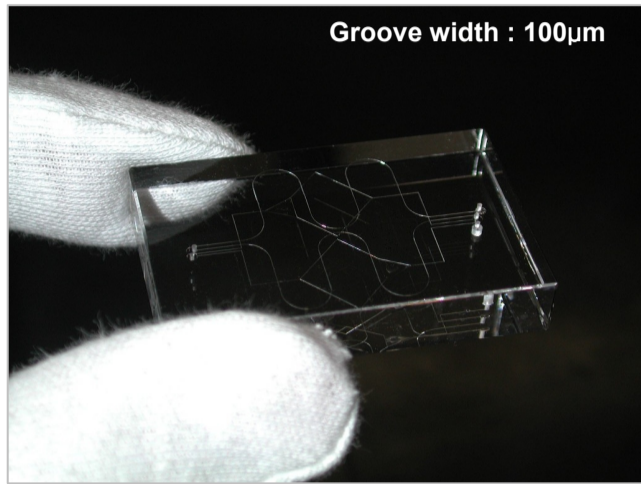


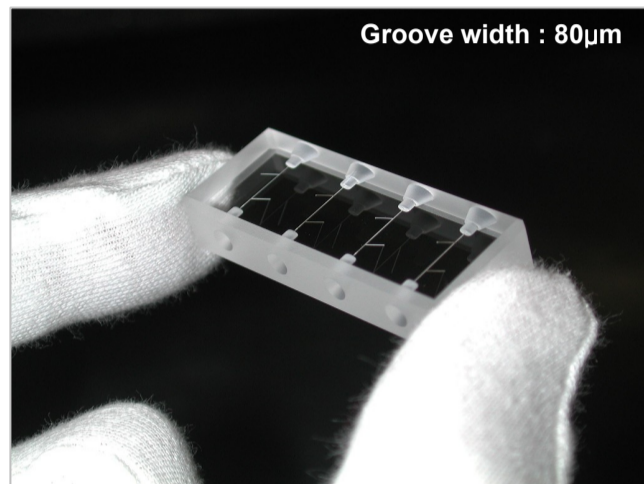
石英ガラス製マイクロチップ “Quartz Microchips”

石英ガラスは耐薬品性、耐熱性、紫外線透過性に優れた高純度材料です。

Quartz has excellent characteristics such as high purity, high optical transparency in UV region and high resistance to heat and acid.



積層型マイクロチップ(6層接合)
Multi-layered microchip

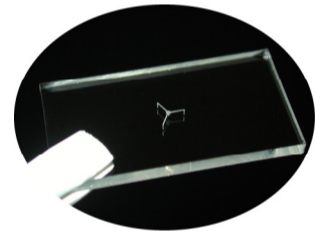


4ch試料導入チップ
Sample introduction chip with 4channels

製品特長

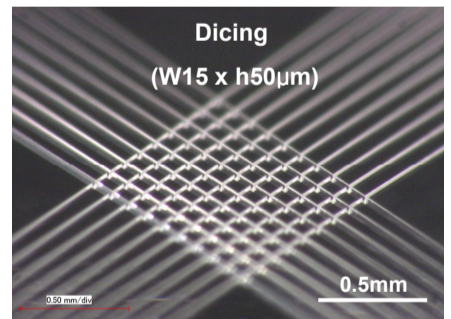
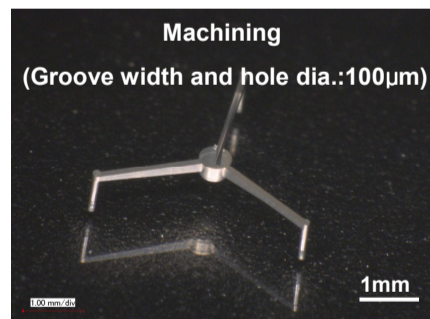
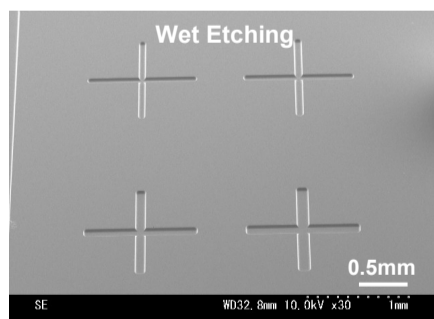
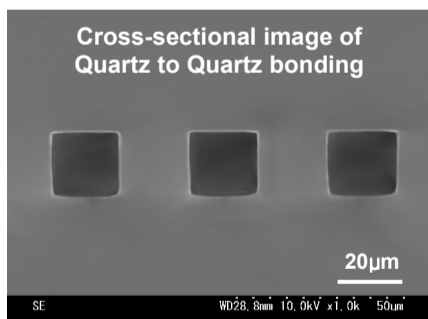
Product Features

