

Our Commitment ...

- Safe and reliable product with stable field application in line obeying industrial standards
- Professional, superior, and cost-effective semiconductor equipment with total solution
- Strong technical support & quick service response
- Clear warranty terms & powerful spare parts supporting



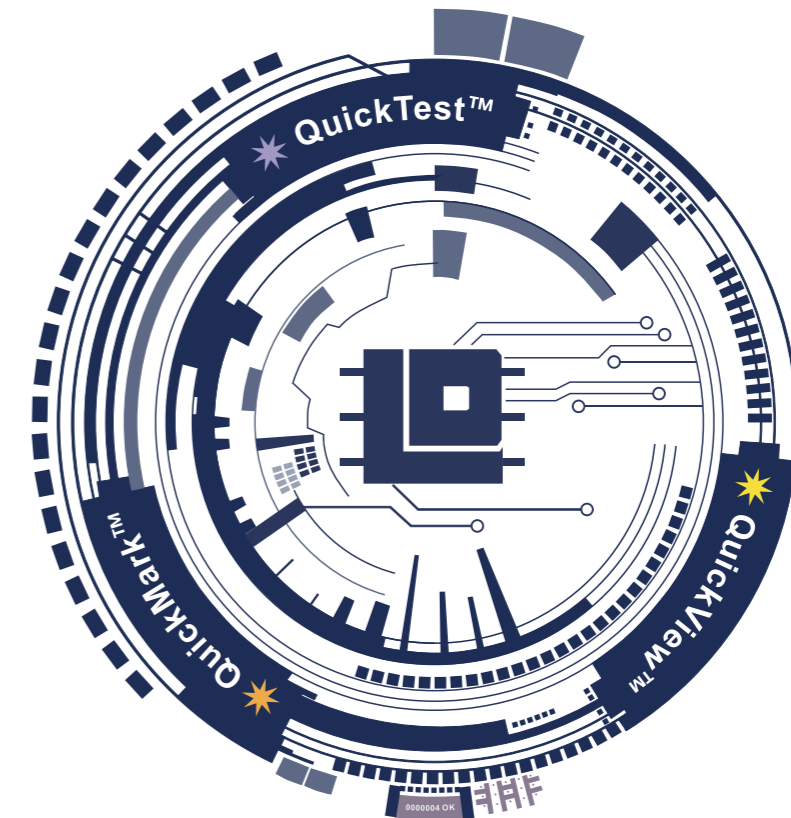
www.powertechsemi.com

For more information, please contact us at: info@powertechsemi.com

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K4-2002(Feb.2020Version)



Always Innovate!

 联动科技
PowerTECH

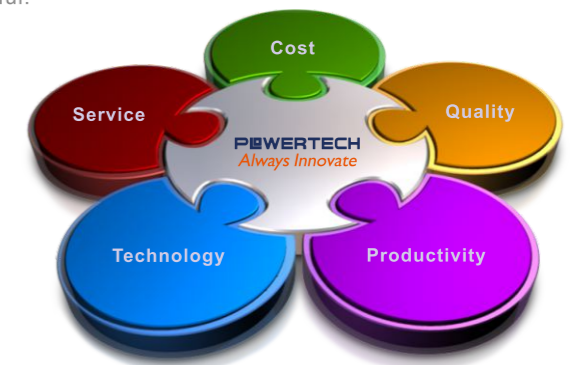


About us

- PowerTECH is an equipment supplier for semiconductor assembly and test, especially in testing, laser marking and vision inspection system, which was founded in Dec 1998, and granted as China National High-Tech Enterprise.
- PowerTECH provides total solution.
- Our major products are
 - “QuickTest™” Semiconductor Discrete device/ IC test system;
 - “QuickMark™” Industrial laser Marking system;
 - “QuickView™” Vision Inspection system.

Our Advantages Difference makes excellence

- Our R&D is dedicated to customer requirements. With our core technologies, PowerTECH approaches the world-class leading technology with creativity and integrity. PowerTECH creates values of new technology, cost reduction, and customized demands.
- With many years of self-development experience, PowerTECH is able to provide total solutions of IC & discrete device tests to meet customers' requirements as well as extended application demands.
- PowerTECH in-house manufacturing highlights our rigorousness and effectiveness in running our own production line to assure high quality, stable yield, and on-time delivery. We keep things simple and powerful.



20 YEARS+ WE CARE FOR ALL YOUR INDUSTRIAL NEEDS...

We keep working hard !

PowerTECH has been dedicated in semiconductor assembly and test equipment for 20 years.
 Our self-developed products fit the most advanced technology in semiconductor assembly and test industry.
 In the rapidly changing world, PowerTECH thinks out-of-the-box and always innovates to keep up with the latest technology.
 Without limitation, we provide more than expected...



Mixed-Signal IC Test System (Direct Mount)

QT-8200



Main Features

- Analog, Digital, & Mixed-Signal IC Test System
- 25/100MHz Clock Rate
- Up to 256 Channels
- 64 Parallel Test Sites
- 4/8M pattern memory
- Min. Pulse Width 3.25ns
- Programming Language: Visual Studio C++
- Each V/I channel equipped with built-in AWG for fast test
- Floating Power Supply
- Operation System: Windows
- DPU with built in TMU, PMU, and DPS
- Four Quadrant, Built-in Oscilloscope
- High Voltage Channel: 1000V/30mA
- Min. Time Measurement 1ns

Major Technical Parameters

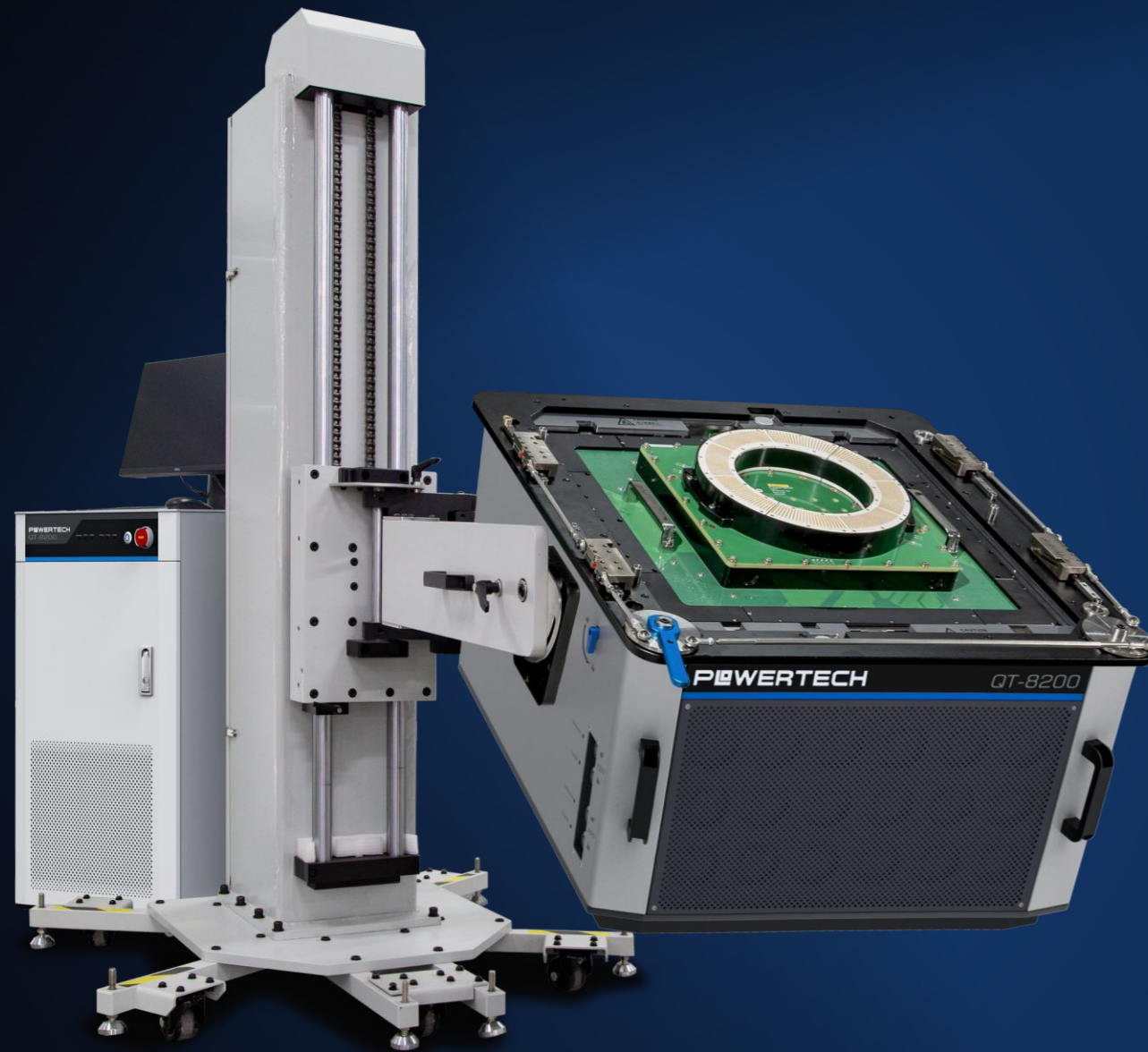
Key Technical Specifications /Index for Analog boards

Name	Voltage/Current	Channel Quantity	Accuracy	Digitizer	AWG
APU8-30	±30V/200mA	8/16	0.05%	100Ksps/200Ksps	200Ksps
APU16-30					
APU8-100	±100V/100mA	8	0.05%		
APU8-50	±50V/1A	8	0.05%		
APU32-20	20V/80mA	32	0.05%		
PVI600	±600V/30mA	2	0.25%		
PVI1000	-300V~+1000V/30mA	2	0.25%		
PVC40-20	±40V/20A	2	0.1%		
PVC60-10	±60V/10A	2	0.1%		
PVC120-10	±120V/10A	2	0.1%		
PMS2/4	Measure DC 0-200V	2/4	0.005%	1MHz(18bit) 25MHz(12bit)	1MHz(18bit) 50MHz(12bit)
	TMU	2/4	0.5%		
	Force AC 10V Sine	2/4		Sine 1~10V THD-80dB: 1~10KHz(18bit)	
	Built-in DSP	2/4		FFT, Average, Vrms	

