Passion**



**Community**

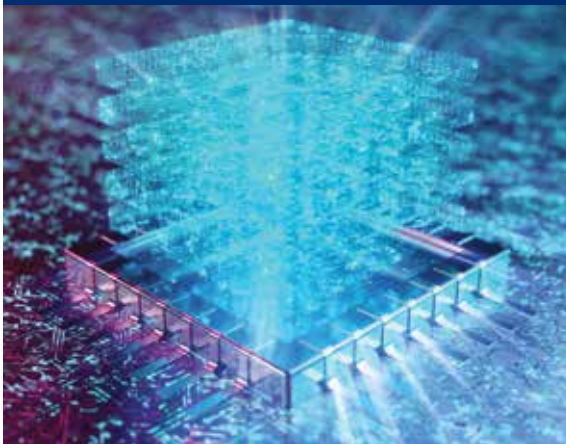


## Oriented to Customer's needs



We excel at creating specials – one of a kind pieces, with one of a kind craftsmanship combining with the latest in manufacturing technology to produce micro precision tooling. Oricus can Design and Manufacture either one-offs or high volume orders to your unique specifications, from High Temperature resistant tools for Power Devices to tools with complex geometries for 3D Advanced Packaging.

## Industry Leading Solutions



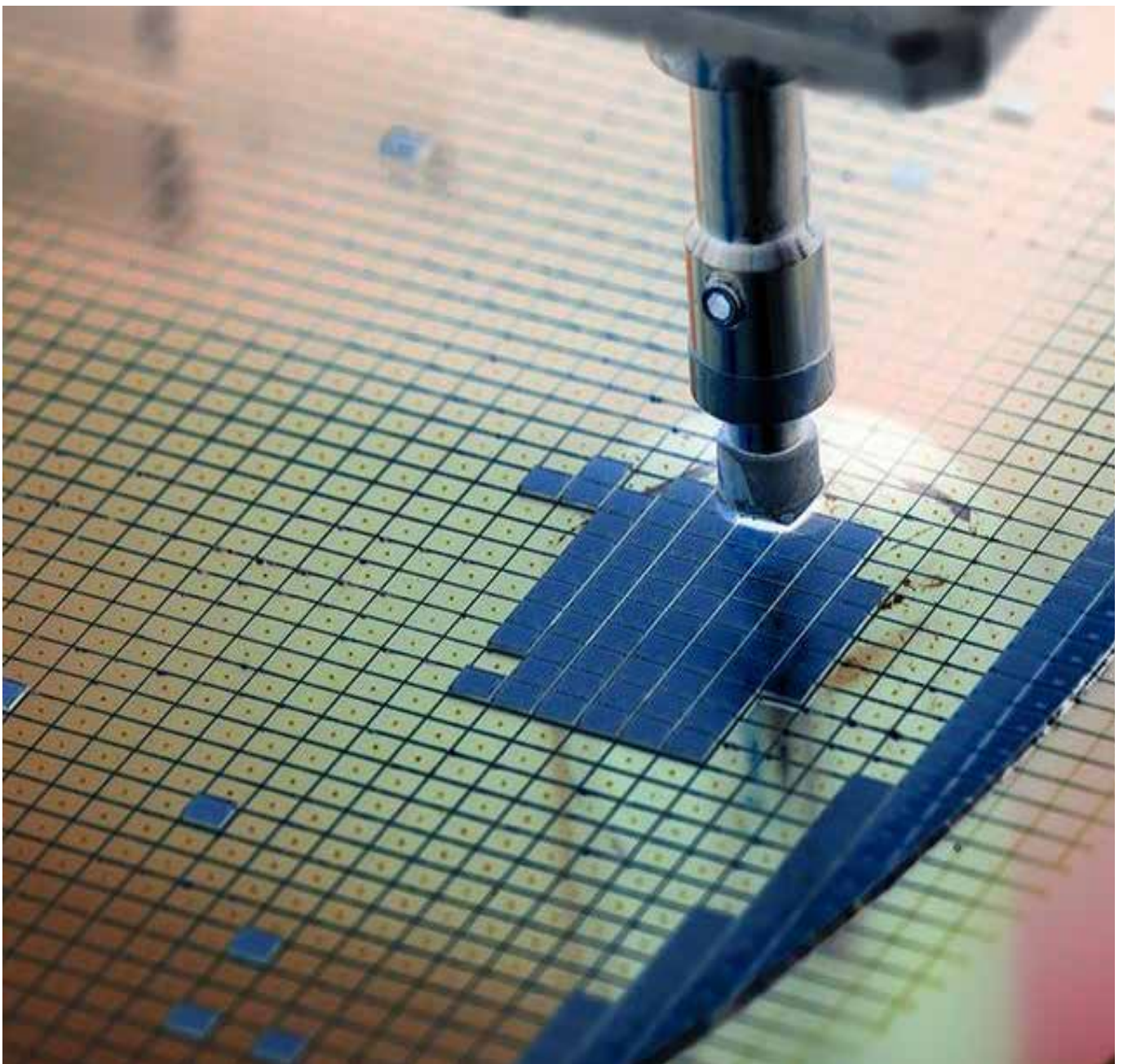
Our Technical Sales Consultants and R&D teams of seasoned Semiconductor Assembly and Test industry professionals will study your chip and package requirements and offer effective and competitive tooling solutions that will work right out of the box. Oricus has the solution to your tooling requirements. Leave it to us and you can focus on your key processes.

