DICING

Dicing is a method of singulation of devices on a larger substrate. The saw uses either nickel metal blades for silicon-based substrates and diamond resinoid blades for ceramic. Most saws in our inventory can accommodate up to 200mm wafers and are equipped with 50mm spindles.

K&S 982-10 dicing saw (APC & GPC versions): The two saws are identical in nature with one geared toward ceramic dicing (APC software) to allow for incremental dicing into a ceramic thickness while the other suitable for silicon dicing (GPC software) making one complete cut through the entire thickness of the substrate.

1. Speed range: 4,000 to 40,000 RPM
2. Output power: 1,400 Watts
3. Travel: 292mm
4. Charge: $60/hour (academic)

ADT 7100 Provectus dicing saw: This saw is designed primarily for ceramic based dicing. While the stage is 200mm square, it has been adapted to hold down a glass carrier with the product to be cut glued on top. Saw can be configured to used either 50 or 75mm blades with a maximum exposure of 300mils (7.62mm) possible.

1. Speed range: 16,000 RPM (75mm hub), 60,000 RPM (50mm hub)
2. Output power: 1,200 Watts
3. Travel: 200mm
4. Charge: $60/hour (academic)

Disco DAD 341 dicing saw: This saw is configured for silicon dicing. The stage can accommodate 200mm wafers and equipped with a broken blade detector.

1. Speed range: 6,000 to 60,000 RPM
2. Output power: 1,000 Watts
3. Travel: 326mm
4. Charge: $60/hour (academic)

Disco DAD 320 dicing saw: This saw is configured for crude dicing of LTCC assemblies after sintering. The stage can accommodate 150mm diameter substrates with dual objective microscope. Like the ADT, this is best used with the product glued to a glass wafer before being mounted on a wafer frame.

1. Speed range: 25,000 RPM
2. Output power: 1,500 Watts
3. Travel: 162mm
4. Charge: $60/hour (academic)

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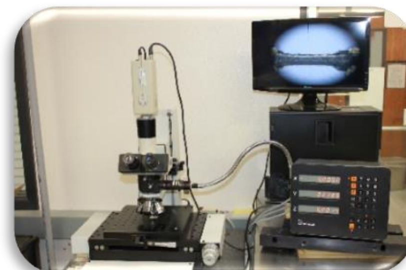
DICING

The items listed here include peripherals closely related to the operation of the dicing process that users may find beneficial.

Heidenhain VRZ 760B digital micrometer :



This digital micrometer controller is tied to a Micromeasure optical stage with microscope to allow the measurement of features on samples in X, Y and Z. An external camera and monitor have been added for ease of reference identification. The system provides measurements in either inches or millimeters and is frequently used to measure features on substrates prior to being diced.

1. Measurement resolution: 0.0001
2. Charge: $3/hour (academic)

Highmax SHM – 200 wafer mounter: This wafer mounter is used to adhere to a substrate to be diced to a tape on a metal frame while dicing. If done correctly, it ensures the dice parts, once separated remain on the tape frame. There is the option of using a plastic frame for shipment to a customer. The mounter is normally used to handle the frames for the Disco DAD 341 dicing saw but can be readily configured for the frames on the K&S 982-10 and the DAD 320.

1. Operating temperature: 70°C
2. Charge: $3/hour (academic)

USI UH114 wafer mounter: This mounter uses a manual controlled temperature controller, but otherwise has similar features as the Highmax SHM mentioned earlier. Due to the limitation of the substrate holder, this mounter can only handle 150mm wafers and is dedicated to the frames for the Disco DAD 320 dicing saw.

1. Operating temperature: 70°C
2. Charge: $3/hour (academic)

SEC 4900 wafer demounter: This demounter is used to remove singulated devices from the wafer after dicing. There is a mounter for 100mm and 150mm wafers.

1. Operating temperature: 70°C
2. Charge: $3/hour (academic)

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