



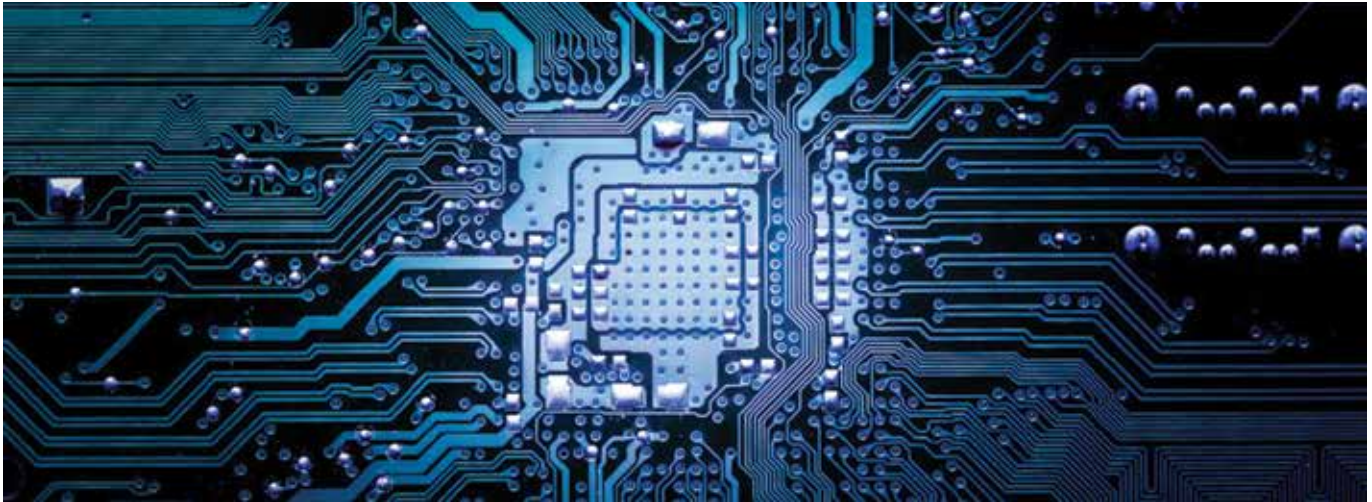
# Semiconductor Backend Tools Catalog



**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**

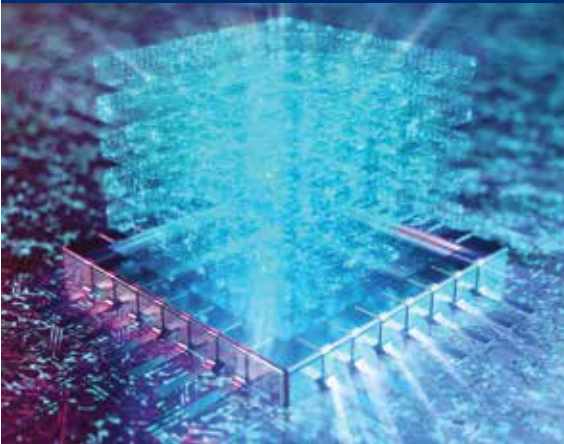


## Oriented to Customer's needs



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.

# Wire Bond. Product Families



## Window Clamp Inserts

Custom designed to your package, the Window Clamp holds leadframe fingers to the Heat Block Insert for precise wirebonding of interconnects to be performed.



## Heat Block Inserts

Consists of a frame supporting face and a die pad supporting face and used as a leadframe support plate during the Wirebond process.