Key Technical Index for Digital boards

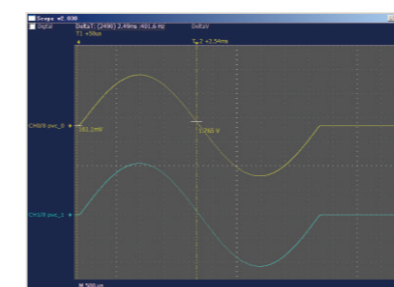
Name	(PPMU) Output Measurement	Channel Quantity	Output Accuracy	Max. Rate	TMU Min. Accuracy	Pattern Memory
DPU8/16	-1.5~6.5V/40mA	8/16	0.2%/0.1%	100MHz	0.15ns	4M/8M
DPU32	-2~6V/32mA	32	0.2%/0.1%	25MHz		4M/8M
Built-in TMU	Resolution 50ps; Measurement Range 1ns-1s					
Data Format	RZ, NRZ, RTO, NF, SBC, Max 256 wave STIL					
DPS	20V/1.0A(DPU8 BYO 4Channels/DPU32 BYO 2Channels)					

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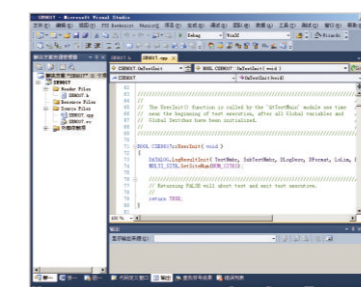


QT-8200 Application Range

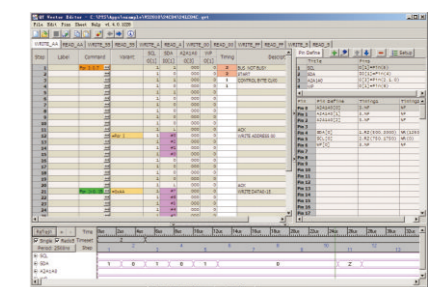
Analog-digital mixed IC	LED driver	Consumer Electronics
Memory/ microprocessor	Power management	Communication and interface



PVC Oscilloscope Interface



Test Programming Interface



Vector Editing Interface

Mixed-Signal IC Test System (Cable Mount)

QT-8100

QT-8100IC tester is applicable to regular DC/AC parameter testing and IC device performance testing.

Main Application: Power Management; Digital Consumer Products; Communication & Interface; Automotive; Energy Saving Electronics; Standard Linear Circuit; Special Customized IC and Wafer Test.



Main Features

- Analog, Digital, & Mixed-Signal IC Test System
- Floating power supply
- Supports voltage and current output, waveform display function, built-in AWG
- Up to 472 test channels, 64 parallel test sites
- Current in parallel connection can be above 40A
- Compared with traditional testers testing general test items, the QT8100 can reduce test-time by 30%-50% or more
- Supports RF, LCR, and EAS extension

Major Technical Parameters

Digital Parameters

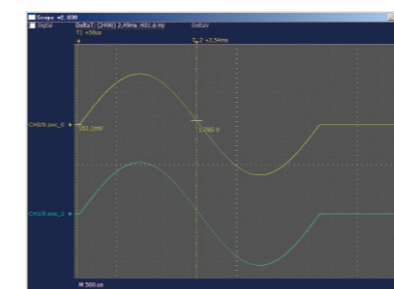
Available boards	8/16 channel
Maximum Test Frequency	100MHz
Minimum pulse Width	3.25ns
Pattern Memory	4Meg/8Meg
Maximum I/O Channel	128
TMU(Time Measurement Unit)	50ps
Offset& Comparison Voltage Range	-1.5 to +6.5V
Data Format	RZ,NRZ,RT0,NF,SBC,Max 256wave STIL Compatible
Digital Power Supply(DPS)	20V/1.0A 4CH



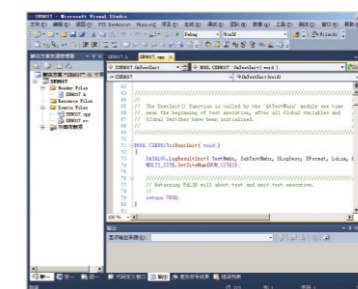
Key Technical Index For Analog Boards

Name	Voltage/Current	Channel Quantity	Accuracy	Digitizer	AWG
APU8-30	±30V/200mA	8/16	0.05%	100Ksps/200Ksps	200Ksps
APU16-30					
APU8-100	±100V/100mA	8	0.05%		
APU8-50	±50V/1A	8	0.05%		
PVI600	±600V/30mA	2	0.25%		
PVI1000	-300V~+1000V/30mA	2	0.25%		
PVC40-30	±40V/30A	2	0.1%		
PVC40-20	±40V/20A	2	0.1%		
PVC60-10	±60V/10A	2	0.1%		
PVC120-10	±120V/10A	2	0.1%		
PMS2/4	Measure DC 0-200V	2/4	0.005%	1MHz(18bit) 25MHz(12bit)	1MHz(18bit) 50MHz(12bit)
	TMU	2/4	0.5%		
	Force AC 10V Sine	2/4		Sine 1~10V THD-80dB; 1~10KHz(18bit)	
	Built-in DSP	2/4		FFT, Average, Vrms	

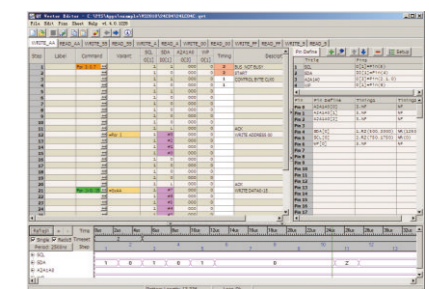
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PVC Oscilloscope Interface



Test Programming Interface



Vector Editing Interface

POWERTECH

QT-81

QuickTest™

Mixed-Signal IC Test System (Cable Mount)

QT-8100HP

QT-8100HP is designed for Multi-site Final Test and Wafer Sort Testing of AC and DC parameters for Power Discrete and Power IC devices.

Main application: High-power Supply Management, Automotive, Energy Conservation Electronics, Standard Analog IC, High-power Discrete Device, Audio and RF Device, Final Testing and Wafer Testing for Mixed-Signal or other IC Device.



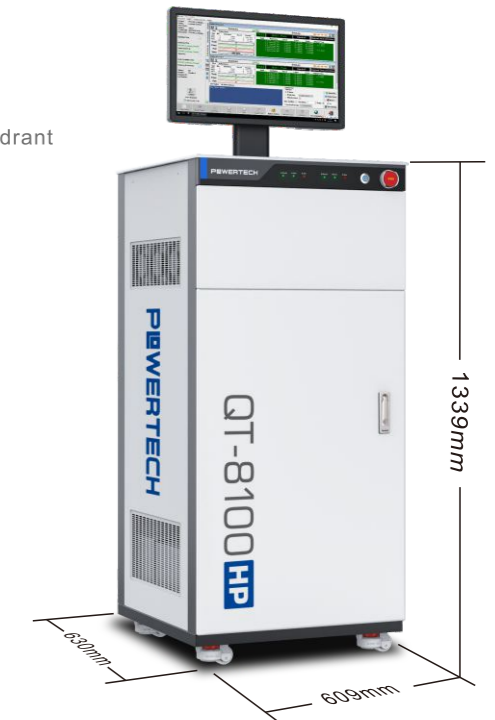
Main Features

- Parallel Multi-site testing of Power Discrete and Power IC devices
- Supports RF, LCR, and EAS extension
- Floating power supply
- High power output with up to 32 channels of 40A current per channel, or 80A by parallel connection of 2 channels
- High voltage output with up to 16 channels of 1000V per channel, or 2KV by series connection of 2 channels
- Built-In AWG, Built-In Oscilloscope, Voltage & Current-limiting Mode, Four Quadrant
- Up to 200 measuring channels, 64 parallel test sites
- Supports 300A and 3000V extension

Major Technical Parameters

Digital Parameters

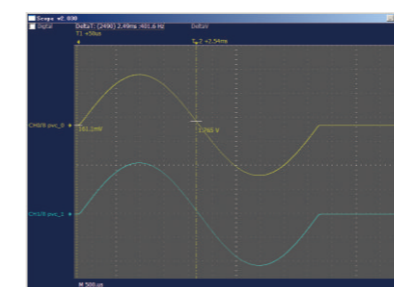
Available boards	8/16 channel
Maximum Test Frequency	100MHz
Minimum Impulse Width	3.25ns
Pattern Memory	4Meg/8Meg
Maximum I/O Channel	32
TMU(Time Measurement Unit)	50ps
Offset& Comparison Voltage Range	-1.5 to +6.5V
Data Format	RZ,NRZ,RTO,NF,SBC,Max 256wave STIL Compatible
Digital Power Supply(DPS)	20V/1.0A 4CH



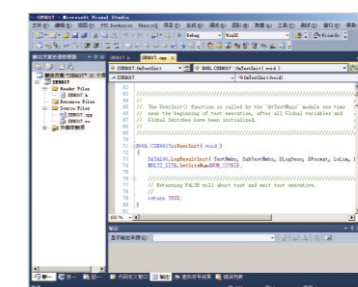
Key Technical Index For Analog Boards

Name	Voltage/Current	Channel Quantity	Accuracy	Digitizer	AWG
APU8-30	±30V/200mA	8/16	0.05%	100Ksps/200Ksps	200Ksps
APU16-30					
APU8-100	±100V/100mA	8	0.05%		
APU8-50	±50V/1A	8	0.05%		
PVI600	±600V/30mA	2	0.25%		
PVI1000	-300V~+1000V/30mA	2	0.25%		
PVC40-20	±40V/20A	2	0.1%		
PVC60-10	±60V/10A	2	0.1%		
PVC120-10	±120V/10A	2	0.1%		
HPU	±30V/±40A	4	0.1%		
PMS2/4	Measure DC 0-200V	2/4	0.005%	1MHz(18bit) 25MHz(12bit)	1MHz(18bit) 50MHz(12bit)
	TMU	2/4	0.5%	Sine 1~10V THD-80dB: 1~10KHz(18bit)	
	Force AC 10V Sine	2/4	FFT, Average, Vrms		
	Built-in DSP	2/4			

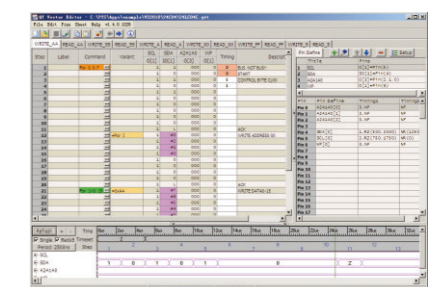
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PVC Oscilloscope Interface



Test Programming Interface



Vector Editing Interface

Digital IC Test System

QT-7200

QT-7200 is applicable for MCU, Digital Communication Chips, Multimedia Device, Memory and Digital Logic Device and other medium/small range Digital Integrated Microcircuit.



