SMART

LITE | HV

Reliability Test System For Smart Power, Analog, WBG Devices

ELES

ART
TEST PLATFORM

RETE: STATE OF THE ART APPROACH TO QUALIFY CHIPs FOR ZERO DEFECT & 100% YIELD

CUSTOMER BENEFIT

- Zero Defect & Zero Scraps
- Shorter Time to Market
- COO minimization
- UNIVERSAL Test Platform
- Industry 4.0 readiness
- Competitivity
- Sustainability

DEVICE

- SOC
- Multi die systems
- MEMS
- Memory
- Smart Power ICs
- Power SiC & GaN,
- Photonics IC

POWER FROM 0W TO MORE THAN 1000W

VOLTAGE FROM 0V TO 6000V

TEMPERATURE FROM −40°C TO +175°C

- Universal Testing Platform.
- TfR tester to combine stress and test in the same insertion.
- Configurable by HW kits and SW libraries to manage different IC families: low/high power SOC, Memories, MEMs, smART Power...
- Management of External Test/stress Instruments (on Fixture BOST IPs) to extend test and stress capabilities for the specific IC family.
- Scalable to approach engineering, Reliability and Production tests with the same platform, development and test environment.

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SMART

- Universal Reliability Test System for Smart Power Devices suitable for Automotive market
- Stress like final application emulating the real loads, via the optional External Load Platform
- Per DUT high current PS channel
- Automotive Grade-0 compliancy – Temperature: -40°C to 175°C
- Thermal Chamber with Air Cooling Technology.
  High Temperature Uniformity: ±3°C at full load.
- Power Temperature Cycling according to JESD22-A105C

HTOL, PTC, LTOL, HTRB, ELFR, TDBI - Trials

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SMART LITE

- Universal Reliability Test System for Smart Power Devices suitable for Automotive market
- Stress like final application emulating the real loads, via the optional External Load Platform
- Per DUT high current PS channel
- Automotive Grade-0 compliancy – Temperature: -40°C to 150°C
- Thermal Chamber with Air Cooling Technology.
  High Temperature Uniformity: ±3°C at full load.

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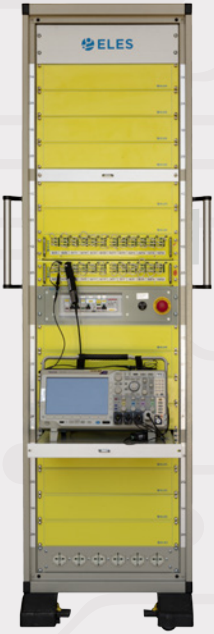
EXTERNAL LOAD PLATFORM FOR smART e smART Lite



- Each smART & smART-Lite Fixture is provided of #192 pin contacts, 3A each, to connect each DUT to High Power loads outside the oven on External Load Platform
- Real load emulation like motors, solenoids, bulbs, lamps ...
- External Load Platform (ELP) characteristics:
  - Rack 19'', 42 units
  - 16 indipendent Load Boards
  - Air temperature control system
  - Max Pdiss= 32KW (2KW each Load Board)
- Probing Interface to measure voltage, current and waveform of each load

smART HV

- All smART system features embedded (No external power load connection).
- Up to 6KV for WBG devices effective stress
- Per DUT High Voltage PS channel
- Effective stress of Galvanic Insulation between Low Voltage and High Voltage Domains

HTOL, PTC, LTOL, HTRB, ELFR, TDBI - Trials

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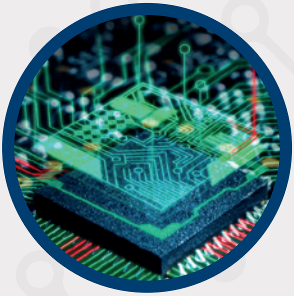
RETE

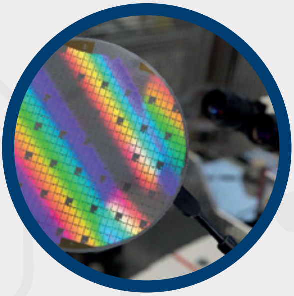
RELIABILITY EMBEDDED TEST ENGINEERING

UNIQUE SELLING PROPOSITION

state-of-the-art test and reliability flow, that ensures:



Early Detection of issues in the Design Process



Shorten Time to Market and CoO minimization

Zero defect and zero scraps Production

... moving from a Pass-Fail to Learn From Fail approach

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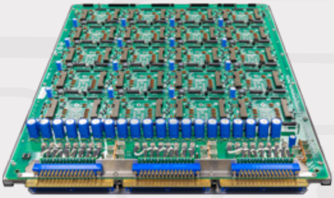
FIXTURES

FIXTURES FOR Q&R AND MANUFACTURING ENVIRONMENT



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LOAD BOARD

smART HV

- Consolidated design rules and qualified building blocks to optimize Fixtures performances and reliability.
- Qualified components libraries and application of consolidated Design for Manufacturing rules.
- BoST IPs to Maximize test and stress coverage, including high accuracy parametric measurement for an effective Test for Reliability (TfR) flow.
- Fixture Robustness optimized for extreme conditions and continuous handling.
- Signal and Power Integrity simulation / optimization service to guarantee and optimize electrical performance versus test application specs.
- Thermal Simulation to Guarantee Stress Temperature accuracy at extreme conditions.

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