

WAFER MARKING METHOD

TECHNICAL FIELD

[0001] The present invention relate to a method of marking a wafer, and more particularly, to a method of performing a laser marking operation with respect to a surface of a wafer by irradiating a laser beam on the surface of the wafer through a processing tape attached to the surface of the wafer.

BACKGROUND ART

[0002] When performing a laser marking operation with respect to a thin wafer or a wafer having a warpage, the wafer is likely to be damaged. Therefore, to avoid damaging the wafer, a method of performing a laser processing operation in a state where a processing tape is attached to a surface of the wafer has been used. In this case, in order to perform the laser marking operation with respect to the wafer to which the processing tape is attached, a laser beam needs to be irradiated through the processing tape to reach the surface of the wafer. In general, the processing tape attached to the wafer may be formed of various materials, and thus, a transmittance of the laser beam through the processing tape may vary depending on the material of the processing tape. The quality of the laser marking operation with respect to the surface of wafer is dependent upon the transmittance of the processing tape.

DETAILED DESCRIPTION OF THE INVENTION

TECHNICAL PROBLEM

[0003] One or more embodiments of the present invention include a method of performing a laser marking operation with respect to a surface of a wafer by irradiating a laser beam having a wavelength of 532 nm through a processing tape attached to the surface of the wafer.

SUMMARY

[0003a] An aspect of the present invention provides a method of marking a wafer by using laser, the wafer with a processing tape attached thereon, the method comprising: transmitting a laser beam having a wavelength of 532 nm through the processing tape attached to a surface of the wafer; and performing a marking operation on the surface of the wafer by moving the laser beam having the wavelength of 532 nm at a predetermined moving velocity, wherein the laser beam having the wavelength of 532 nm has a frequency of 8 kHz to 40 kHz and an output power of 0.8 W to 2 W.

ADVANTAGEOUS EFFECTS OF THE INVENTION

[0004] According to embodiments of the present invention, when performing a marking operation with respect to the wafer to which a processing tape is attached, the wafer marking

CLAIMS

1. A method of marking a wafer by using laser, the wafer with a processing tape attached thereon, the method comprising:
transmitting a laser beam having a wavelength of 532 nm through the processing tape attached to a surface of the wafer; and
performing a marking operation on the surface of the wafer by moving the laser beam having the wavelength of 532 nm at a predetermined moving velocity,
wherein the laser beam having the wavelength of 532 nm has a frequency of 8 kHz to 40 kHz and an output power of 0.8 W to 2 W.
2. The method of claim 1, wherein a marking quality of the wafer is determined by adjusting the frequency, output power, and moving velocity of the laser beam having the wavelength of 532 nm according to a transmittance of the processing tape.
3. The method of claim 2, wherein the laser beam having the wavelength of 532 nm has a frequency of 20 kHz to 40 kHz and an output power of 0.8 W to 1.5 W.
4. The method of claim 2, wherein the laser beam having the wavelength of 532 nm has a frequency of 8 kHz to 20 kHz and an output power of 1 W to 2 W, and the moving velocity of the laser beam is in the range of 200 mm/s to 300 mm/s.
5. The method of claim 1, wherein the processing tape comprises polyvinyl chloride (PVC), polyolefin (PO), or polyethylene (PET).
6. The method of claim 1, wherein the processing tape is transparent, blue, or gray.