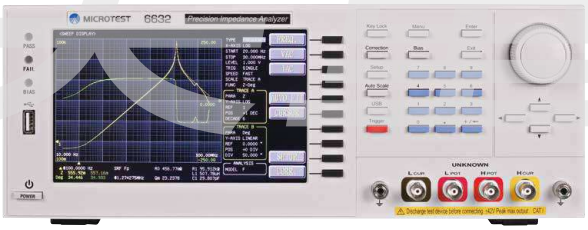
Impedance Analyzer
6632

Features

- Signal source frequency range: DC, 10Hz to 1/3/5/10/20/30MHz
- Basic accuracy up to ±0.08% (typical ±0.05%)
- ALC function
- Output impedance 25Ω/100Ω, switchable
- Support meter mode and list mode, sweep mode, and equivalent circuit analysis (option) function
- Built-in DC Bias voltage ±12V, optional plug-in DC Bias voltage/current 0 to ±40V/±100mA
- Measurement of piezoelectric element admittance circle, and can measure DC bias characteristic of capacitance value.
- Ultra-high measuring speed < 3ms
- Open circuit/short circuit/load correction function
- Up to four parameters can be selected in the electric meter mode. The inductance and DCR values can be measured and displayed simultaneously
- Auto component classification: Comparator function and Handler BIN classification function
- Can be used with various fixtures, such as: liquid dielectric material test fixture, dielectric material test fixture and magnetic material test fixture.....etc.
- Using with DC bias current test system 6210/6220/6240
- Support RS-232, GPIB, Handler, LAN, USB Host/Device interfaces
- Using in R & D department, process development and laboratory
- PC connection data analysis software is available



CE | RS-232 | Handler | USB Host/Device | GPIB | LAN

Applications

Passive Components: Capacitor, Inductor, Resistor, Transformer, Ceramic resonator, Quartz Crystal

Semiconductor Components: The CV characteristics analysis of varactor diodes, Diodes

Dielectric Material: Estimation on permittivity and consumption tangent of plastic, ceramic and PCB

Other Components: Estimation of the impedance of PCB components

Accessories / Fixtures

Standard Accessories

- Power Cord
- User Manual (CD)

– **FX-000C19**

Optional Accessories

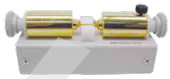
- PC Link software

– **F423906A**
Kelvin Clip Leads (with BNC Box)

– **F423503**
DIP Test Fixture

– **F423504**
DIP Test Fixture

– **FX-0000C6**
Test Fixture



– **F423905**
SMD Test Fixture

– **FX-000C10**
Bottom Electrode SMD Test Fixture

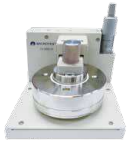
– **FX-000C11**
SMD Tweezer Test Leads

– **FX-000C12**
SMD Test Fixture

– **FX-0000C7**
Dielectric Material Test Fixture

– **FX-0000C8**
Magnetic Material Test Fixture

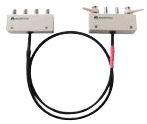
– **FX-0000C9**
Material Testing Fixture



– **FX-000C20**
Liquid Dielectric Material Test Fixture

– **F420001**
External Voltage Bias (±200V/1MHz)

– **F420003**
External Voltage Bias (±40V/1MHz)



– **F663001** A/B/C
BNC Test Leads

Specifications | S model is an optional equivalent circuit analysis function

Model Name	6632-1/1S	6632-3/3S	6632-5/5S	6632-10/10S	6632-20/20S	6632-30/30S
Test Frequency	10Hz-1MHz	10Hz-3MHz	10Hz-5MHz	10Hz-10MHz	10Hz-20MHz	10Hz-30MHz
Frequency Resolution	Continuity					
Frequency Output Accuracy	100mHz, 6-bit Frequency Input					
Basic Accuracy	7ppm ±0.01%					
AC Drive Level	±0.08% (typical ±0.05%)					
	Test Signal Voltage Level	10mV-2Vrms				
	Voltage Minimum Resolution	1mV				
	Accuracy	ALC OFF: 10% * Voltage ±2mV				
		ALC ON: 6% * Voltage ±2mV				
	Test Signal Current Level	200μA-20mArms				
	Current Minimum Resolution	10μA				
	Accuracy	ALC OFF: 10% * Current ±20μA				
		ALC ON: 6% * Current ±20μA				
DC Drive Level	1V (fixed)					
Output Impedance	25Ω, 100Ω (switchable)					
Test Time (Fastest)	<3mS					
Measurement Parameters and Ranges	|Z|	0.000mΩ-9999.99MΩ				
	R, X	±0.000mΩ-9999.99MΩ				
	|Y|	0.00000μS-999.999kS				
	G, B	±0.00000μS-999.999kS				
	θRAD	±0.00000-3.14159				
	θDEG	±0.000° -180.000°				
	Cs, Cp	±0.00000pF-9999.99F				
	Ls, Lp	±0.00nH-9999.99kH				
	D	0.00000-9999.99				
	Q	0.00-9999.99				
	△	±0.00%-9999.99%				
	Rdc	0.00mΩ-99.9999MΩ				
	εr' εr''	0-100000				
	μr' μr''	0-100000				
Bias	DC Bias 6210/6220/6240					