Main Features

- Max. 200Mbps data rate
- 256 Digital Channels
- Vector depth 16M/32M
- Min. time measurement 1ns(50ps resolution)
- Min. pulse width 3.25ns/10ns
- 64 parallel test sites
- Supports SCAN test of digital IC
- Supports DPU64, EPU10, DPS32, and DPU32
- Built-in oscilloscope 10MHz
- Built-in AWG & DIG on EPU board
- Built-in DCL, TMU, PMU on DPU board
- Microsoft Windows system
- Development environment: Visual Studio C++
- PTS tool for application development
- Supports 7 slots for test host
- External RF module

Major Technical Parameters

Digital Boards: DPU

Name	Data rate	Vector depth	Channel	DCL	Active Load/R out	Min.pulse width	Accuracy
DPU32	200Mbps	32M	32	-1.5V~6.0V	±25mA/50Ω	3.25ns	0.1%Rdg
DPU64	50Mbps	16M	64			10ns	±5mv
TMU	1.0nS~1.0uS (Resolution: 50ps, Accuracy: ±0.15nS) 1.0uS~8mS (Resolution: 50ps, Accuracy: ±1.0nS) 8mS~1S (Resolution: 10ns, Accuracy: ±10nS)						
Format	Max 256 wave STIL Compatible						
PPMU	Voltage: -2.0V~6.5V Current: ±2uA/±10uA/±100uA/±1mA/±40mA						

Power Supply Boards: DPS

Name	Current	Voltage	Channel	Max Channel	V/I Accuracy
DPS32	1.2A	-3.3~20V	32	64	0.05%/0.3%+ level step value

Analog Boards: EPU

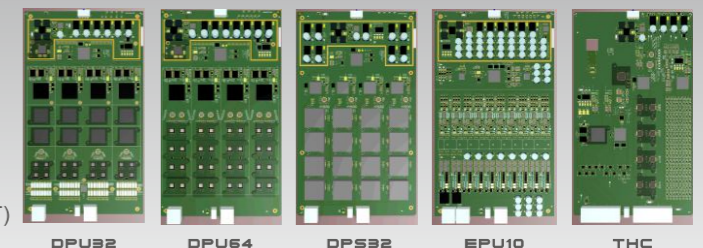
Name	Function	Voltage/Current	Channel	AWG	Digitizer	Max Channel	V/I Accuracy
EPU10	High Current	40V/10A	2	200ksps	200ksps	4	0.025%/0.05%+ level step value
	Analog V/I	40V/1A	8			16	

Control Boards: THC

DPS	CBIT	External I/F
8 Channel / -3.3~20V / 1.2A	128 IO CBIT, Extensible	4 Channel

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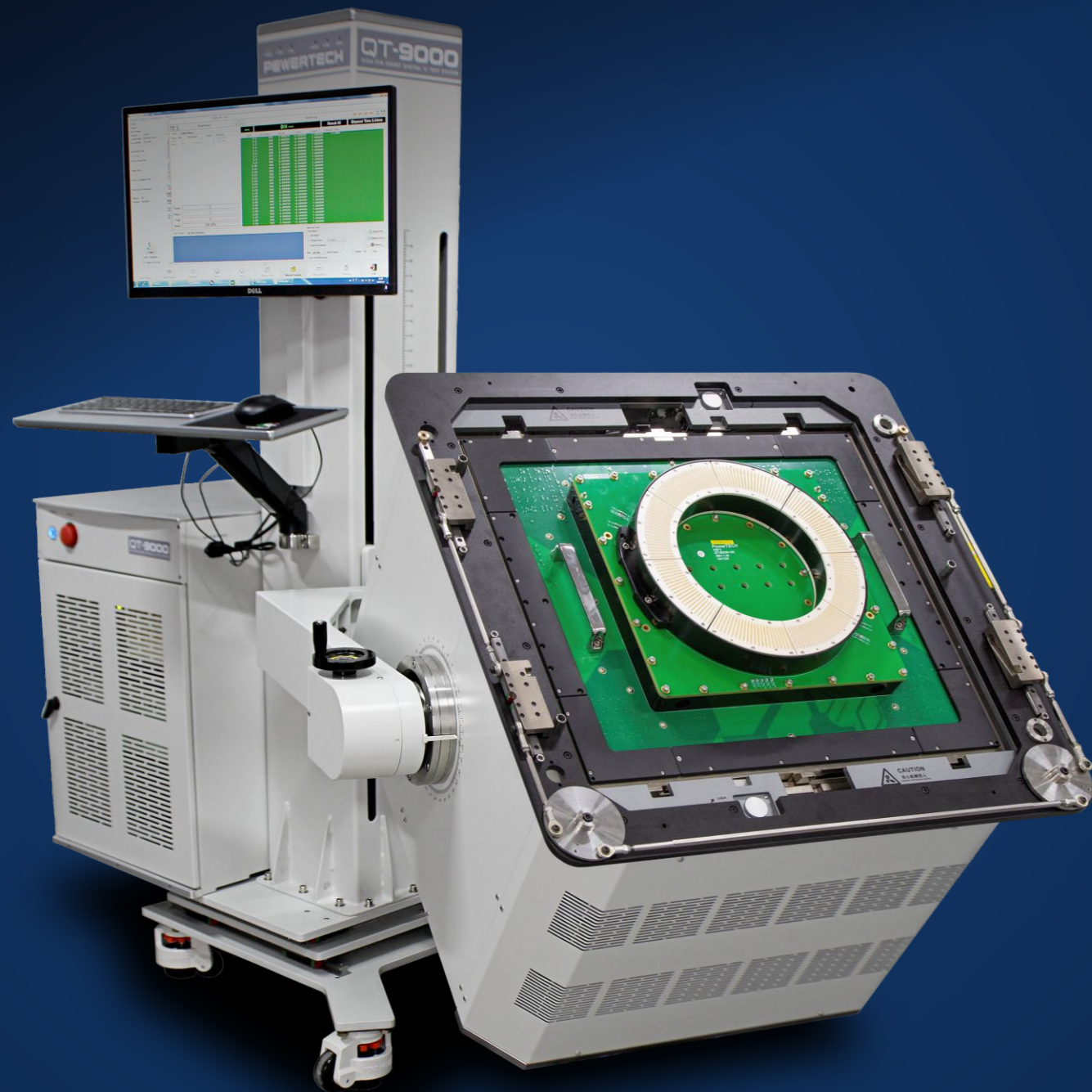
- **DPU32** 32 digital channels up to 200Mbps
- **DPU64** 64 digital channels up to 50Mbps
- **DPS32** 32 power supplying channels with 25V/1A
- **EPU10** 8 channels(40V/1A) , 2 channels(40V/10A)
- **THC** communication, 8 DPS channels, 128 I/O(CBIT)



VLSI Test System

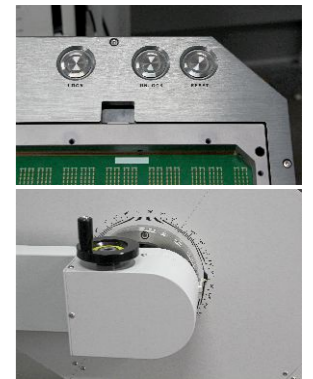
QT-9000

MCU, Digital communication & interface,
Memory controller, Digital Multimedia, etc.



Key Features

- 200Mbps data rate
- 768(DPU32/200Mbps) / 1536(DPU64/50Mbps) I/O pins
- 32M vector memory
- Min. time measurement 1ns(50ps resolution)
- Min. pulse width 3.25ns(39ps resolution)
- Up to 1024 parallel test sites
- SCAN test function
- Supports RF extension
- Built-in oscilloscope (100KHz/1MHz/10MHz)
- Built-in AWG & DIG
- Built-in DCL, TMU, and PMU in DPU
- Microsoft Windows system
- Programming Language: Visual Studio C++
- PTS tool for application development
- PTS software applies real-time monitoring to power supply
- 26 scalable slots
- Easy docking manipulator



Major Technical Parameters

Digital Instrument: DPU

Name	Data rate	Vector depth	Channels	DCL	Active Load/R out	Min. pulse width	Accuracy
DPU32	200Mbps	32M	32	-1.5V~6.0V	±25mA/50Ω	3.25ns	0.1%Rdg
DPU64	50Mbps	16M	64			10ns	±5mv
TMU	1.0nS~1.0uS (Resolution: 50ps, Accuracy: ±0.15nS) 1.0uS~8mS (Resolution: 50ps, Accuracy: ±1.0nS) 8mS~1S (Resolution: 10ns, Accuracy: ±10nS)						
Format	Max 256 wave STIL Compatible						
PPMU	Voltage:-2.0V ~ 6.5V, Current:±2uA/±10uA/±100uA/±1mA/±40mA						

Power Supply Instrument: DPS

Name	Current	Voltge	Channels	Max channel	Voltage/Current accuracy
DPS32	1.2A	-3.3~20V	32	128	0.05%/0.3%+ level step value

Analog Instrument: EPU

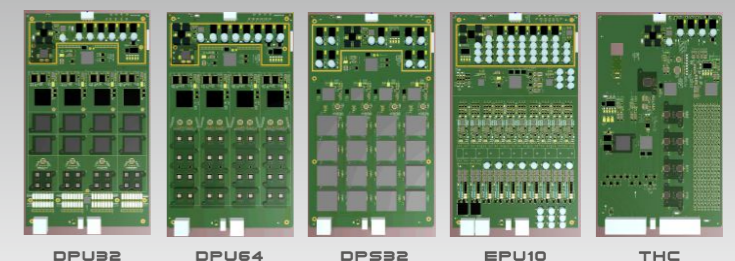
Name	Function	Voltge/Current	Channels	AWG	Digitizer	Max support channels	Voltage/Current accuracy
EPU10	High Current	40V/10A	2	200ksps	200ksps	8	0.025%/0.05%+ level step value
	Analog V/I	40V/1A	8			32	

