

MATrIX

High Parallel Tri-Temp Pick-and-Place Handler



Automotive



Mobility



IoT/IoV & Optoelectronics



Computing & Network



Industrial & Medical



Consumer

Productivity

- Up to 16,000 UPH
- Parallelism x1 up to x32
- Auto Contactor Cleaning (ACC)
- Auto retest, auto retry
- Continuous load/unload, lot cascading
- Universal recipe

Flexibility

- 3 x 3 mm to 51 x 51 mm package handling
- Compatible with existing test site pitches
- Automated temperature calibration and alignments
- Self-monitoring ESD with ± 5 V balance
- Colored tray detection
- Lot Cascading
- Pre-test 2DID vision system
- Extensive SECS/GEM command library

- Full tri-temp range -55°C to +175°C
- Easy access with chamberless design
- NV-Core Inspection System

- Active Thermal Control per site, other T-Core options
- Class o closed-loop Ionization
- MEMS device test capability: PTU & Acoustic

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Specifications

Platform

Media

- JEDEC trays

Input and Sorts

- 7 - Automated tray stacks
- 3 - Manual trays in pullout drawer

Test Site

- x1 to x32
- Pitch - x: 31.75 mm up to 80 mm
- Pitch - y: 30 mm up to 80 mm
- Horizontal docking
- Customer pitches optional

Plunge Force

- 227 kgf
- 480 and 567 kgf (optional)

NVcore Vision Options

- 2DID
- In-Socket Part Detection

Index Time*

- x1 to x4: 550 ms
- x8: 630 ms
- x16: 800 ms
- x32: 3,900 ms

Throughput*

- Up to 9,000 UPH
- Up to 16,000 UPH (optional)

Jam Rate*

- 1 in 12,000 units (ambient-hot)
- 1 in 5,000 units (cold)

Productivity

- Auto Retest
- Continuous Load/Unload
- Auto Temperature Calibration
- Lot Cascading (optional)
- Auto Contactor Cleaning (optional)

Temperature Range

- 50°C to +155°C
- -55°C to +155°C (optional)
- +175°C (optional)

Thermal (Base)*

- Chamberless tri-temperature test site
- Active Thermal Control per site

Specifications subject to change without notice.

For detailed performance specifications, please contact Cohu.

- Temperature Accuracy (with thermal contactors)
 - x1 to x8: $\pm 2^{\circ}\text{C}$
 - x16 to x32: $\pm 4^{\circ}\text{C}$
 - +175°C: $\pm 5^{\circ}\text{C}$
- Specified values are dependent on the use of contactors that comply with Cohu thermal contactor specification (results may be better - device-dependent)
- Soak capacity: 3 trays
- DUT Thermal Conditioning

T-Core Thermal Options

- LN₂ cooled
- Multiple feed loop options*
- Patented thermal interface technology
- Single insertion multiple temperature (optional)

Tester Interface

- Loadboard compatible (X and Y pitch)
- Docking height 990 to 1,178 mm
- Universal docking design can reuse most existing interface h/w
- RS 232, GPIB and P849
- Parallel (optional)

ESD Control

- Decay: 1,000 V to 100 V in 10 s
- Balance: $\pm 50\text{ V}$
- Class 0 $\pm 5\text{ V}$ (optional)

User Interface

- Windows-based color touchscreen

Power Requirements

- 200-240 VAC, 50/60 Hz, Three Phase, 32 A

Standards

- CE, SEMI S2/S8 assessment, NFPA 79 requirements, Vibration

Change Kit

Device Types

- QFP, TQFP, TSOP, SOIC, CSP, BGA, QFN, WLCSP and others

Package Size

- Minimum: 3 mm x 3 mm
- Maximum: 51 mm x 51 mm

Kit Changeover

- <30 minutes typical

Contactors

- Cohu offers contact sockets for all package versions and application, i.e. high frequency, high power, high voltage, Kelvin and MEMS test

Docking

- Supports Cohu's universal docking
- All standard docking

*Consult factory for specific applications