Component Parameter Test Instruments

Ⅰ. TH510 Series Semiconductor C-V Characteristic Analyzer

NEW

Features

- 10.1-inch capacitive touch screen, resolution 1280*800, Linux system
- Dual CPU architecture , the fastest test speed of 0.56ms
- Three test methods: spot test, list scan, and graphic scan (option)
- Four parasitic parameters (Ciss, Coss, Crss, Rg) are measured and displayed on the same screen
- Integrated design: LCR + high voltage source + channel switching
- Standard 2-channel test, which can test two devices or dual-chip devices at the same time, the channel is the most Up to 6 channels can be expanded, channel parameters are stored separately
- Fast charging, shortens capacitor charging time and enables fast testing
- Fast turn-on test Conduction
- Automatic delay setting
- High Bias: VGS: 0 - ±40V, VDS: 0 - 200V/1500V/3000V
- 10 bin sorting

RS232	LAN	HANDER	USB HOST	USB DEVICE	RS485
standard	standard	standard	standard	standard	option

TH510 Series

Dimension：430(W)x177(H)x265(D)
Weight　：about 16kg

Applications

- Semiconductor components/Power components

Parasitic capacitance test and C-V characteristic analysis of diodes, triodes, MOSFETs, IGBTs, thyristors, integrated circuits, optoelectronic chips, etc.

- Semiconductor material

Wafer dicing, C-V characteristic analysis

- Liquid crystal material

Elastic constant analysis

Specifications

Model		TH511		TH512	TH513
Channel		2（2/4 Ch Optional）			
Display	Display	10.1-inch capacitive touchscreen			
	Ratio	16:9			
	Resolution	1280×RGB×800			
Test Parameter		C_{ISS}, C_{OSS}, C_{RSS}, R_g. Four parameter selectable arbitrarily			
Test Frequency	Range	10kHz-2MHz			
	Accuracy	0.01%			
	Resolution	10mHz	1.00000kHz-9.99999kHz		
		100mHz	10.0000kHz-99.9999kHz		
		1Hz	100.000kHz-999.999kHz		
		10Hz	1.00000MHz-2.00000MHz		
Test Level	Voltage Range	5mVrms-2Vrms			
	Accuracy	± (10% x Setting Value+2mV)			
	Resolution	1mVrms	5mVrms-1Vrms		
		10mVrms	1Vrms-2Vrms		
V_{GS}	Range	0 - ±40V			
	Accuracy	1% x Setting Voltage+8mV			
	Resolution	1mV	0V - ±10V		
		10mV	±10V - ±40V		
V_{DS}	Range	0 - ±200V		0 - ±1500V	0 - ±3000V
	Accuracy	1%×Setting Voltage + 100mV			
Output Impedance		100Ω，±2%@1kHz			
Computation		Absolute deviation Δ from nominal value, percent deviation from nominal value Δ%			
Calibration Function		OPEN, SHORT, LOAD			

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Measure Average			1-255 times
AD Conversion Time (ms/time)			Fast+: 0.56ms (＞5kHz), Fast: 3.3ms, Middle: 90ms, Slow: 220ms.
Basic Accuracy			0.1%
C_{ISS}、C_{OSS}、C_{RSS}			0.00001pF - 9.99999F
Rg			0.001mΩ - 99.9999MΩ
Δ%			±（0.000% - 999.9%）
Multi-Function Parameter List Scan	Spots		20 spots, the average number can be set for each spot, and each spot can be sorted separately
	Parameter		Test Frequency, Vg, Vd, Channel
	Trigger Mode		Sequence SEQ: After one trigger, measure at all sweep points, /EOM/INDEX output only once.
			Step: perform a sweep point measurement per trigger, each point outputs /EOM/INDEX, but the list scan comparator result is only output at the last /EOM
Graphic Scan	Scanning Spots		Any Spot is optional, up to 1001 Spots
	Result Display		Multiple curves with the same parameter and different Vg; multiple curves with the same Vg and different parameters.
	Display Range		Real-time automatic, locked
	Coordinate ruler		Logarithmic, linear
	Parameter		Vg、Vd
	Trigger Mode	Single	Manual trigger once, complete one scan from the start spot to the end spot, and start a new scan with the next trigger signal
		Continuous	Infinite loop scan from the start spot to the end spot
	Result Storage		Graphics, files
Comparators	Bin		10Bin、PASS、FAIL
	Bin Deviation Setting		Deviation, Percent Deviation, Off
	Bin Mode		Tolerance, continuous
	Bin Count		0-99999
	Bin Judgement		A maximum of four parameter limit ranges can be set for each bin. The corresponding bin number will be displayed within the setting range of the four test parameter results. If it exceeds the set maximum bin number range, FAIL will be displayed. Test parameters without upper and lower limits will be automatically ignored.
	PASS/FAIL indication		Satisfy Bin1-10, the PASS light on the front panel is on, otherwise the FAIL light is on.
Data Storage			201 measurement results can be read in batches
Storage File	Internal		About 100M non-volatile memory test setup file
	External USB		Test setup files, screenshots, log files
Keyboard Lock			Lockable front panel buttons, other functions to be expanded
Interface	USB HOST		2 USB HOST interfaces, which can be connected to the mouse and keyboard at the same time, and only one U disk can be used at the same time
	USB DEVICE		Universal Serial Bus socket, small type B (4 contact positions); compliant with USB TMC-USB488 and USB2.0, female connector for connecting external controllers.
	LAN		10/100M Ethernet, 8 pins, two speed options
	HANDLER		Used for Bin signal output
	RS232C		Standard 9-pin, crossed
	RS485		Can receive modification or external RS232 to RS485 module
Boot Warm-up Time			60 Minutes
Power consumption			100-120VAC/198-242VAC Option, 47-63Hz
Power consumption			More than 130VA
Dimensions（WxHxD）mm			430x177x405
Weight			16kg