## Finger Clamps and Bridges

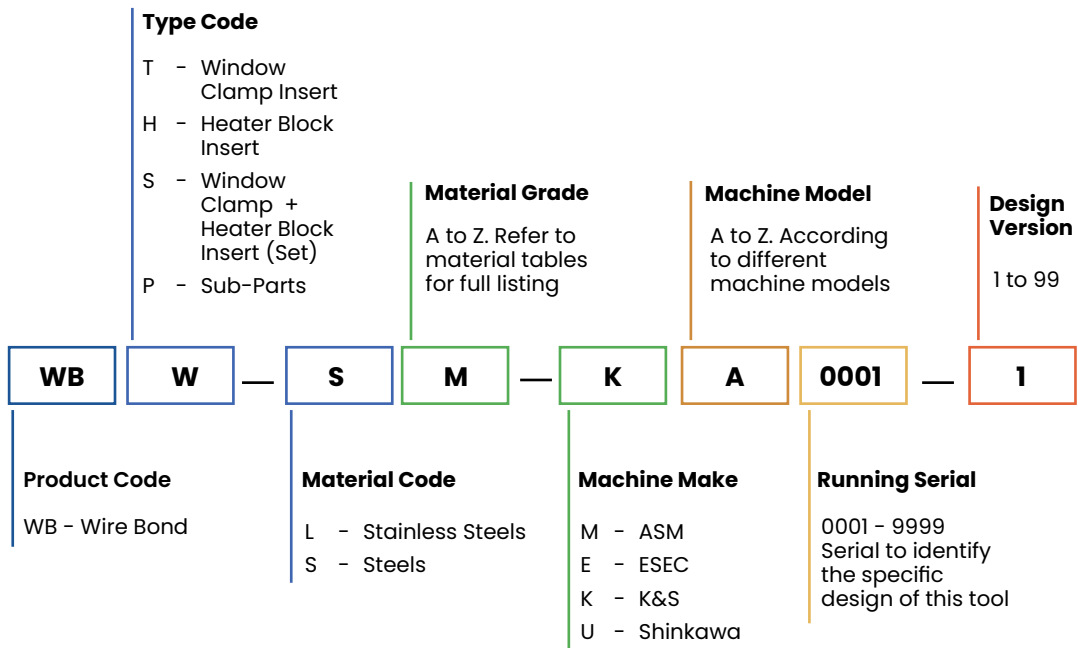
Bridges are used to hold the Finger Clamps in place, while the Finger Clamps contact the lead of the leadframe for the Wedge Bonding process.



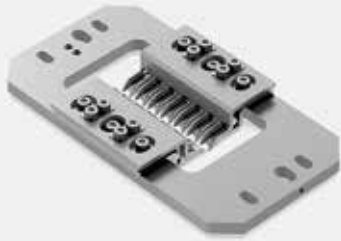
## Anvil Blocks

Wedge Bonding Anvil Blocks are used as a platform to support the leadframe pad and fingers when the finger clamps applies a downward force for the bonding process.

## Part Numbers And Ordering



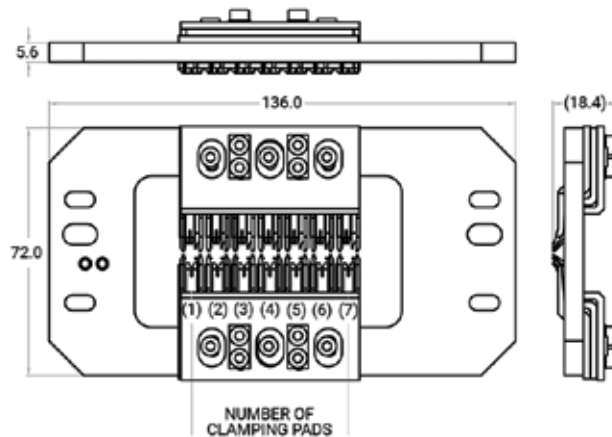
# Finger Clamps and Bridges



Finger Clamps and Bridges are used in the Wedge Bonding process, which is also commonly known as Aluminium Bonding. Power devices, High Current devices and Chip-on-Board (COB) applications that have a high level of current passing through the die and lead fingers interconnect are candidates for Wedge Bonding.

Bridges are used to hold the Finger Clamps in place, while the Finger Clamps contact the leads of the leadframe for the Wedge Bonding process. The screw thread positions on the Bridges will be customized according to your leadframe and Finger Clamp design.

Oricus manufactures a wide range of Finger Clamps and Bridges to fit a wide range of machines from OEMs such as K&S, Palomar, F&K and more. Finger Clamps and Bridges are fully customizable to your leadframe design and application requirements.



## Features

- Designed for your application to fit a wide range of different Wedge Bonding machines
- Each finger clamp is machined to exacting tolerances of positioning and flatness to minimize offset and clamping issues
- Materials used are carefully selected which provides the right level of hardness for holding the lead fingers and at the same time offering pliability and resilience to ensure the lead fingers do not crack when in use
- Finger Clamps and Bridges are designed to allow for micro adjustments to cater to variations in leadframe dimensions

## Benefits

- Finger Clamps come in 2 or 3 layer stacks, depending on your leadframe and wire position
- Design offers uniform clamping forces to be applied throughout all the lead fingers to ensure stability and minimum float during bonding
- Application oriented design offers high yield, high productivity with minimum downtime
- Design team will study your package requirements and Wedge Bonder equipment to offer you a fuss-free tailor-made solution