## Research and Development



R&D is the cornerstone of our commitment to deliver market leading tooling solutions. Our Material Science know-how, coupled with our Manufacturing Expertise and knowledge on the latest demands of Integrated Circuits Packaging allow us to offer tools that maximizes productivity and minimizes downtime.

# Die Attach



# Adhesive Systems



## Single Tube Dispensers

Single Tubing Adhesive Dispensing Nozzles are designed for dotting micro amounts of adhesives for small die sizes or used as an Adhesive writing pen.



## Multi Tube Dispensers

Multi Tubing Dispenser designs allow for higher throughput with a larger volume of adhesive delivery within the same time frame.



## Adhesive Stamping Tools

Adhesive Stamping Tools are designed according to your adhesive's viscosity and thixotropy specifications to ensure optimal stamping performance.



## Flux Systems

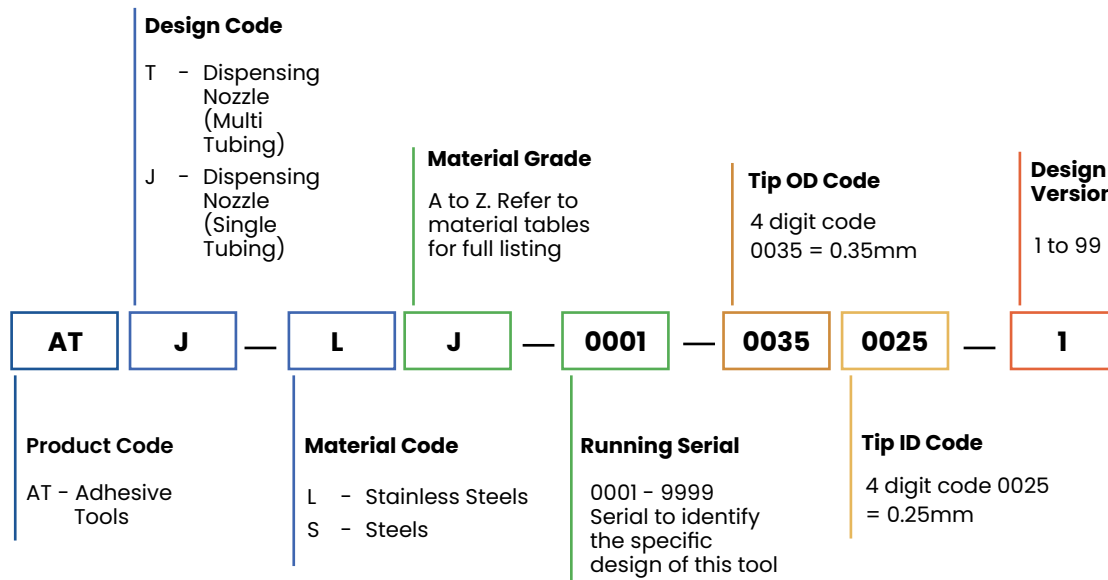
Flux Plates are machined to precise tolerances to ensure reservoir depth and volume. Flux Scrapers designed to scrape across the surface to eliminate overflow.