Control Instrument: THC

DPS	CBIT	External I/F
8 Channel / -3.3~20V / 1.2A	128 IO CBIT, Extensible	4 Channel

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- DPU32 32 digital channels up to 200Mbps
- DPU64 64 digital channels up to 50Mbps
- DPS32 32 device power supply channels (25V/1A)
- EPU10 8 channels (40V/1A) , 2 channels (40V/10A)
- THC communication, 8 DPS channels, 128 I/O (CBIT)





Hi-Speed Discrete Device Test System

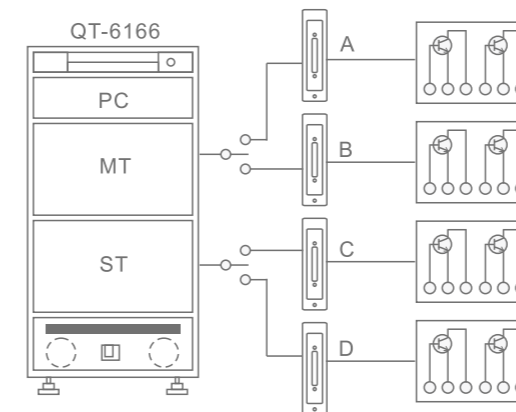
QT-6000

QT-6000 Test System, with built-in capacitance test (DC+CAP) and Scanbox etc, is applicable to devices like medium & small power transistors, MOS-FET, diodes and Wafer.

- Electronic switch replaces slow traditional mechanical relay to achieve faster speed and higher reliability.
- Quick test for pA level leakage current.
- Functions like LCR, large current, EAS, thermal resistance are customizable.
- With built-in oscilloscope, calibration and self-test function, QT6000 is able to record real time waveform during testing, which is convenient for test parameters adjustment and analysis.
- Available temperature and power sensing protection circuit.
- Available four-quadrant circuit to protect DUT.
- Floating power and fully-symmetrical structure.

Application Features

- High-speed test to match Handler with UPH above 56K.
- FT/QA retest can mostly prevent test escapee.
- Available parallel test to achieve multi-channel and multi-die test.



QT-6166 is able to perform 8 transistors in ping-pong test
test time for 4 transistors in parallel test is approximately 40ms.



Major Technical Parameters

Measure Precision	Current: 0.5% value + 0.05% range + 1.5nA Voltage: 0.5% value + 0.05% range + 1.5mV Capacitance: 0.5% value + 0.05% range + 10fF
Measure Range	Current: 30A/3A / 300mA / 30mA / 3mA / 300uA / 30uA / 3uA / 300nA / 30nA / 3nA Voltage: 1200V/600V /300V /30V /3V /300mV/30mV Capacitance: 300pF / 30pF / 3pF (BIAS Voltage range 0~80V) VC measure
Resolution	16 bit ADC/DAC
Wave Form Record	Wave Form Capture 100K/1M/10M Optional, Sampling 1024KB

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Field Applications



Medium to High Power Discrete Device Test System



QT-4100

QT-4100 discrete device test system is applicable to transistors, diodes, Zener diodes, MOS-FET, J-FET, Current Sense FET, IGBT, LDO (78XX 79XX TI431 TI432 regular test), photoelectric coupler in CP and FT test. GaN Dynamic RDON test works with QT-4100 as an optional module.

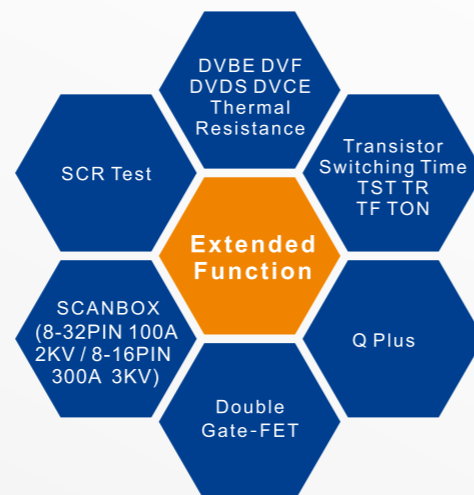
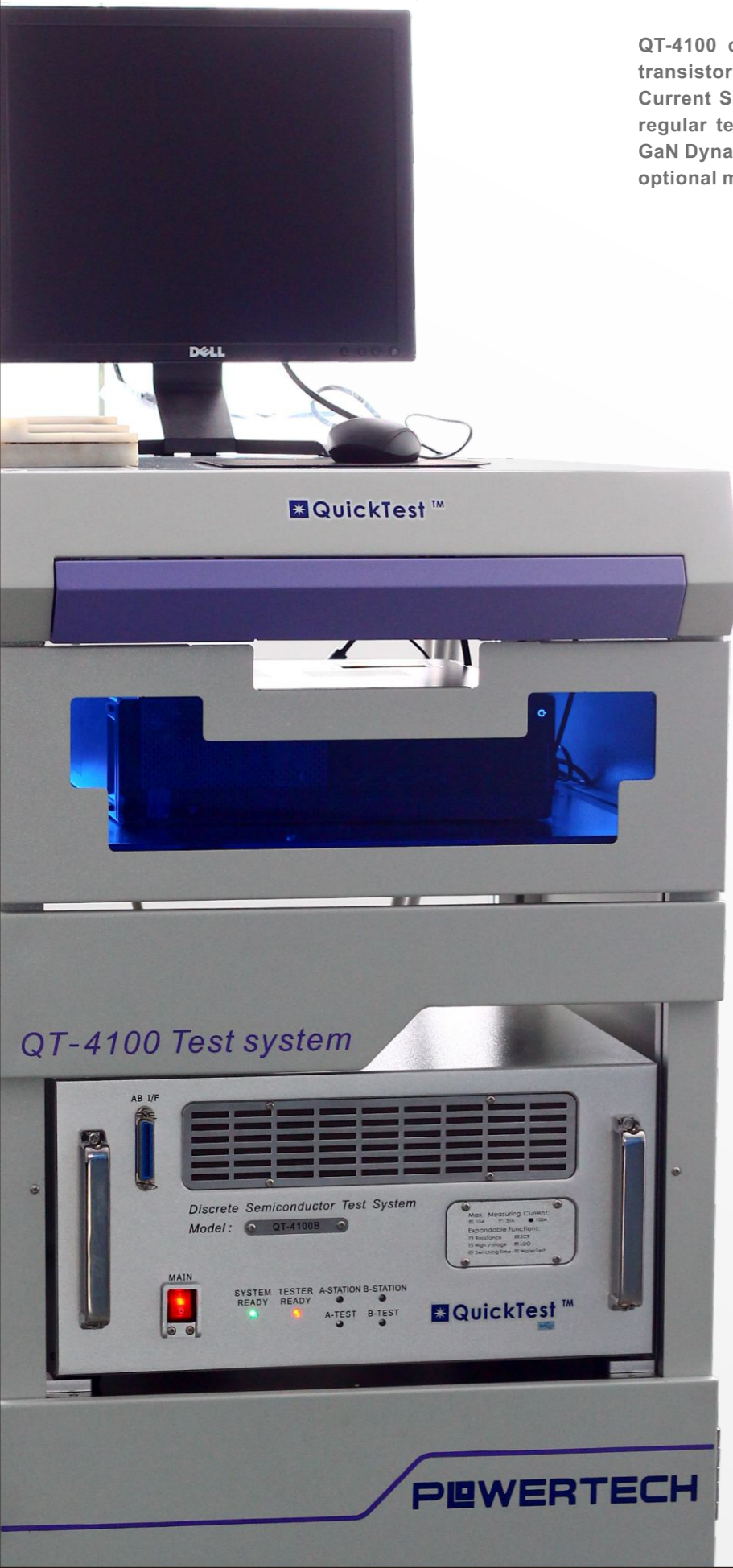
Main Features

- Wide test coverage, the current works under restrained current and voltage mode which could protect device effectively.
- Available for fail-safe design, voltage & current self-check, automatic stop and alarm in abnormal situation.
- LOW RDON: deviation is less than 1% in measuring 1mV; for 10mV or above, less than 0.5%.
- Quick self-test in 2 minutes without external device.
- Available relay self-check performed by software.
- System calibration with Agilent 34401A.
- Built-in oscilloscope.

Major Technical Parameters

Voltage/Current	3KV,2KV,1KV,600V/300A,200A,100A,30A,10A
Test station (Test-head)	2pcs
Power Supply Voltage	AC220-240V+/-10%;50Hz/60Hz
Power Consumption	250VA
Relay Reflection Time	2ms-100ms (Default 3ms)
External Interface	(1/F)
TTL classification	24
BCD Code	99
Binary Code	250
Dimension	492mm(W) x670mm(D) x250mm(H)
Test Station HD-1200	80mm(W) x272mm(D) x169mm(H)

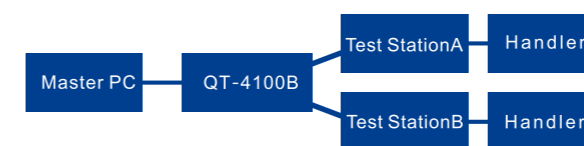
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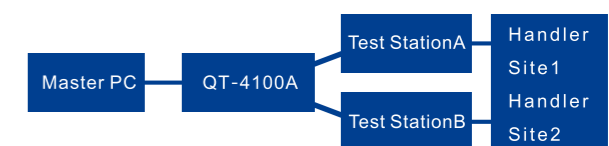
CURRENT	
Test Value	Accuracy
10nA	1%+Full Range 0.04% ± 3nA
10mA	0.5%+Full Range 0.04% ± 3nA
Above 10A	0.5%+Full Range 0.04% ± 3nA

VOLTAGE	
Test Value	Accuracy
1mV	3%+Full Range 0.04%±50µV
10mV	0.5%+Full Range 0.04%±50µV
Above 1KV	0.5%+Full Range 0.04%±20mV

- There are various configurations to provide economical and efficient system integration for customers.