Part Number	Number of Clamping Pads
WLS-LE-0001-01	7
WLS-LE-0002-01	3
WLS-LE-0003-01	6
WLS-LE-0004-01	4

#### ESD Properties

Conductive <  $10^5 \Omega$

#### Applications

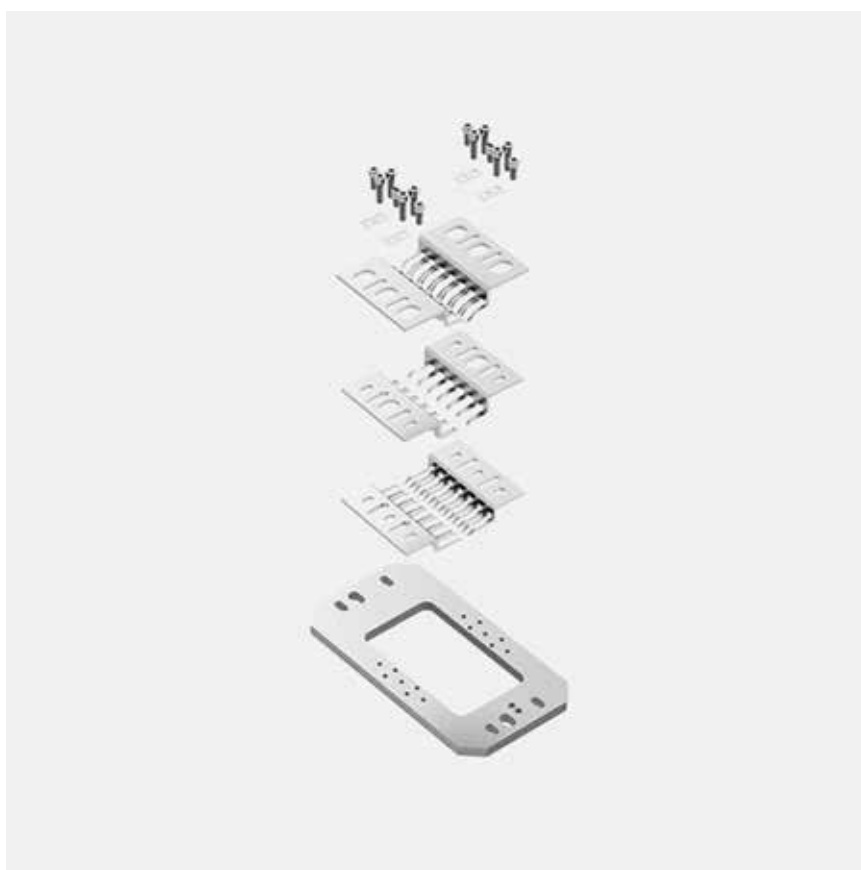
Wedge Bonding

#### Material

Superalloy  
Stainless Steels  
Tool Steels

#### Customization

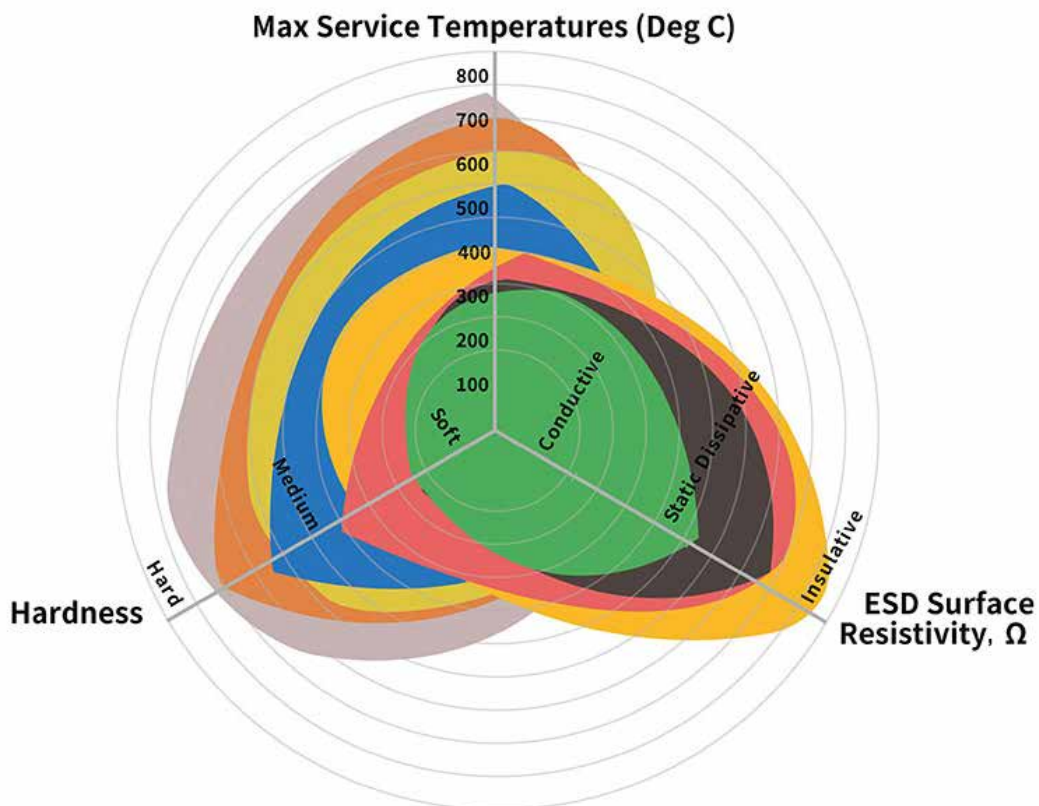
Number of clamping pads  
Fingers layout and profile



