



HYBRID SINGLE SITE TEST HANDLER MODEL 3110

Ideal for characterization and test development, the Chroma 3110 Hybrid Handler is an innovative pick & place system for IC testing in either Final Testing (FT) or System Level Testing (SLT). The system has the capability of handling a vast variety of device types and sizes ranging from 3x3mm to 55x55mm. To further increase productivity, the 3110 offers an optional remote function allowing control of the handler from any location with an internet connection. Equipped with 2 auto output tray stacks and up to 2 manual output trays, the 3110 will maximize the loading and unloading capacity to save cost and time all within an estimated floor space of 1x1 meter.

The 3110 can be configured to support virtually any industry standard communication interface and provide different docking options for various testers. It is also capable of supporting thermal test environments from -40°C to 135°C accuracy $\pm 1^\circ\text{C}$ which will insure the durability of the devices. With a user-friendly graphic interface based on Windows system and quick device change setup, change over is quick and simple further increasing productivity.

KEY FEATURES

- Configurable for Final Test or System Level Test applications
- Ideal for device engineering characterization gathering and analysis
- Supports remote control function
- Auto tray load/unload & device sorting capability
- Supports various package types from 3x3mm to 55x55mm
- Tester zero waiting time
- Maximize test socket lifetime
- Air damper for superior contact balance
- Anti-double stack protection
- Camera for real time system monitoring
- Tri-temp IC test function from -40°C to 150°C (optional)
- High power cooling function (optional)
- Diskless download function (optional)

Final Test Configuration



3110 with tester



3110 with tri-temp chamber & tester

System Level Test Configuration



3110 with tri-temp chamber



3110 with module board

3110



Tri-temp Control

- Temperature accuracy : ± 1 °C
- Device temperature feedback (Thermocouple/RTD/Thermistor)
- PID Ramp Control (with auto-tuning capability)
- PWM TEC power control
- Die contact force control
- Modularized dry air chamber
- Water chiller
- Dry air supplier

Closed-loop Active Thermal Control (ATC) Module

- Temperature accuracy : ± 1 °C
- Integrated into the test arm
- Device temperature feedback
- PID ramp control (with auto-tuning capability)
- PWM TEC power control
- Die contact force control
- Closed-loop cooling system (no external piping)
- Chamber-less

Unity PTC (Passive Thermal Control)

- Temperature range : < 85 °C (up to 300W dissipation)
- Closed-loop cooling system (no external piping)
- Integrated into the test arm
- Die contact force control
- Water chiller and dry air supply not needed

Cooling Pipe

- Temperature range : < 85 °C (up to 125W heat dissipation)
- Compressed air from test plant. air : 0.7MPa, 70 LPM
- Die Cushion (Dual Contact Force) Control
- Water chiller and dry air supply not needed

Model	3110	
Dimensions and Weight	Dimensions :900 mm (W) by 1250mm (D) by 1800 mm (H) (Signal Tower excluded)Net Weight : 500kg	
Power Requirement	Power Supply : AC 220V, 50/60 Hz Single-phase Maximum Power Consumption : 3.0KVA Max Controller Circuit: 1.0 KVA Max. Heater Circuit : 2.0 KVA (Option)	
Compressed Air	Dry Air of 5.0 kg/cm2 (0.49 Mpa) or higher, constant supply	
Applicable Device	Type : BGA series, μ BGA, QFP series, QFN, Flip-Chip, TSOP Outer dimensions : 3 mm x 3 mm to 55 mm x 55 mm Depth : 0.5 mm to 5 mm Lead / Ball pitch : 0.4 mm / 0.5 mm and above	
Tester Interface	Standard RS-232,TCP/IP, Optional GPIB and TTL	
Jam Rate	1/3000	
Categories	4 Categories (128 bin signals for RS232)	
Contact Force	80 kgf (Accuracy ± 1kgf), 125Kgf (Option)	
Environment	Operating Mode : Ambient	
Thermal Control Solutions	Tri Temp Control (Option)	Temperature Range : -40 ~ 135°C ± 1°C (150°C Optional)
	ATC Module (Option)	Temperature Range : Ambient ~ 135°C ± 1°C (150°C Optional)
	Unity PTC(Option)	Temperature Range : Ambient ~ 85 °C (up to 300W Heat Dissipation)
	Cooling Pipe(Option)	Temperature Range : Ambient ~ 85 °C (up to 125W Heat Dissipation)
Features	ECD Function (Easy- Edit communication defined)	
	Die Force Control	
	Contact Pick & Place System	
	PoP Function for Stacked die or 3D Chips	
	Remote Control functionality	
	Yield Control	
	Monitors For Continuous Failures	
	Remote Control	
	CCD camera for device orientation detection	
	Rotation (± 90 degree)	
	Pre-Heat Module for ambient to 150°C test	
	Auto Load / Unload : 1Input/2Unload (with 2 manual unload)	
Fixed Load / Unload : 1 Input / 4 Unload		

ORDERING INFORMATION

All specifications are subject to change without notice.

3110 : Hybrid Single Site Test Handler

3100-TT : Tri-Temp Control (option)

3100-A : Active Thermal Control Module (option)

3100-P : Unity Passive Thermal Control (option)

3100-C : Cooling Pipe (option)

Chroma Thermal Control Solutions	Products	Thermal Capability	Configurations						
			Test Plug Design	Compressed Air	Dry Air	Standalone Water Chiller	Chamber	TEC Controller	External Piping
Active Thermal Control Solution	3100-TT	-40°C ~ 135 °C ± 1°C	Heat Exchanger+TEC (peltier)	No	Yes	Yes	Yes	Yes	Yes
	3100-A	Ambient ~ 135 °C ± 1°C	Water Chiller Cooling+TEC (peltier)	No	No	Yes	No	Yes	Yes
			Closed-loop Liquid Cooling+TEC (peltier)	No	No	No	No	Yes	No
Passive Cooling System	3100-P	Ambient ~ 85°C (< 300W Heat Dissipation)	Closed-loop Liquid Cooling	No	No	No	No	No	No
	3100-C	Ambient ~ 85°C (<125W Heat Dissipation)	Cooling Pipe	70 LPM	No	No	No	No	No

Developed and Manufactured by :

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