Ping Pong Test



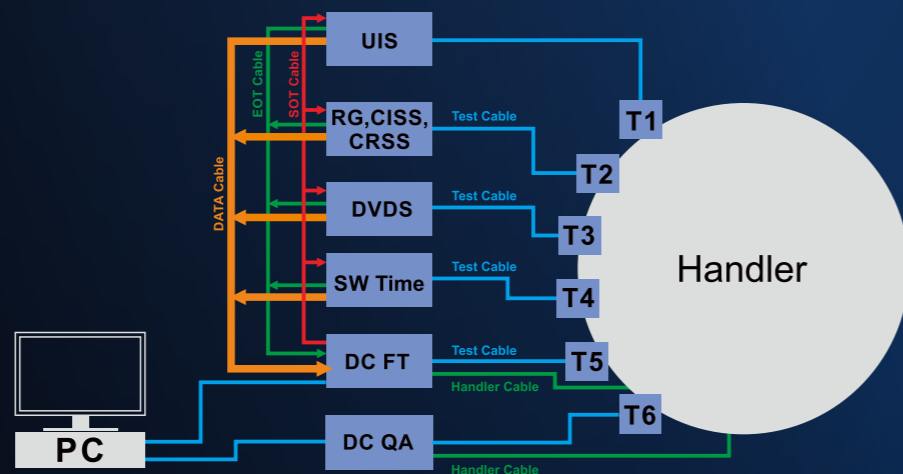
Parallel Test



Integrated Test System

QT-4100

Integrated DC+EAS+RGCG+DVDS+SW Time+QA Tester with one PC to operate test programs and to record test data. Merging these data provide convenience in administration and application.



EAS Test System

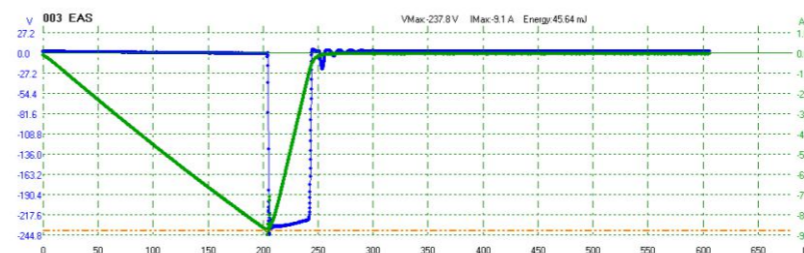
QT-3101UIL

Main Technical Specifications

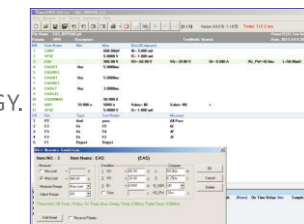
- QT-3101UIL is developed for the EAS test of MOSFET, IGBT, and diode.
- Output measurement capability: max measurement BVdss: ±2000V, max output VD: ±150V, ID: ±200A, EAS time measurement: EASIDT EASIHTEASILT.
- EAS measure: BVdss: ±2500V, T1, T2, O/S, IDMAX, PDROOP, PCOLLAPSE, EASENERGY.
- Inductance boxes are available as 0.01-100mH, 0.1-59.9mH/Customization.

Main Features

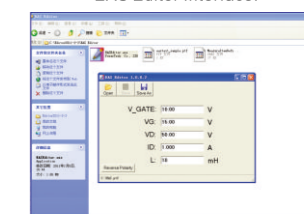
- Supporting VDD ON ($E=1/2L \cdot I^2 \cdot BV_{DSS} / (BV_{DSS} - V_{DD})$) test or VDD OFF ($E=1/2L \cdot I^2$) test.
- Built-in oscilloscope.
- Setting step to increase current or inductance in order to test the "critical point" that will destroy the device completely.
- Can set single pulse, multipulse or MOSFET test.
- Sharing the same computer with QT-4100, performing unified management for test programs and data.
- Can show the actual measurement of energy (mJ).
- Supporting PVDROOP, PVCOLLAPSE test.



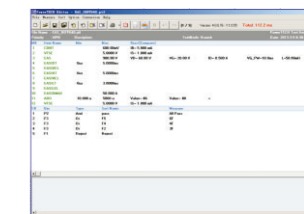
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All parameters can be edited via EAS Editor Interface.



User-friendly editor software is convenient for customers.



The time requirement is determined by the default setting of software. An EAS test procedure runs less than 30 ms.



Rg/Cg Test System



QT-3107

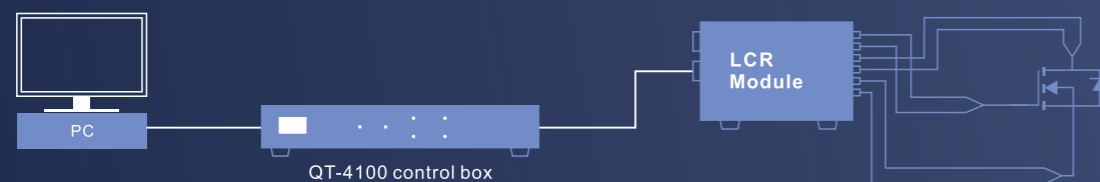
Test Range: Parameters of Field Effect Transistor (Rg, Ciss, Coss, Crss) or discrete device capacitor.



Main Technical Parameters

Brief Specification	Test host size	311(L)×84.5(W)×247.5(D)mm
Technical SPEC	Application environment	25°C
	Limit of Test	Output frequency: 1MHz
		DC BIAS: 0.5~40V Step 0.01V Level: 50mv-1V
	Test SPEC	Test capacitance: 0.1pF~0.1uF Resolution: 1fF
		CISS, COSS, CRSS: 0.01~50nF, ±(2%+0.01nF)
RG: 0.2Ω~50Ω; ±(2%+0.2Ω(Ciss>0.3nF))		

Advantage: sharing computer software system with QT-4100 makes data integration more convenient. Also applicable on capacitance measurement with high accuracy, eliminating other LCR test devices.



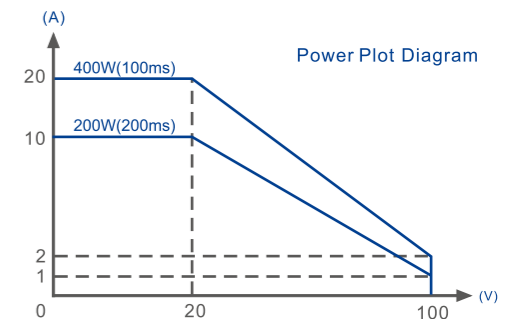
Thermal Resistance Test System

QT-3102



QT-3102 is developed for thermal resistance test of Transistor, MOSFET, IGBT, and Diodes. SCR is optional.

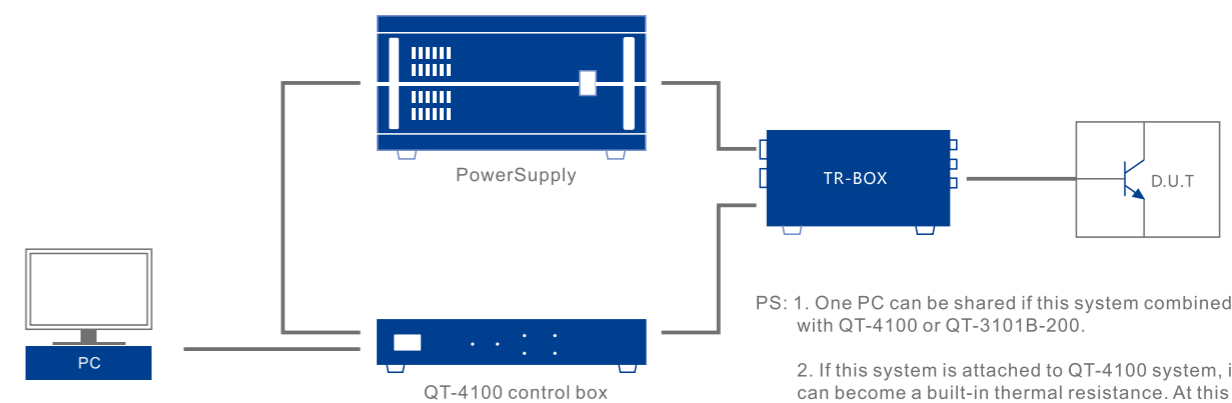
- Switching time is 3ms.
- Capable of dual-site test through scanbox.



Main Technical Parameters

Item	Range	Step Current	Precision
Bias Current IE/ IDS	0.01 to 20.00A	0.01A	± (1%+2mA)
Measuring Voltage IM	1 to 100mA	1 mA	1 to 39 mA ±(1% + 0.2 mA) 40 to 100 mA(±3%)
Threshold Voltage Gate-L	1.0 to 20.0V(±5V's Initial Fixed Value)	0.1V	±0.5V
Power Consumption Time	Within Bias Power Range 300 us to 400ms	1 us	(Crystal)
Delay Time	10 to 999 us	1 us	±1 us(Crystal)
Upper Limit/ Lower Limit	0 to 9999 mV	1 mV	\
	0 to 999.9 mV	0.1 mV	\
VCB / VDS	1 to 100 V	1 V	± (0.2%+0.1V)

* The maximum current and voltage depend on the type of machine. There are , 20A and 50A options for maximum current or 100V, 150V and 200V options for maximum voltage.
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- PS: 1. One PC can be shared if this system combined with QT-4100 or QT-3101B-200.
2. If this system is attached to QT-4100 system, it can become a built-in thermal resistance. At this time, cost of QT-4100 control box, PC and the PCI software system can be saved.



TRR Module

QT-MTRR-30A

Extended module, can be easily integrated with QT-4100、QT-6100、QT-8100 test system.

- Visible waveform measurement.
- Active Load measurement.
- QRR measurement.
- Support Dual Die measurement.