## Spanker Tools

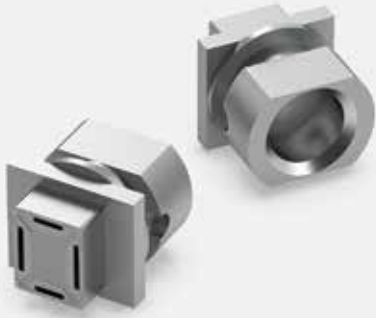
Designed with custom cavity layers and profiles to ensure 100% adhesive coverage to fully adhere to bondline thickness requirements.

## Part Numbers And Ordering





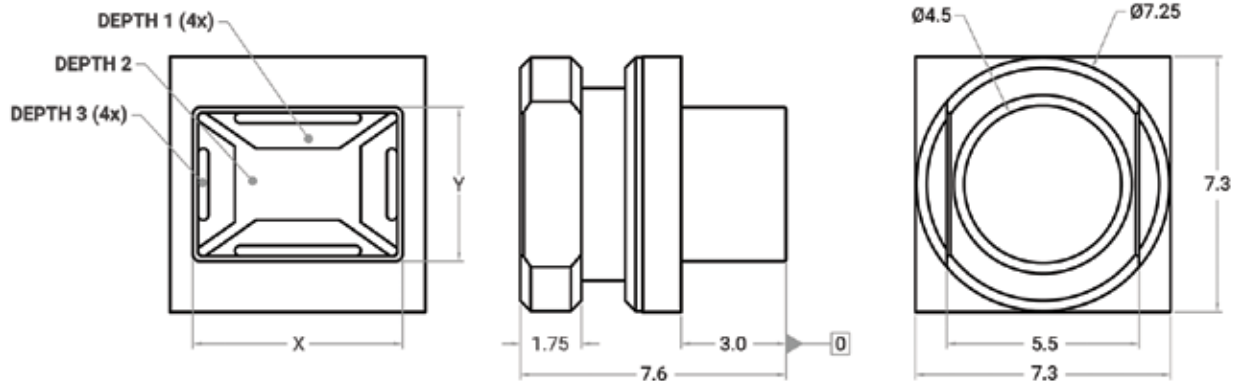
# Spanker Tip



Spanker Tips are used on soft solder Die Attach, predominantly applied to the bonding of Power Devices. The high temperature operating environment of Power Devices requires high levels of heat dissipation through the device.

Our line of Adhesive Spanker Tips are designed and manufactured with custom cavity layers and profiles to ensure 100% adhesive coverage and to fully adhere to bondline thickness requirements. With our Spanker Tips, you can be sure of excellent solder alloy coverage and minimum voids in the bond.

Oricus manufactures an extensive range of Adhesive Stamping Tools to fit a wide range of machines from OEMs such as ESEC, ASM, Tosok and more. Our tools can be designed and manufactured to according to your specific application.



## Features

- Manufactured from specially selected Stainless Steel, Tool Steel, Superalloys and Carbide materials
- Profile designs ranges from Multi Square, Rectangular Steps to Complex X-Pad geometries with special reliefs cut outs
- The walls and depth of each cavity are precision machined to exacting tolerance control and flatness

## Benefits

- Our field tested Adhesive Spanker Tip design offers superior bond line thickness and uniformity
- Void-free adhesive coverage improves process yield considerably
- Each tool's Spanker profile and geometry is tailor made according to your die, device or application requirements

