

Semiconductor C-V Characteristic Analyzer SME510 Series



Features

- LCR+gate voltage V_{GS} +drain voltage V_{DS} +channel switching+host computer software
- Gate voltage V_{GS} : 0 - $\pm 40V$
- Drain voltage V_{DS} : 0 - $\pm 200V/\pm 1500V/\pm 3000V$
- Single tube device (spot test), module device (list scan), curve scan (optional)
- Three testing methods
- Four parasitic parameters (Ciss, Coss, Crss, Rg or Cies, Coes, Cres, Rg)
- One-click measurement and display on the same screen
- Standard 2 channels, expandable to 6 channels, capable of testing single tube, multi-core or module devices (SME513 only has 1 channel)
- CV curve scan, Ciss-Rg curve scan
- Capacitor fast charging technology enables fast testing
- Contact Check Cont
- Continuity test OP_SH
- Automatic delay setting
- Crss Plus function: solve the problem of negative Crss value at high frequency
- High-voltage breakdown protection
- Interlock safety lock function: add high-voltage protective wall (SME513 only)
- Cs-V function: test and analysis of diode junction capacitance CV characteristics
- Equivalent mode conversion function, optional Cs or Cp mode
- 10 levels of sorting

Models		SME511	SME512	SME513
Channel		2 Channel	2 Channel	1 Channel
Display	Display	10.1 inch capacitive touch screen		
	Ratio	16:9		
	Resolution	1280 x 800 RGB		
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		

Models		SME511	SME512	SME513
Test Level	Voltage Range	5mVrms ~ 1Vrms		
	Accuracy	± (10% x Setting Value + 2mV)		
	Resolution	1mVrms	5mVrms~1Vrms	
V _{GS}	Range	0~±40V		
	Accuracy	1% x Setting Voltage + 8mV		
	Resolution	1mV	0V~±10V	
V _{DS}	Range	0 ~ ±200V	0 ~ ±1500V	0 ~ ±3000V
	Accuracy	1% x 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		
Measure Average		1~255 times		
AD Conversion Time (ms/time)		Fast+ : 2.5ms (>5kHz,) Fast : 11ms Middle : 90ms Slow : 220ms		
Basic Accuracy		0.1%		
C _{ISIS} , C _{OSS} , C _{RSS}		0.0001pF~9.9999F		
Rg		0.001mΩ~99.9999MΩ		
Δ%		± (0.000%~999.9%)		
Multi-Funciton	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 Sports	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 result. 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 Bin 1~10, 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, screen shots, log files		
Keyboard Lock		Lockable front panel buttons, other functions to be expanded		
Interface	USB Host	2 USB HOST interface, 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 conditions.		
	LAN	10/10M 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		

Models	SME511	SME512	SME513
Boot Warm-up Time	60 Minutes		
Power Consumption	100~120VAC/198-242VAC Option, 47~63Hz (More than 130VA)		
Dimensions	430 x 177 x 405		
Weight	16kg		
Accessories	Mains Cord, Test Fixture		

Subject to change

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