

STAR Pluto System

All-in-one Per-Pin Reliability Testers

- All-in-One tester covering all modes of reliability tests for PLR/WLR qualifications
- Complete set of applications incl. HCI/OTF/HCE, GOI/TDDB & EM
- Per Pin SMU Configuration with source- measure capabilities
- Enhance measurement accuracy & efficiency to meet engineering & production needs
- Parallel stress-measurements for all DUTs
- Options to upgrade to +/-100V



Specifications

System

Max No. of Frames: 4 (PLR), 1 (WLR)
Applications: HCI/OTF/HCE, GOI/TDDB, EM

PLR System

No. of DUTs: 480 max (24/bd for 2T)
240 max. (12/bd for 4T)
180 max. (8/bd for 5T)
Test Temperature: 4 max (Mini-Oven)
20max (Micro-Oven)
Test Boards: 20 max. (5 per oven)

WLR System

No. of DUTs: 192 max (12 per site for 2T)
96 max. (6 per site for 4T)
64 max. (4 per site for 5T)
Test Sites: 16 max. (for 300mm)

Mini- / Micro Oven

Temperature: 25 degC~350degC (Mini-)
50 degC~350degC (Micro-)
(option: 400 degC)

Dimension: 9U-ht.

No. of Temperature: single temp. (Mini-)
5x temp. (Micro-)

DUT Boards: 5x DUT boards per oven
(ceramic on steel)

Sockets: Mini-Oven

- 6x Sockets per DUT board
- 2x DUTs per socket

Micro-Oven

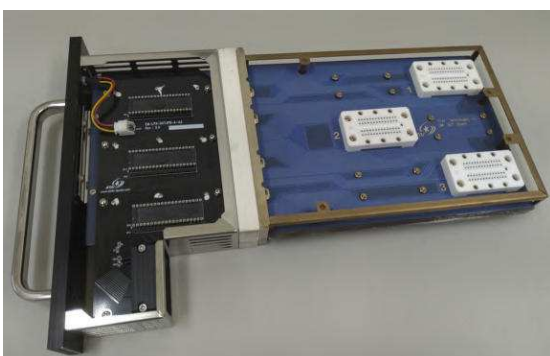
- 12x Sockets per DUT board
- 1x DUT per socket

Uniformity: 25~350 degC at $\leq \pm 3.0 \text{ degC}$
>350~400 degC at $\pm 1\% \text{ degC}$

Accuracy: $\pm 0.5 \text{ degC}$

Resolution: 0.1 degC

Heating Rate: 15 degC/minute (max.)



Mini-Oven DUT Board



Micro-Oven with DUT Board

WLR (Multi-Die Probing System)**Probe Station**

System Type: Manual or Semi-auto
 Chamber: Fully-shielded with oxidation free environment
 Chuck Size: 200mm, 300mm
 Chuck Temperature: -40°C ~ 300°C
 Electrical Spec.:
 - Contact Resistance < 3W
 - Current Noise < 100pA @1PLC
 Microscope: Large-area optics mount with variable magnification
 Software: Magic Software for semi-automatic system
 Frame : Highly stable frame with air cooling to prevent structural change at high temperature & anti-vibration system

Positioning Multi-Stage Specifications (patented)

Stage number: 200mm – 4 (2x2) or 9 (3x3)
 300mm – 8 (4x2), 9 (3x3),
 12 (3x4) or 16 (4x4)
 Channels: Max. of 24 channels/stage
 Total max. of channels: 384 (16x24)
 Positioner stage: Top-accessed micro-screw for precision XYZ adjustments
 Positioner Pitch: Facing – 0 mm
 Side / Back – 40mm
 XY movements: Coarse – ±30mm on rail
 Fine – ±2mm stage micro-screw
 Z movement : Coarse – 3mm platen Z-lift
 Fine – ±2mm stage micro-screw
 Movement : Coarse – ±15° on chuck
 Fine – ±3° stage micro-screw

Probe Card

STAr Virgo-MULTI Probecard Specifications
 Leveraged from STAr's "Air-Gap Isolation" & "Forced-Air Cooling" patented technologies.

PCB: Air-gap designed ceramic PCB
 Temperature: Std: ambient ~ 150°C
 Extreme: ambient ~ 300°C

Probe Count: up to 40 probe
 Pad Size: 40x40um (min.)
 Pad Pitch: 50um (min.)
 Probe: ReW, Cantilever design
 Current: Drive: max. 1.0A (opt. up to 5.0A)
 Leakage: <100pA / V
 Voltage: max. 200V
 Resistance: Channel < 1.0
 Contact: < 3.0 Ω

Low-Power VI PMU Module**Force Voltage**

3-rng: -1~+20V, -16~+6V, -10V~+10V,
 Res. : 340uV
 Acc. : 7.5mV

Measure Voltage

4-rng: ±0.1V, ±1V, ±10V, -16V/+20V
 Res.: 800nV~160uV
 Acc.: 400uV~7mV

Force Current

6-rng.: ±200nA , ±5uA, ±20uA, ±200uA,
 ±2mA, ±50mA

Res.: 6.0pA~3.0uA
 Acc: ±0.2%, 1nA~100uA

Measure Current

6-rng.: ±200nA, ±5uA, ±20uA, ±200uA,
 ±2mA, ±50mA

Res.: 2.0pA~0.61uA
 Acc.: ±0.2%, 1nA~100uA

Functions

- Clamps: Per Channel Current/Voltage
- 1 ADC per 8-ch at 877.2 KS/s
- Built-in averaging and filtering
- Switch control

High Voltage Module**Force Voltage (-100V ~ +100V)**

HiV Output: 0~-100V, 0~+100V
 Res. : 3.4mV
 Acc.: 7.5mV

All low voltage specs remains unchanged

No. of HiV Channels: 24 per board
 No voltage measurement at HiV
 Non-Kelvin output

For all special options, special test conditions, customization, pricing and sales information, please contact STAr sales team or your local representatives.

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