QRR: 0.4nC-1000nC	Resolution: 0.1nC
TRR: 0~5uS	Resolution: 1nS
IF: 1~30A/300A	Resolution: 0.1A
di/dt: 20~200A/uS	Resolution: 1A/uS
VR: 1000V	Resolution: 0.1V



QG Module

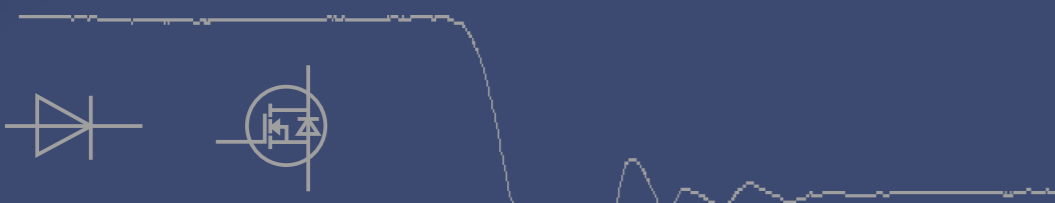
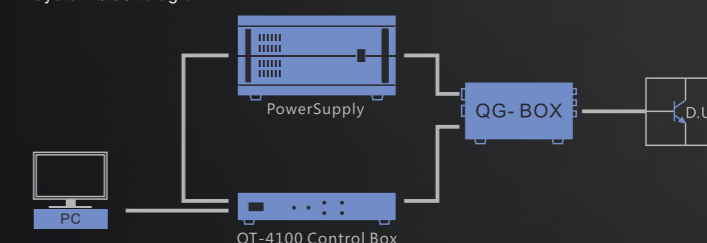
QT-3104QG

Conventional MOSET,SIC, and GaN dynamic QG test can meet the QG,QGD,QGS test parameters of high-frequency devices with tiny charge.

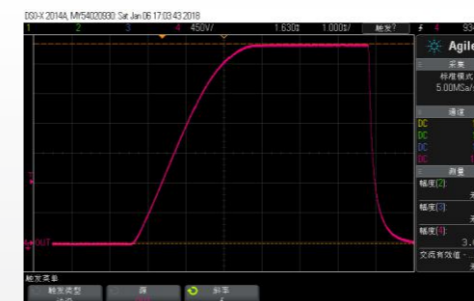
Technical Parameter	Test Parameter	Test Limit	
		QG	: 0.1nC-10uC
	Qgd	: 0.1nC-10uC	3% ±0.1nC
	Qgs1	: 0.1nC-10uC	3% ±0.1nC
	Qgs2	: 0.1nC-10uC	3% ±0.1nC
	Vg(th)	: 1~20V	1% ±0.1V
	VG	: 1~20V	1% ±0.1V
	VDD	: 5~150V	1% ±0.5V
	ID	: 10~200A	1% ±0.5A

QT-3104QG

System block diagram



300A waveform



3000V waveform

300A Module Parameters

Voltage measurement range: ±30V
Current measurement range: ±300A

3000V Module Parameters

Voltage measurement range: 1-3000V
Current measurement range: 1nA-30mA
Voltage force range: 1-3000V
Current force range: 0-30mA

High-Voltage & High-Current Module

HVBOX3000V/HCBOX300A

Independent system, Can also be easily integrated with QT-4100、QT-6100、QT-8100、QT-8100HP.

Switching time is 3ms.

Smaller size than competitor products.

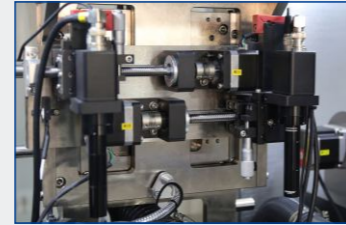


Auto IC Marking Inspection System

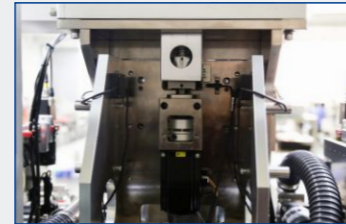
QH-APV100ST / High Performance

- Stack Magazine
- Fully automatic loading and unloading
- Automatically switch with difference size magazine
- Automatic track adjustment
- Vision orientation check
- Vision positioning
- The leveling mechanism reduces the influence of material warpage on marking
- Automatically adjust the focus
- No good material automatically removed
- Automatic code change, generation of 2D code
- Marking inspection, 2D code reading

Dual camera vision positioning



Automatically adjust the focus



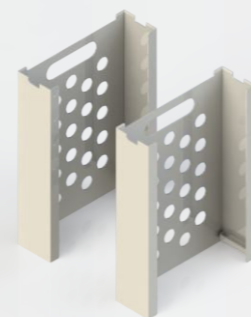
Compatible with various frames



Quickview system



Greater marking range

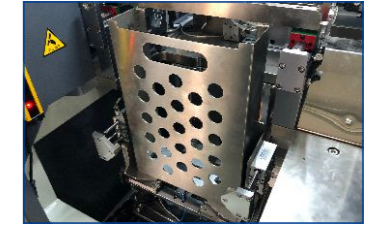


Auto IC Marking Inspection System

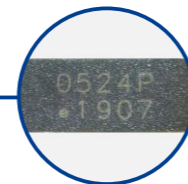
QH-APV5090 / Economical

- Stack Magazine
- Fully automatic loading and unloading
- Automatically switch with difference size magazine
- Automatic track adjustment
- Vision orientation check
- Marking area x and y orientation
- The leveling mechanism reduces the influence of material warpage on marking
- Automatically adjust the focus
- Automatic code change, generation of 2D code
- Marking inspection, 2D code reading

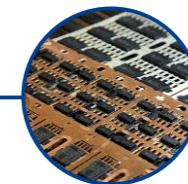
Automatically compatible magazine



Suction cup quickly adjust



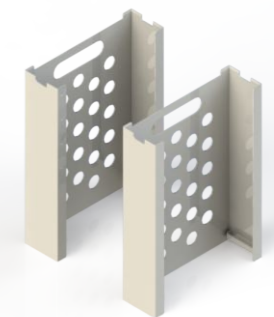
High marking precision



Multiple marking methods



High marking quality



Auto IC Marking Inspection System

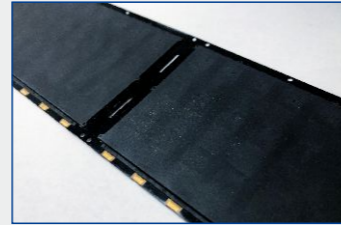
QH-APV100SL

- Slot Magazine
- Bilayer loading and unloading
- Track widths adjust automatically
- Vision orientation check
- Marking area x and y orientation
- The leveling mechanism reduces the influence of material warpage on marking
- Automatically adjust the focus
- No good material automatically removed
- Automatic code change, generation of 2D code
- Marking inspection, 2D code reading

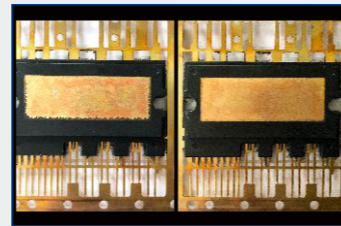
Bilayer loading and unloading



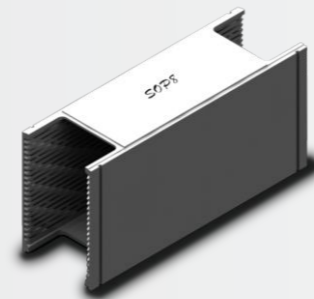
QFN plastic material



Remove overflow effect



High marking precision

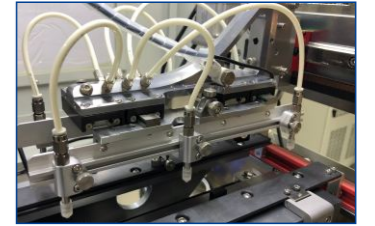


Auto IC Marking Inspection System

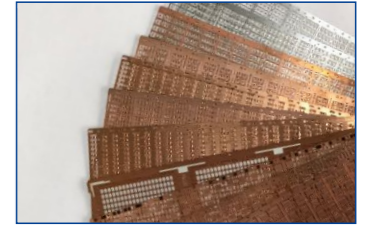
QH-APV100LF

- Cassette
- Auto paper separation setting
- Track widths adjust automatically
- Vision orientation check
- Marking area x and y orientation
- The leveling mechanism reduces the influence of material warpage on marking
- Automatically adjust the focus
- No good material automatically removed
- Automatic code change, generation of 2D code
- Marking inspection, 2D code reading

Quick adjustment of suction cup



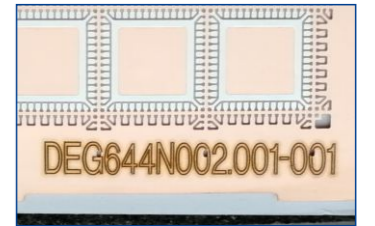
Compatible with multiple frameworks



Marking QR code



Marking serial number



Gravity Type Automatic Test and Print Sorting System

QH-TP Series

- **UPH:** >10K
- **Applicable encapsulation:** DIP4, DIP6 DIP8, SMD4, SOP4, LSOP4
- **Applicable feed tube:** feeding length 1 m, receiving length 0.5 m (customizable)
- **Feeding way:** automatic feeding tube (can save 50 material tubes)
- **Receiving way:** 8 bins manually intubation, 1 bin automatically change tube
- **Marking and testing:** can print and test 2 makings simultaneously
- **Marking machine:** 5 w standard optical fiber laser marking machine (customizable)