- ▶ 超精密機械加工により小径孔や3D微細流路の形成が可能
Reduced diameter hole and 3D fine channels can be processed by Ultra-Precision Machining.
- ▶ MEMS技術により微細流路パターンの形成が可能
Fine channels can also be formed by using MEMS.
- ▶ 石英ガラス同士の多層接合で内部流路の形成が可能
Multiple layered substrates with internal channels can be created by Quartz to Quartz Diffusion Bonding.



標準仕様

Standard Specifications



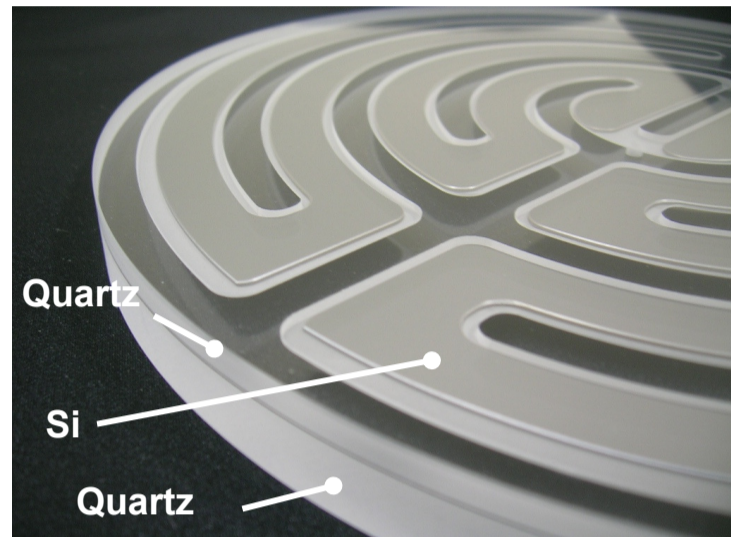
	Dry Etching	Wet Etching	Machining	Dicing
溝幅 Groove width	>10µm	>10µm	>0.1mm	>15µm
溝深さ Groove depth	<20µm	<100µm	Aspect ratio ~20	<2mm
溝形状 Groove geometry	2D	2D	3D	1D
最大基板サイズ Max size of substrates	φ125mm (5")	φ50mm (2")	500x500mm (20x20")	φ150mm (6")

石英ガラス拡散接合

“Quartz to Quartz Diffusion Bonding”

プレート内部に異種材料（Silicon）を封入した拡散接合品です。

It enables to create interior channel pattern inside Quartz and encapsulate Si plates.



製品特長

Product Features

- ▶ 母材内部に精密中空パターンを形成することが可能

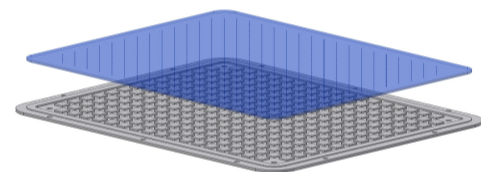
It enables to create precision internal channel to Quartz substrates.

- ▶ 形状を変形させずにバルク同等の強度で接合可能

Bonding strength is equivalent with bulk material.
No deformation.

- ▶ 製品サイズでφ500mmまで製作実績あり

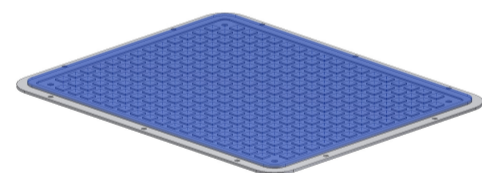
Currently available with products size up to 20" in diameter.



Diffusion

Bonding

- Precision cleaning
- Pressurization
- Heating



適用事例

Applications

- ▶ 気体、液体を流し込む内部流路付石英（多層構造可能）

Quartz plate, with internal channel for gas or liquid flow (multi layer design).

- ▶ セラミックス等の異種材料の封じ込め

Containment of Ceramics or other materials.

- ▶ その他、機能部品

Other, functional components.

