WaferMark® CSP200

Wafer Level Die Marking System

Quality die marking for traceability, product identification and orientation

- **High throughput, producing the industry's highest quality marks**
- **Processes background, polished, coated, oxidized, and other surface types**
- **Fully automated wafer cassette mapping, wafer transport, alignment, and calibration**
- **Integrated mark inspection and validation**
- **LightWriter® software with product setup and training wizard**
- **Accurately marks die as small as 0.5mm in size**

GSI Lumonics

Introducing the WaferMark® CSP200

The *WaferMark CSP200* from GSI Lumonics helps you make the move to efficient, cost-effective production of chip scale packaged devices a reality. By marking individual die while in wafer form, the system eliminates the handling, inaccuracy, and cost of tray based marking, increasing throughput and mark quality. The *CSP200* processes 200, 150, 125, or 100mm diameter wafers over a variety of wafer surface types.

When the Challenge is Small Die

To obtain the precision needed for marking very small die with high accuracy, the *CSP200* employs a unique patented architecture that indexes a section of the wafer over the mark and inspection field, similar to modern day lithography scanners. By using a high precision linear motor driven X/Y stage, coupled with highly accurate scan optics, and powerful programable software, the *CSP200* produces high quality, accurate marks on die as small as 0.5mm.

The Automation and Flexibility You Expect

Automatic wafer ID reading, wafer map downloading, and an advanced GUI system for job creation and system control: these are but a few of the CSP200's features that provide the automation and flexibility required for wafer level marking. The CSP200 also provides job portability, ensuring that die marking for a single product type can be run across multiple *CSP200* systems without extra programming.

The Quality Control You Require

Equipped with *MarkTrace*™, a topside and backside high resolution imaging system, the *CSP200* automatically inspects marks for conformance to your programmed mark requirements. The topside camera provides a "watermark" overlay that displays mark information in the correct orientation. This provides a final check to the operator before marking. The system also uses a laser power sensor at the wafer site to confirm programmed laser power, ensuring that the system consistently produces marks of uniform high quality.

Specifications

System:
- Number of cassette loading stations: 2 standard, 3rd optional
- Wafer sizes: 200mm standard; 100mm, 125mm, & 150mm optional
- Wafers thickness: 300µm to 800µm
- Flat & notch compatibility

Wafer ID Reader:
- All industry standard marks, OCR, barcode, 2-D cell code

Mark Positioning:
- X-Y and Theta alignment, +/-100µm 3 Sigma
- Type: proprietary scan head in conjunction with X,Y wafer stage
- Standard vector writing speed: 300mm/sec
- Nominal throughput, SEMI fonts: 270 chars/sec for 0.3mm high characters

Optical/Laser Performance:
- Minimum character size: 0.3mm
- Minimum feature size: 0.1mm
- Line width: 40 +/- 4µm
- Shallow mark depth (black mark): < 1µm
- Deep mark depth (white mark): < 5µm

Laser:
- Diode-pumped, Q-switched, frequency doubled Vanadate (Nd:YVO4) solid-state laser

System Controller:
- Pentium 2GHz or higher, 20" LCD flat panel monitor, Windows 2000

Software:
- Lightwriter™ Graphical Mark Editor
- CSP200 Graphical User Interface and Control System

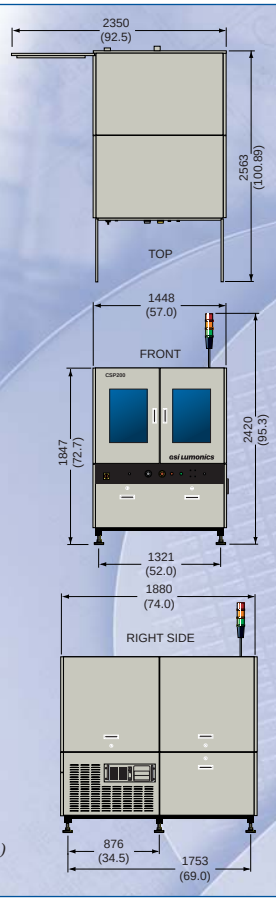
Standards Compliance:
- CDRH Class 1, S2-0303, S8-0701, CE directives, IEC 950, IEC 825, EN 60825-1, EN 60204-1, EN 418,EN 292-1, EN 55011-B, EN 50082-2, IEC 801

Facility Requirements:
- 220V +/- 10%, 50/60 Hz single phase, 25 Amps
- Exhaust: 3 in. Water [.7 kPa] at 3 in. (76mm) o.d. port
- Clean Dry Air: 90-120 psig @ < 0.5 cfm
- Class 10,000 clean room compatible

Environmental:
- Operating temperature: 21˚C to 24˚C (70˚F to 75˚F)
- Non-operating temperature: -20˚C to 50˚C (-4˚F to 120˚F)
- Operating humidity: 8 to 75% noncondensing
- Non-operating humidity: 8 to 95% noncondensing

Physical Dimensions:
- Main Unit (LxWxH, excluding light tree): 1800mm x 1448mm x 1847mm (74.0" x 57.0" x 72.7")
- Workstation (LxWxH): 600mm x 900mm x 762mm (23.6" x 35.4" x 30.0")

Weight:
- 1175 kg (2600 lbs)



Main unit dimensions in mm (inches)

Specifications are subject to change. Please consult Product Center for complete details.
The classification of the WaferMark CSP200 is Class 1/I.

GSI Lumonics

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For sales information, visit our web site or contact your local distributor.