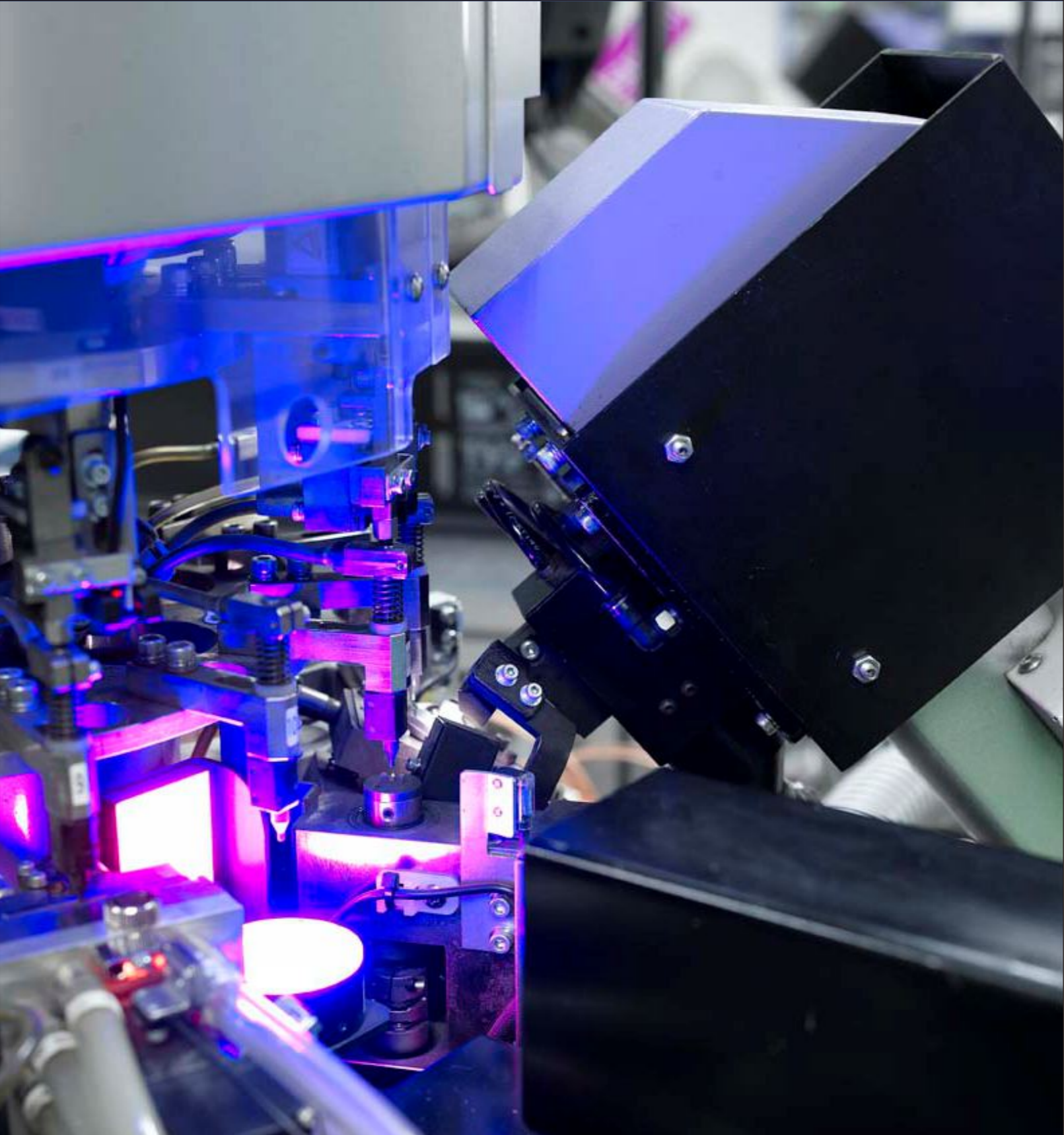


Gravity Type Automatic High Voltage Test Sorting System

QH-HT Series

- **UPH:** >20K
- **Applicable encapsulation:** DIP4, DIP6 DIP8, SMD4, SOP4, LSOP4
- **Applicable feed tube:** length 0.5 m (customizable)
- **Feeding way:** automatic feeding tube (can save 50 material tubes)
- **Receiving way:** automatic receiving, with non - conforming product sorting function
- **Testing way:** 20 pieces (double station) or 10 pieces (single station) per time, support Open/Short function





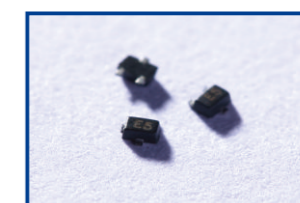
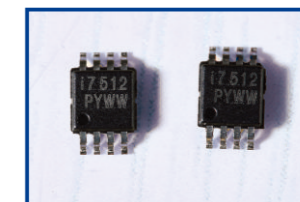
● **Main Features**

- All-in-one compact design with high interference resistance and long-term reliability.
- Self developed software ensures the high reliability and compatibility of whole system and it is convenient for customers to update machines.
- According to the actual needs of customers , there are offline control, PAD control and editing marking can be chosen, which are simple to perform online operation & management.



● **Major Technical Parameters**

Fiber	
Laser center wavelength	1064nm
Laser output power	5/10/20W optional
Marking range	50x50mm,70x70mm,100x100mm optional
Minimum marking line width	0.011mm
Minimum word height	0.12mm
Marking frequency	20-80KHZ/20-200KHZ
Input power	220V±10%/50HZ
Packaged type	Discrete device and IC device



CO2	
Laser center wave length	10640nm
Laser output power	10/30/60W optional
Marking range	35x35mm,50x50mm,70x70mm optional
Minimum Marking Linewidth	0.06mm
Minimum character body height	0.5mm
Input power	220V±10%/50HZ
Packaged type	Discrete device and IC device

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We develop software and hardware of QuickMark laser systems all by ourselves. So our machines are one of the fastest and lowest-cost products in the market.

SMD Laser Marking

Professional laser marking system mainly works with high speed discrete handler. It is suitable for various devices such as SOT23, SOT89, SOT323, QFN series, SOD523, SOD723, SOD923, TSOP, SSOP etc.





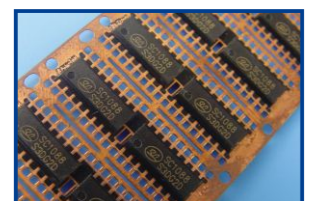
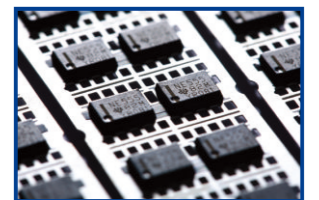
Dual Head Laser Marking System

Dual-Head Laser Marking system mainly works with IC handler. It adopts high-speed galvanometer scan system to enhance its precision, stability, and productivity.



Main Features

- Supports changes to the serial number code of the left and right header switch marking.
- Supports dynamic QR code variable code marking.
- Supports mapping downloading and marking.
- Strong adaptability to various kinds of metal and nonmetal materials with the advantages of wide marking range and good consistency.
- High marking speed mainly applies to laser marking covering whole IC devices and discrete devices.
- Automatic calibration to enhance marking precision.
- Air cooling design to assure its reliability and life time.



Major Technical Parameters

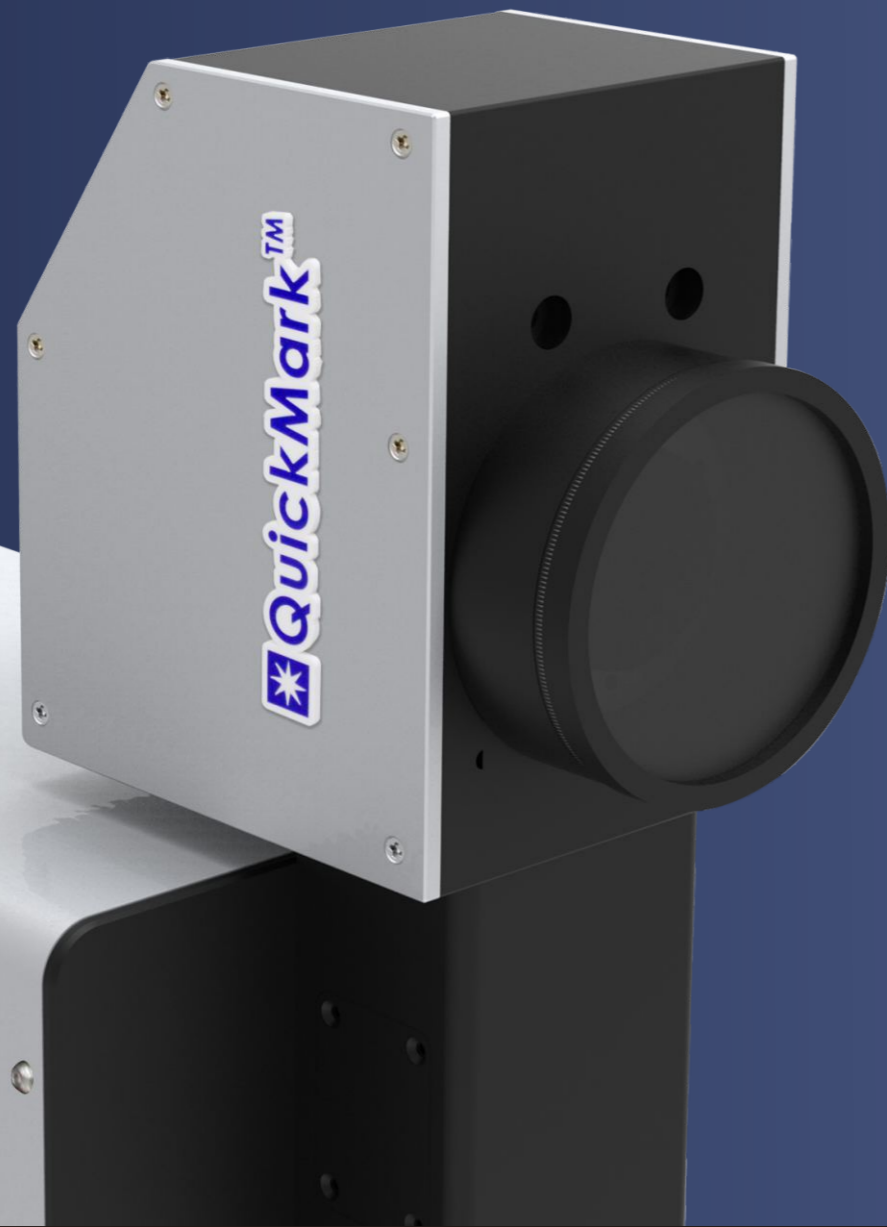
Laser center wavelength	1064nm
Laser output power	20/30/50W
Marking range	300x160mm
Minimum marking line width	about 0.05mm
Minimum word height	about 0.5mm
Marking frequency	20-200KHZ
Input power	220V±10%/50HZ
Package type	Varied IC devices

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Ultraviolet /Green Light Pulse Split Type Laser Marking System

The Green light laser marking system adopts international advanced resonant cavity design which can get excellent beam quality with long-term stability and narrow laser beam pulse width in high power operation.

