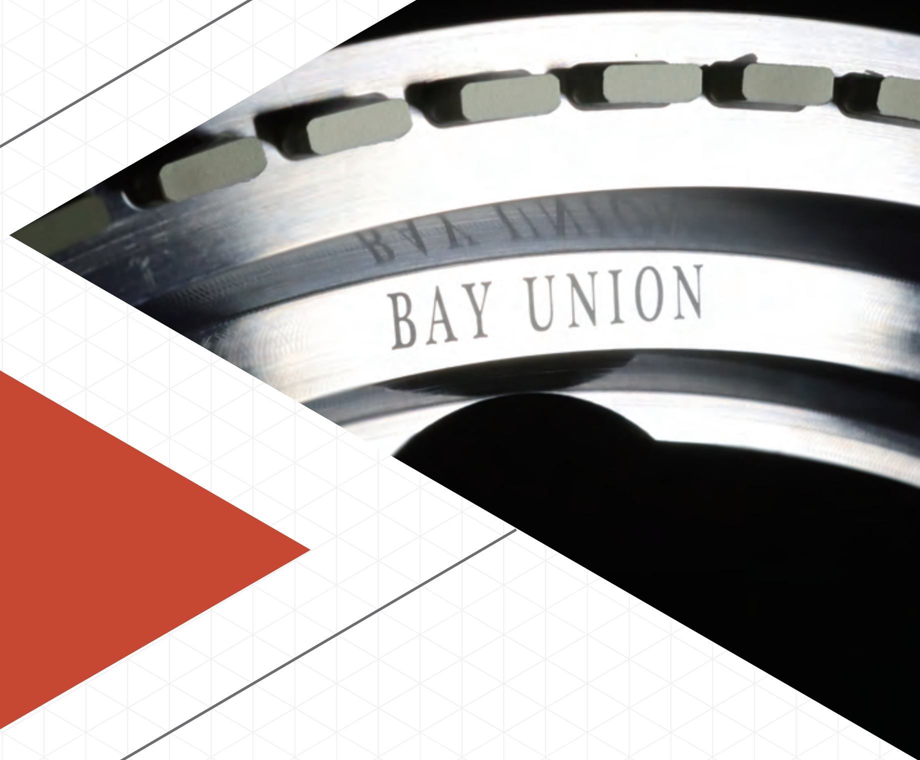
BAY UNION
北聯研磨科技



SiC / Si 晶圓研磨砂輪

SiC / Si WAFER GRINDING SOLUTION

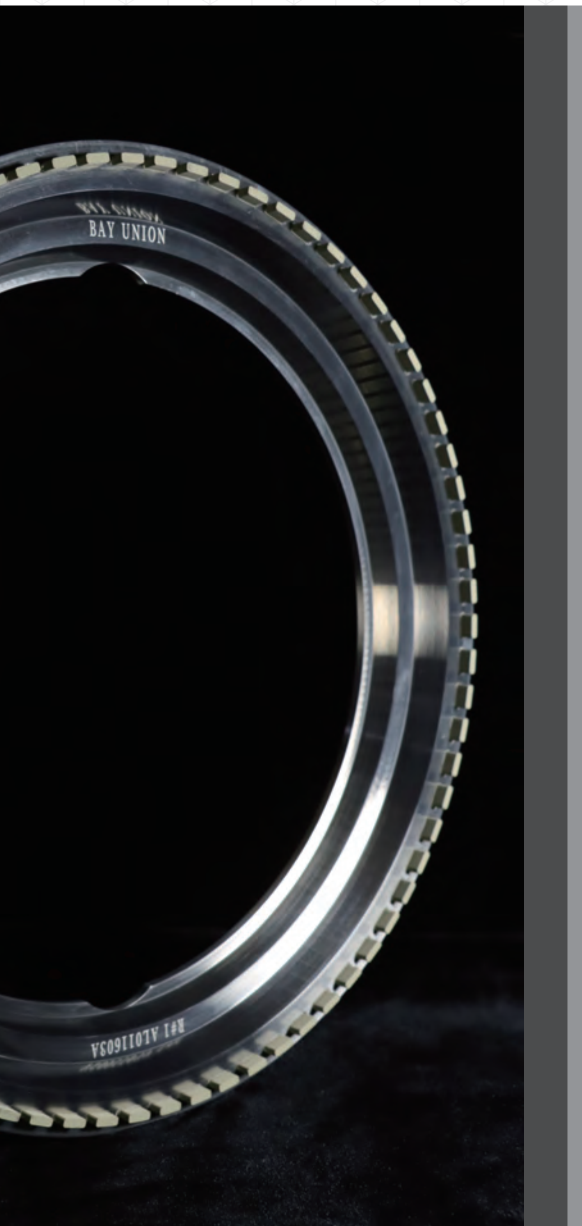
奈米精度中你最安心的合作夥伴

www.bayunion-tech.com

BAY UNION

北聯研磨科技股份有限公司

BAY UNION ABRASIVE TECHNOLOGY CO., LTD.