Part Number	X (mm)	Y (mm)	DEPTH 1 (mm)	DEPTH 2 (mm)	DEPTH 3 (mm)
ATS-TAL3-0001-03500300-1	3.50	3.00	0.012	0.025	0.20
ATS-TAL3-0001-04000300-1	4.00	3.00	0.015	0.025	0.20
ATS-TAL3-0001-04600460-1	4.60	4.60	0.015	0.025	0.20
ATS-TAL3-0001-04800440-1	4.80	4.40	0.015	0.030	0.25
ATS-TAL3-0001-09500495-1	4.95	4.95	0.03	0.04	0.25
ATS-TAL3-0001-05100360-1	5.10	3.60	0.05	0.06	0.30
ATS-TAL3-0001-05900450-1	5.90	4.50	0.05	0.06	0.30
ATS-TAL3-0001-06100610-1	6.10	6.10	0.05	0.06	0.30
ATS-TAL3-0001-06200470-1	6.20	4.70	0.05	0.06	0.30
ATS-TAL3-0001-06600460-1	6.60	4.60	0.03	0.04	0.25
ATS-TAL3-0001-06600460-2	6.60	4.60	0.05	0.06	0.30
ATS-TAL3-0001-07100650-1	7.10	6.50	0.05	0.06	0.30
ATS-TAL3-0001-07500450-1	7.50	4.50	0.05	0.06	0.30
ATS-TAL3-0001-07600460-1	7.60	4.60	0.03	0.04	0.25
ATS-TAL3-0001-07600460-2	7.60	4.60	0.05	0.06	0.30
ATS-TAL3-0001-08200510-1	8.20	5.10	0.05	0.06	0.30
ATS-TAL3-0001-08500600-1	8.50	6.00	0.05	0.06	0.30
ATS-TAL3-0001-08800530-1	8.80	5.30	0.05	0.06	0.30
ATS-TAL3-0001-09000580-1	9.00	5.80	0.05	0.06	0.30
ATS-TAL3-0001-10200800-1	10.20	8.00	0.04	0.05	0.30

**ESD Properties**

Conductive < 10<sup>5</sup> Ω

**Applications**

Standard Die Attach  
Flip Chip  
2.5D/3D  
Wafer Level Packaging  
Panel Level Packaging  
System in a Package

