

ABSTRACT

ULTRASONIC CLEANING MODULE

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The invention provides an ultrasonic cleaning module and a method for cleaning singulated electronic packages. The module comprises a cutting chuck having a surface with a plurality of cutting recesses defined in it for enabling a cutting device to separate individual electronic packages from a substrate having a plurality of

10 electronic packages on the surface of the chuck. A pulsator nozzle is supported above the chuck and the separated electronic packages on the chuck such that the pulsator nozzle may emit fluid toward the packages. An ultrasonic generator is associated with the nozzle that is adapted to ultrasonically energize fluid that passes through the nozzle to enhance cleaning of the packages.

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(Fig. 7)