- high electro-optical conversion efficiency, long service life
- laser beam spot output size is very small, excellent light mode.
- laser output power is very stable.
- cold laser process



Product Application Introduction

Green light 5/10/15W | Ultraviolet light 3/5/10W

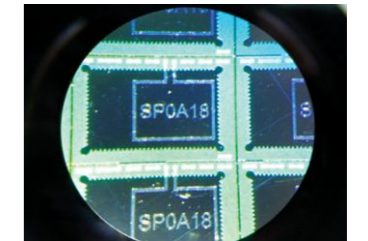
- 1.Laser marking
- 2.Laser resistor trimming
- 3.Thin-film photovoltaics cells manufacture
- 4.Micro processing
- 5.Divide, cutting and drill of PCB, FPC
- 6.Scribing of ceramic and silicon chip
- 7.Marking and cutting of wafer
- 8.LED sapphire substrate
- 9.Marking and cutting of PVC and ABS material
- 10.IC devices, packaged metal frame marking



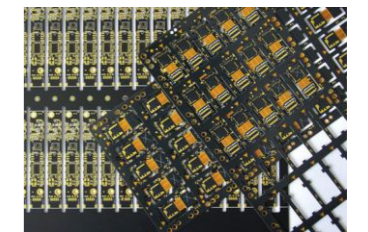
Green Light Major Technical Parameters

Laser central wavelength	532nm
Laser output power	5W/10W/15W
Marking range	70mmx70mm etc (optional)
Minimum word height	About 0.12mm
Working frequency	30-100KHZ
Repeat accuracy	±0.003mm
Laser output Stability	< 2%(8H)
Light beam quality	M2 < 1. 2
Cooling way	Air cool /water-cool

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Wafer Marking



PCB、 FPC Cutting

Ultraviolet Light Major Technical Parameters

Laser central wavelength	335 nm
Laser output power	3W/5W/10W
Marking range	70mmx70mm etc (optional)
Minimum word height	About 0.12mm
Working frequency	30-100KHZ
Repeat accuracy	±0.003mm
Laser output Stability	< 2%(8H)
Light beam quality	M2 < 1. 2

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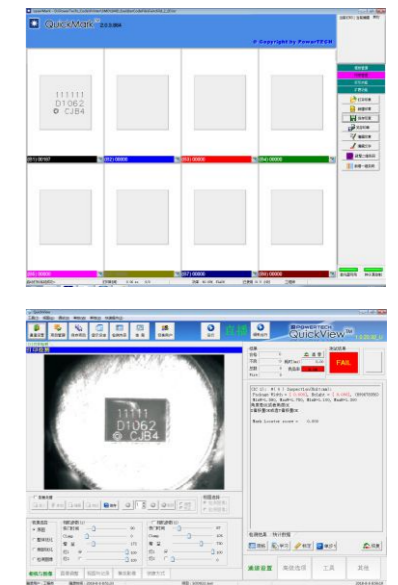


● **Main Features**

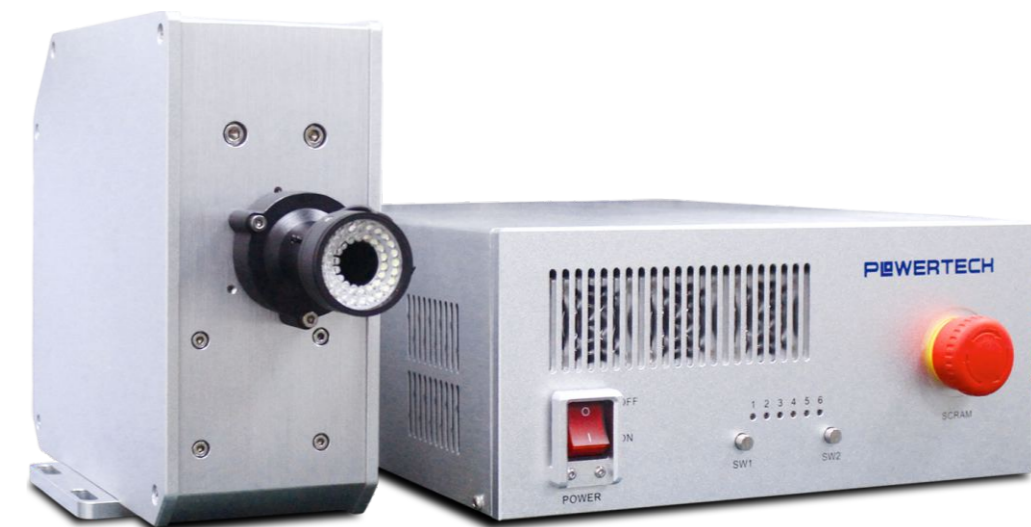
- Adopt non-contact vision inspection system to locate device's coordinate quickly and send data to laser system simultaneously.
- With coordinate data from vision, laser system marks on the adjusted position, which highly improves marking accuracy.
- PowerTECH develops the hardware & software of vision and laser marking system independently, which ensures high compatibility and customizable structure such as, all-in-one or split type.

● **Major Technical Index**

Laser System	Continuous /Pulse fiber laser (optional)
Laser wavelength	1064±10nm
Power	5W/10W/20W
Output Power	420W
Power Supply	220V AC 50-60Hz
Minimum Line width	0.02mm
Minimum character height	0.12mm
UPH	50K Specific depends on the print content
X and Y offset accuracy	≤0.05mm
Angle offset accuracy	< 4°



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QuickMark Vision Positioning Laser Marking System

Vision positioning laser marking system is able to mark on a single unit or remove flash, mainly working with full-automatic handler. With high speed galvanometer scanning system, it improves productivity and provides high precision marking and stable performance.

Vision Inspection System

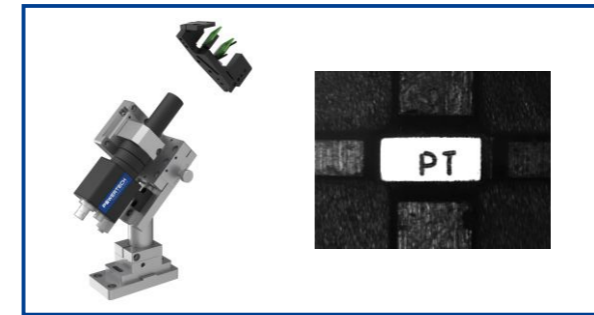
QV-1000Series

QV series vision inspection system is applicable to various semiconductor devices package for marking, 2D & 3D lead and surface inspection with high precision.

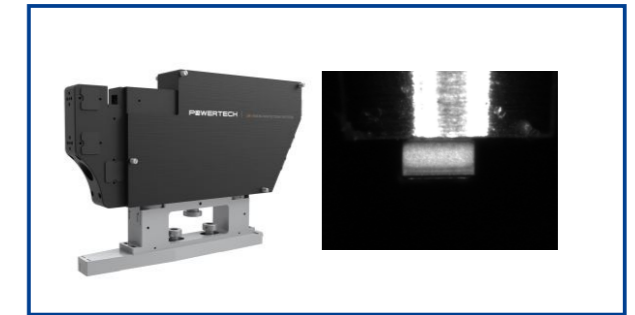
A stable and user-friendly inspection system to ensure zero defective rate and raise productivity & product quality.



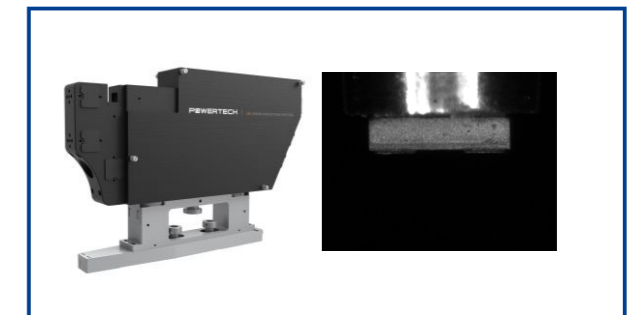
Marking Inspection



Short-side Inspection



Bottom Inspection

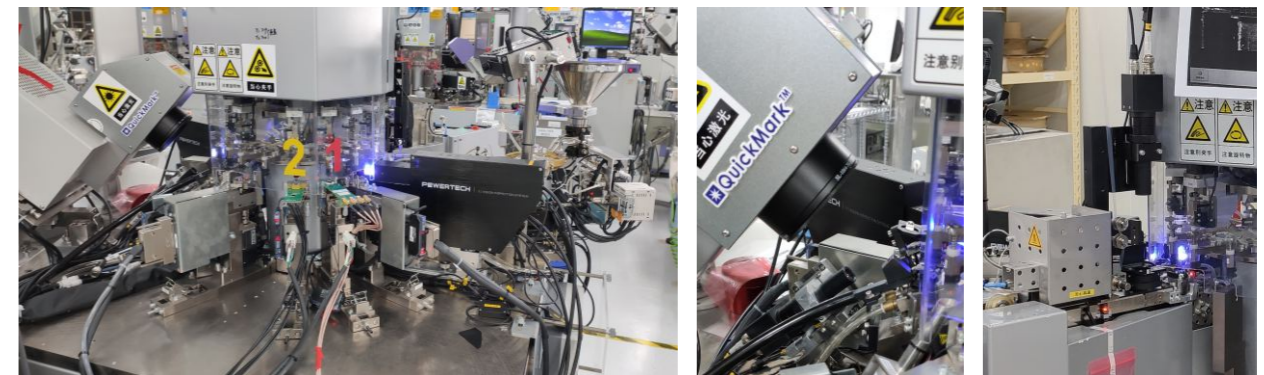


Long-side Inspection

• Main Features

- A reliable system with stable industrial camera and IPC, accurate digital transmission, quick reaction and clear capture.
- Work with various handlers, including the fastest one in the market and be equipped with complete inspection station, such as, orientation station; mark station, 5S station and taping station etc.
- Applicable to various devices, such as, QFN, DFN, SOT, SOD, SOP, TO, TSSOP etc.
- User interface in Chinese/English and multi-level access are available. The software is developed by PowerTECH independently according to inspection flow, which is easy to operate.
- All parameters of the industrial camera are adjustable by program, such as shutter time, optical gain, contrast ratio and light source luminance.

• Field Applications



Industry applications

- Our product have been adopted by customers locally and abroad, including the leading semiconductor manufacturers world-wide. Our customer base is growing steadily, as we support our customers in increasing productivity.
- Our well trained engineers provide quick response to customers' demands; Our service team always reach customer site in time to ensure best service.
- PowerTECH provide stable, cost-effective, user-friendly and high speed semiconductor assembly and test equipments.

Contact us

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