General

Measurement Mode	Meter mode, list mode, sweep mode, and optional equivalent circuit analysis function (S model)	
Measurement Circuit	Series/Parallel	
Correction	Open Circuit/ Short Circuit/Load correction	
List Mode	50 groups of Multi-steps setting (Each group contains up to 15 steps)	
Bulit-in DC Bias	-12 to +12V, 0.3% ±1.5mV, 100Hz to 30MHz	
BIN	9	
Comparator	ABS, △ABS, △%, OFF	
Bulit-in Storge	100 sets LCR setting documents, 50 groups of list mode setting	
USB Host Storge	LCR setting documents, list mode setting document, BMP graphics, Sweep screen and test result data	
Trigger Test	Auto, manual, RS-232, GPIB, Handler	
Interface	RS-232, GPIB, Handler, LAN, USB Host/Device	
Option	PC link software	
	Equivalent Circuit Analysis	Three elements (4 models), four elements (3 models)
	Plug-in DC Bias voltage/current	0 to ±40V/±100mA
Power Supply	Voltage 90-264Vac	
	Frequency 47-63Hz	
	Low power consumption: Maximum 30W (Nominal value)	
Display	7.0" TFT, 800×480 color screen	
Environment	Temperature: 10-40℃, Humidity: 20-90%RH	
Dimension (W*H*D)	336×147×340mm	
Weight	3.95kg	

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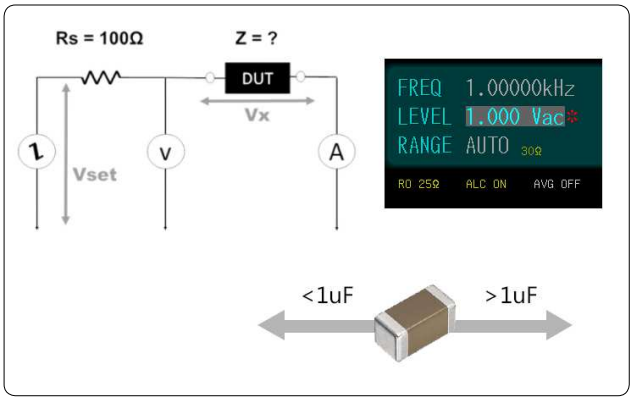
6632 Key Features

A Function Introduction



Output Impedance 25Ω/100Ω and Auto Level Control (ALC)

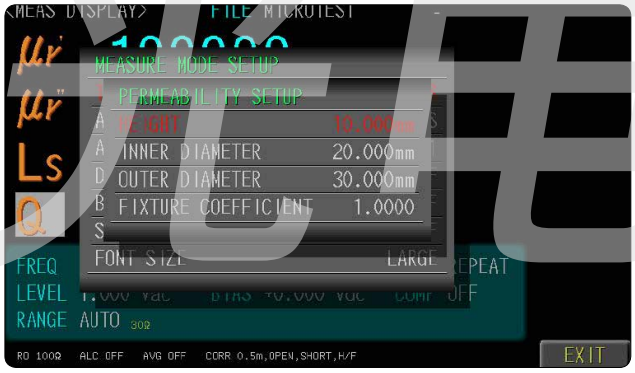
The key parameters for capacitance are Cs/Cp/D/Q/ESR/DC Bias Voltage.

Evaluation of DC bias voltage characteristics with semiconductor wafer or ceramic multilayer capacitors

Multi-layer ceramic capacitors (MLCC) DC Bias measuring value from 9.7uF decrease to 1.46uF.

