

GP ISO-TEST WAF / CELL

EDGE ISOLATION TESTING



CONSULTING



CELL TECH



MODULE TECH



INSPECT



SITUATION

After diffusion (standard or one-sided), there is usually a parasitic emitter present on the rear side. Application of cell contacts without accounting for the parasitic emitter leads to low parallel resistances, often completely shunted cells. For edge isolation, plasma etching as well as wet chemical etching directly after diffusion is used.

As an alternative, the cells front and rear surface can be isolated after the processing is finished by cutting a laser groove around the cell. In any case, checking of the isolation resistance comes in handy to check the stability of the isolation process.

DESCRIPTION

The GP ISO-TEST is a reliable contacting tool for testing of wafer or cell edge isolation resistance. For checking the edge isolation after the laser cutting process, the GP ISO-TEST Cell provides two spring-mounted copper plates for contacting the cell from top and bottom. The Waf model features two plastic plates with levelled metal contact tips for monitoring the edge isolation directly after diffusion.

For characterisation the wafers will be placed into the GP ISO-TEST in a defined position. By closing the isolation tester, the contact plates or tips come in contact with the wafer surface. The GP ISO-TEST consists of the contacting unit and a battery-powered digital multimeter. The GP ISO-TEST Waf is equipped with an additional manual switching unit to optionally measure all wafer edges one-by-one or all simultaneously. A PC connection and acquisition software is offered for easier data logging as an option.

WAFER > TEXTURE > DIFFUSION > **EDGE ISOLATION** > AR COATING > GRID > FINAL CLASSIFICATION

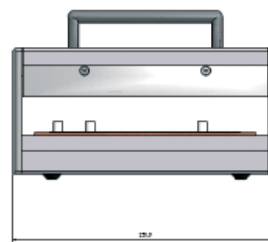


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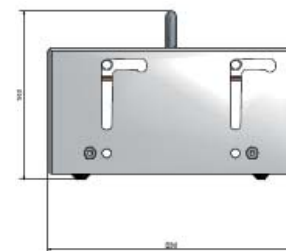
INSPECT



Wafer inside of the GP ISO-TEST Waf



front view



side view

GP ISO TEST Cell

TOPIC	DESCRIPTION
Samples to be measured	<ul style="list-style-type: none"> > Mono- and multi-crystalline wafers > Square or pseudo square > Textured or non-textured surface > Diffused layer (n+p or p+n) > Wafers without contacts, cells with contacts > Edge-isolated
Wafer size	100 ... 156 mm
Measurements	Testing of edge isolation resistance by 2-point probing
Sample preparation	Wafers after diffusion and edge isolation
measured area	Whole wafer
Measurement time	App. 5 sec. per wafer
System dimensions (W x H x D)	220mm x 150mm x 300mm (ISO-TEST unit) 90mm x 50mm x 110mm (Multimeter) 200mm x 30mm x 110mm (Switch)
Order information / Article number	Waf: 04.01.0011 Cell: 04.01.0006

Note: some of the mentioned features are optional. Technical details subject to change without prior notice.
 Only technical specifications in quotations and duty books are binding.

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