# 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**

**Non Ferrous Metals NF Line**

**Superalloy SA Line**

**Performance Engineering Plastics SP Line**

**Stainless Steel SS Line**

**Engineering Plastics EP Line**

**Tool Steel TS Line**

**Rubber R Line**



<p><b>WC</b> LINE</p> <p><b>Tungsten Carbide</b></p> <p>High Wear &amp; High Temp Resistance</p> <ul style="list-style-type: none"> <li>Carbide, K15</li> <li>Carbide, K30</li> <li>Carbide, M30</li> <li>Carbide K40</li> <li>Carbide, MG30</li> </ul>	<p><b>SA</b> LINE</p> <p><b>Superalloy</b></p> <p>All-Round Superior Performance</p> <ul style="list-style-type: none"> <li>Haynes 25 (L605)</li> <li>Inconel Alloy 625</li> <li>Inconel Alloy 718</li> <li>Incoloy Alloy 925</li> <li>Nitronic 50</li> <li>Nitronic 60</li> <li>Titanium Grade 2</li> <li>Stellite 6</li> <li>Stellite 31</li> </ul>	<p><b>SS</b> LINE</p> <p><b>Stainless Steel</b></p> <p>Balanced Properties</p> <ul style="list-style-type: none"> <li>15-5 PH</li> <li>17-4PH</li> <li>SUS 430F</li> <li>SUS 420</li> <li>SUS 440C</li> <li>SUS 316</li> <li>SUS 301</li> <li>SUS 304</li> <li>SUS 303</li> </ul>	<p><b>TS</b> LINE</p> <p><b>Tool Steel</b></p> <p>High Strength</p> <ul style="list-style-type: none"> <li>CPM-10V</li> <li>SKD 11</li> <li>SKH 51</li> <li>Mirrax 40</li> <li>ASP 23</li> <li>Stavax</li> <li>XW 10</li> <li>XW 42</li> <li>Assab 718 - HH</li> <li>HSS</li> <li>DF2</li> <li>DF3</li> <li>Ramax HH</li> <li>Rochling 2315</li> </ul>
<p><b>NF</b> LINE</p> <p><b>Non Ferrous Metals</b></p> <p>Special Applications</p> <ul style="list-style-type: none"> <li>Aluminium 7075</li> <li>Aluminium 6061</li> <li>Copper</li> <li>Brass</li> <li>Hovadur K350</li> </ul>	<p><b>SP</b> LINE</p> <p><b>Performance Engineering Plastics</b></p> <p>Advantageous Performance &amp; Value</p> <ul style="list-style-type: none"> <li>Torlon 4432 (PAI)</li> <li>Torlon 4301 (PAI)</li> <li>Torlon 5030 (PAI)</li> <li>Torion 7130 (PAI)</li> <li>Vespel SCP5050 (P)</li> <li>Vespel SP 21 (PD)</li> <li>Vespel SP1 (PI)</li> <li>ESD Semitron 520</li> <li>ESD Semitron 420</li> <li>ESD Semitron 410C</li> <li>ESD Semitron 225</li> </ul>	<p><b>EP</b> LINE</p> <p><b>Engineering Plastics</b></p> <p>Economical And Versatile</p> <ul style="list-style-type: none"> <li>Acrylic/ Polycarbonate</li> <li>TECAFORM SD</li> <li>Delrin ESD</li> <li>Delrin White</li> <li>Delrin Black</li> <li>POM</li> <li>PEEK</li> <li>PEEK HT</li> <li>PEEK GF 30%</li> <li>PEEK CF 30%</li> </ul>	<p><b>R</b> LINE</p> <p><b>Rubber</b></p> <p>Geometric Flexibility ESD Protection</p> <ul style="list-style-type: none"> <li>NBR</li> <li>NBR (Soft)</li> <li>NBR (Hard)</li> <li>NBR (Coated)</li> <li>HPR</li> <li>HPR (Soft)</li> <li>HPR (Hard)</li> <li>UPR</li> <li>CR (ESD)</li> <li>CR</li> </ul>