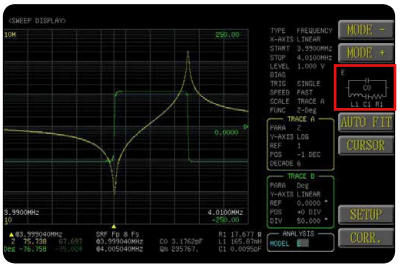
Liquid Dielectric Material Test Fixture (C20) / Dielectric Material Test Fixture (C7)

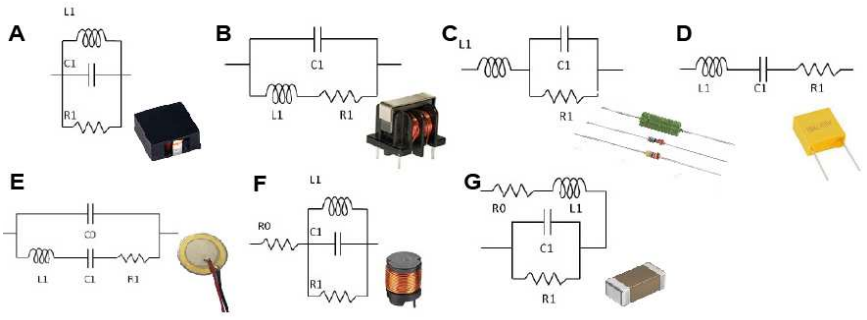
Using C20 for measuring the characteristics of electrochemical materials and using C7 or measuring PCB board or ceramic board.

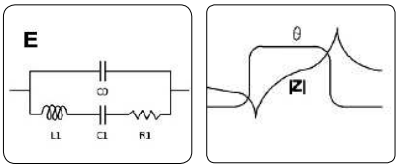


Magnetic Material Test Fixture (FX-0000C8)

Using the magnetic material test fixture for measuring of permeability of various toroidal cores or ferrite cores and electromagnetic shielding coating materials, 6630 built-in formula to directly calculate the permeability coefficient value µr', µr".

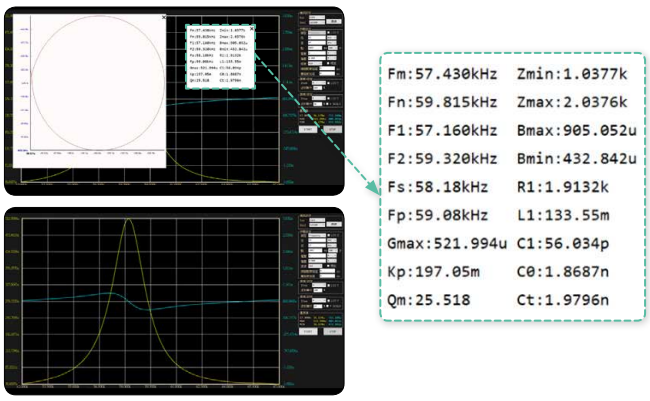






Equivalent Circuit Analysis

It has seven different models, combine with different types of parameters (R, L, C), you can see three or four elements value, and self-resonant frequency (SRF). You can simulate the impedance trace of your own equivalent circuit parameter values and then compare it with an accrual measurement trace.



Piezoelectric element/quartz crystal analysis frequency characteristics

The key parameters for Piezoelectric element /quartz crystal are Fs/Fp/Qm/Kp (Electromechanical coupling coefficient)

Evaluation impedance characteristics of RFID/ NFC/automotive wireless of antennas

Using 6632 impedance analyzer equivalent circuit Analysis function.

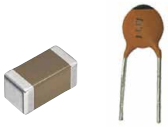
Testing PC board inductance coil

The key parameters for 6632 impedance analyzer measuring PC board inductance coil are L/Q/DCR/Rs/SRF.

C Components

Passive Component

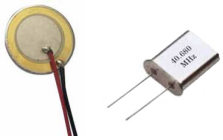
inductance
Ls / Lp / Q / SRF / I sat / I rms



MLCC / capacitance
Cs / Cp / D / Q / ESR / DC Bias Voltage

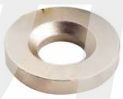
Acoustic Components

Voice coil motor / Hearing aids
Ls / Q / Qm / SRF



Piezoelectric element / quartz crystal
Cs / Cp / D / Fs / Fp

Material



Magnetic material
μr'' μr'

Dielectric / ceramics / Electrochemical materials
εr' εr''

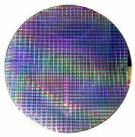
Wireless RF / Power Supply

Wireless charging
Ls / Q / SRF / DCR / Rs

NFC/low Freq. RFID
Ls / Q / SRF / DCR / Rs

battery
ESR / Cs / Cp / D

Semiconductor Components



Wafer
C-V

LED Light board
Z / Cs / Cp / D

diode
Cs / Cp / D