**Tool Material**

Carbide  
Superalloys  
Stainless Steels

**Soft Solder Profile Design**

Multi Square  
Rectangular Steps  
X-Pad Geometries



**Die Attach**

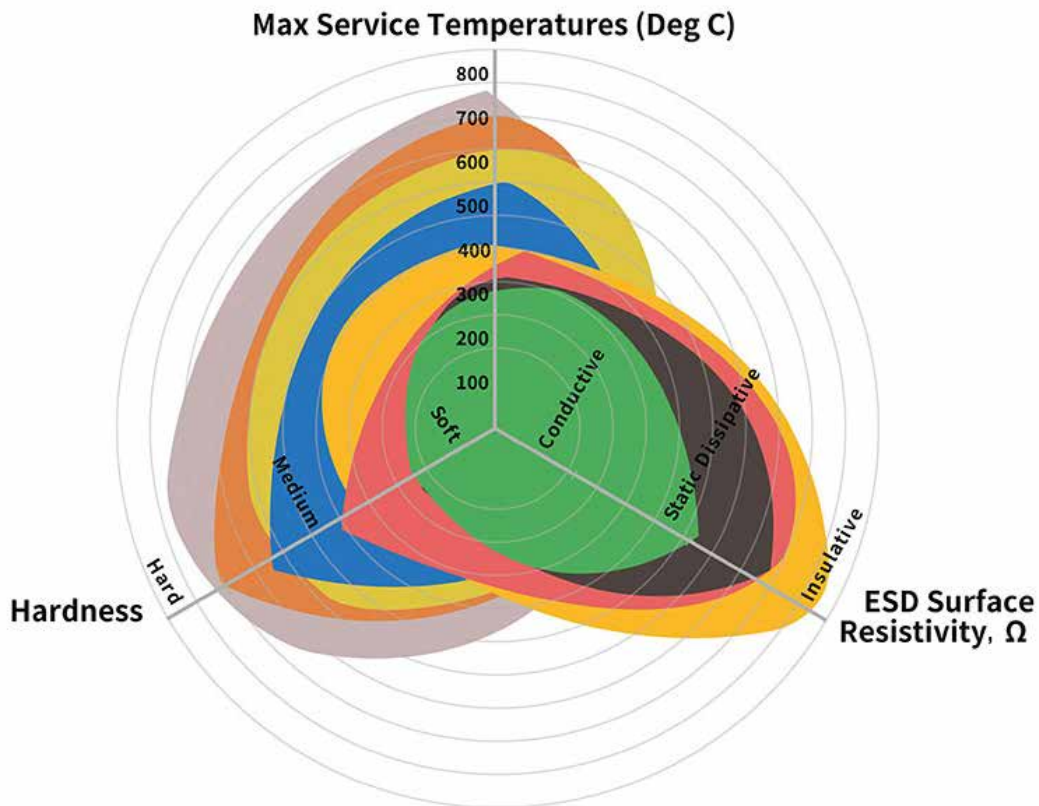
**Adhesive Systems**



# MATERIALS

Oricus's extensive line of engineered materials specially developed and selected to offer optimal tooling performance for your specific Semiconductor Backend process. Our in-house materials are closely developed in partnership with Original Equipment Manufacturers with input from our customers. For externally procured materials, each material goes through a rigorous Quality Assurance and Performance Assessment programme before making it into our material list.

Oricus' in depth understanding and experience of materials allows us to formulate tooling solutions that work for you. As part of our value proposition, we study the conditions of your application and suggest the most appropriate material that meets your needs.



Tungsten Carbide *WC Line*

Superalloy *SA Line*

Stainless Steel *SS Line*

Tool Steel *TS Line*

Non Ferrous Metals *NF Line*

Performance Engineering Plastics *SP Line*

Engineering Plastics *EP Line*

Rubber *R Line*

<p><b>WC</b> LINE</p> <p><b>Tungsten Carbide</b></p> <p>High Wear &amp; High Temp Resistance</p> <p>Carbide, K15 Carbide, K30 Carbide, M30 Carbide K40 Carbide, MG30</p>	<p><b>SA</b> LINE</p> <p><b>Superalloy</b></p> <p>All-Round Superior Performance</p> <p>Haynes 25 (L605) Inconel Alloy 625 Inconel Alloy 718 Incoloy Alloy 925 Nitronic 50 Nitronic 60 Titanium Grade 2 Stellite 6 Stellite 31</p>	<p><b>SS</b> LINE</p> <p><b>Stainless Steel</b></p> <p>Balanced Properties</p> <p>15-5 PH 17-4PH SUS 430F SUS 420 SUS 440C SUS 316 SUS 301 SUS 304 SUS 303</p>	<p><b>TS</b> LINE</p> <p><b>Tool Steel</b></p> <p>High Strength</p> <p>CPM-10V SKD 11 SKH 51 Mirrax 40 ASP 23 Stavax XW 10 XW 42 Assab 718 - HH  HSS DF2 DF3 Ramax HH Rochling 2315</p>
<p><b>NF</b> LINE</p> <p><b>Non Ferrous Metals</b></p> <p>Special Applications</p> <p>Aluminium 7075 Aluminium 6061 Copper Brass Hovadur K350</p>	<p><b>SP</b> LINE</p> <p><b>Performance Engineering Plastics</b></p> <p>Advantageous Performance &amp; Value</p> <p>Torlon 4432 (PAI) Torlon 4301 (PAI) Torlon 5030 (PAI) Toriion 7130 (PAI) Vespel SCP5050 (P) Vespel SP 21 (PD) Vespel SP1 (PI) ESD Semitron 520 ESD Semitron 420 ESD Semitron 410C ESD Semitron 225</p>	<p><b>EP</b> LINE</p> <p><b>Engineering Plastics</b></p> <p>Economical And Versatile</p> <p>Acrylic/ Polycarbonate TECAFORM SD Delrin ESD Delrin White Delrin Black POM PEEK PEEK HT PEEK GF 30% PEEK CF 30%</p>	<p><b>R</b> LINE</p> <p><b>Rubber</b></p> <p>Geometric Flexibility ESD Protection</p> <p>NBR NBR (Soft) NBR (Hard) NBR (Coated) HPR HPR (Soft) HPR (Hard) UPR CR (ESD) CR</p>

