ABSTRACT

In dicing a semiconductor wafer W into separate chips, each having a circuit pattern formed therein, the semiconductor wafer W is masked with a masking member 15 to cover at least the front face of the semiconductor wafer on which the circuit patterns are formed and delimited by crosswise streets S. A laser beam is irradiated to selectively remove the crosswise portion of the masking member 15 which is exactly aligned with the underlying crosswise streets S of the semiconductor wafer W. Then, the semiconductor wafer W whose crosswise streets are unmasked is chemically etched so that the crosswise streets may erode to divide the semiconductor wafer W into chips C. Photomasks and an exposure apparatus are not required, thus providing the financial advantage and simplifying the treatment required for dicing. Also advantageously semiconductor chips provided are free of cracks on their edges, or free of interlayer insulating films being peeled-off, which would be caused if semiconductor wafers were diced by cutters.



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