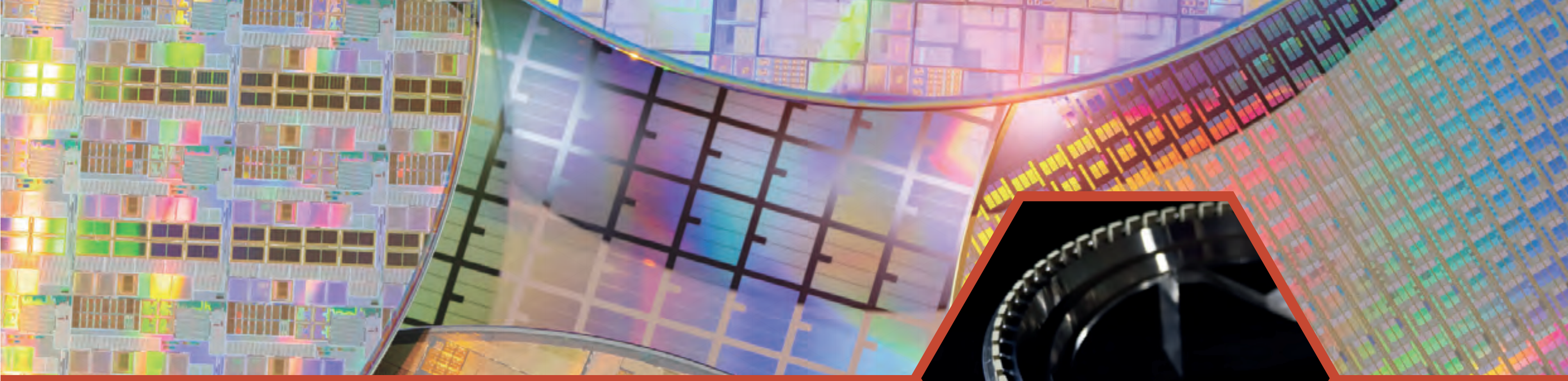
我們相信，成就彼此能讓世界更美好。

We believe that helping partners achieve their goals makes the world a better place.

SiC晶片是4H單晶碳化矽 (Silicon Carbide) 製成的晶片，它具有許多優異的特性：高效率的電力轉換、高壓和高功率電源應用，使其在電動汽車、5G及衛星通訊和工業應用等高溫和高壓使用環境中有極大的優勢。

SiC 晶圓減薄透過磨削(Grinding)、研磨(Lapping)和化學機械拋光(CMP)等加工，使其薄化到特定應用的厚度(<200um／350um／500um)，來提高散熱效率、減輕晶片模組重量和改善晶片性能，從而滿足各種應用需求。

北聯研磨提供標準化的減薄砂輪系列，從#2000的粗磨到#30000的超精磨，搭配各種減薄機，達到高GR值的長壽命砂輪。另外針對高硬度的P級SiC晶圓，也設計出高切削性的砂輪來達到快速減薄的效果。



SiC 晶圓減薄砂輪

砂輪	應用	切削力	壽命	Ra(nm)
RG#1	Silicon 減薄&背研	**	***	< 20
RG#3	SiC 減薄粗磨	***	**	< 15
RG#5	Silicon 再生晶圓研磨	****	****	–
FG#1	SiC 減薄細磨(低翹曲)	**	***	< 5
FG#2	SiC 減薄細磨(高翹曲)	***	**	< 5
UG#1	SiC 超精磨	*	**	< 2

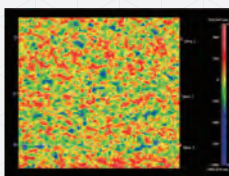
優化研磨製程

Surface-roughness Improvement

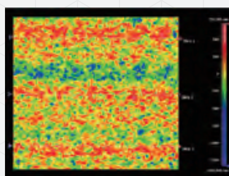
Before

As-cut

D Grade 6-inch N-type SiC Wafer



Si-side
Sa 132.319 nm
Sq 167.848 nm
Sz 1664.498 nm



C-side
Sa 164.717 nm
Sq 208.562 nm
Sz 2075.281 nm

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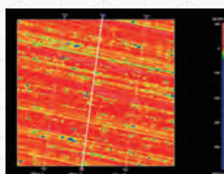
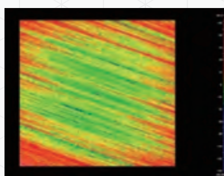
After Rough Grinding

#RG砂輪



Si-side
Sa 7.135 nm
Sq 12.496 nm
Sz 599.112 nm



C-side
Sa 11.955 nm
Sq 15.346 nm
Sz 258.953 nm

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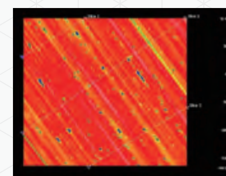
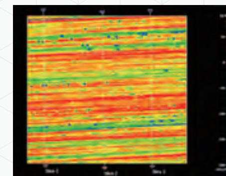
#FG砂輪



Si-side
Sa 1.390 nm
Sq 3.354 nm
Sz 251.733 nm



C-side
Sa 4.554 nm
Sq 6.502 nm
Sz 285.063 nm

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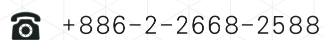

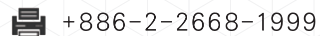

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2024.08