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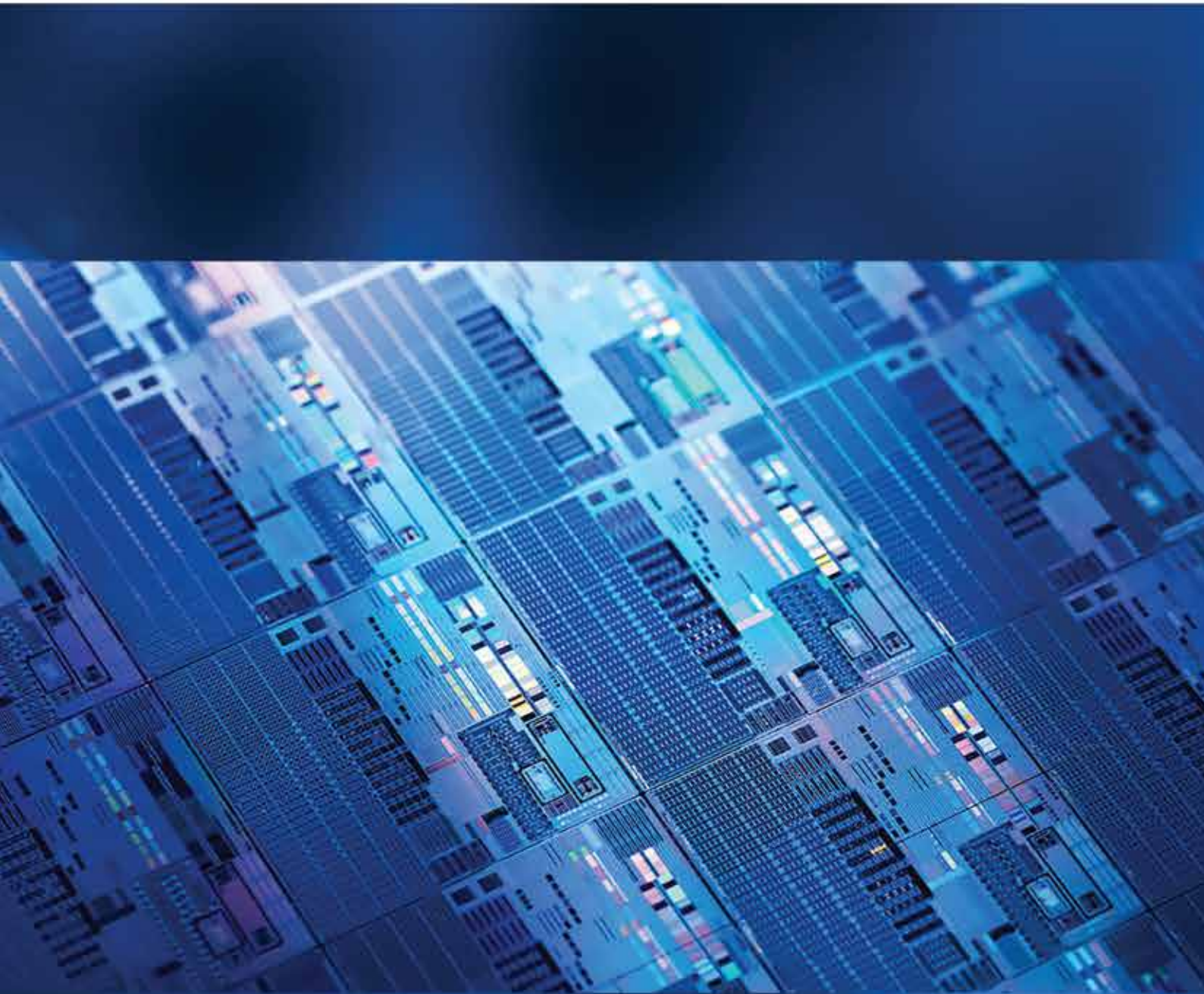
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