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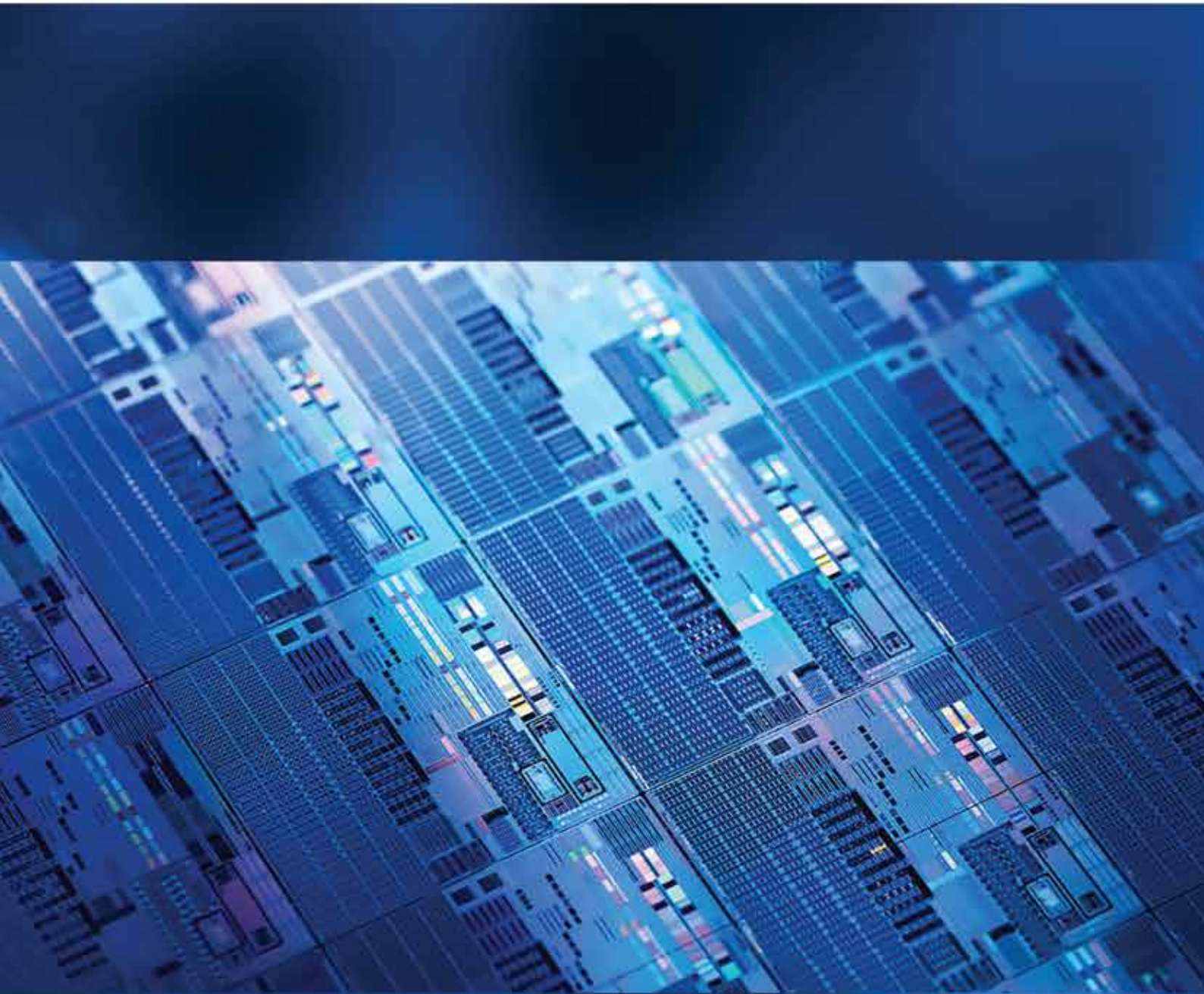
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