Automatic Transformer Test System/ Automatic Component Analyzer
Model 3250/ 3252/ 3302

KEY FEATURES

- Test frequency: 20Hz~200kHz/1MHz, 0.02% accuracy
- Basic accuracy: 0.1%
- different output impedance modes, measurement results are compatible with other well-known LCR meters
- Enhanced Turn Ratio measurement accuracy for low permeability core
- Fast Inductance/ Turn Ratio measurement speed up to 80 meas./sec
- Fast DCR measurement speed up to 50 meas./sec
- Graphical and tabular display of swept frequency, voltage current and bias current measurements(3252/3302)
- Build-in 8mA Bias for RJ45 transmission transformer staturation condition (option)
- Leakage inductance 100 bin sorting and balance of leakage inductance for TV inverter transformer
- ALC (Auto Level Compensation) function for MLCC measurement (3252/3302)
- Test fixture residual capacitance compensation for transformer inductance measurement
- 1320 Bias Current Source directly control capability (3252/3302)
- 320x240 dot-matrix LCD display
- Support versatile standard and custom-design test jigs
- Four-terminal test for accurate, stable DCR, inductance and turn ratio measurements
- Built-in comparator; 10 bin sorting with counter capability (3252/3302)
- 4M SRAM memory card, for setup back-up between units
- Standard RS-232(option for Model 3250), Handler, Printer Interface, GPIB for LCR only (option)
- 15 internal instrument setups for store/recall capability

The 3250/3252/3302 Transformer Test System is a precision test system, designed for transformer production line or incoming/ outgoing inspection in quality control process, with high stability and high reliability.

The 3250/3252 provide 20Hz-200kHz test frequencies, and 3302 provides 20Hz-1MHz test frequencies. In addition to transformer scanning test function, the 3252/3302 have LCR Meter function. In test items, The 3250/3252/3302 cover most of transformer's low-voltage test parameters which include primary test parameters as Inductance, Leakage Inductance, Turns-Ratio, DC resistance, Impedance, and Capacitance (between windings) etc.; secondary test parameters as Quality Factor and ESR etc.; and pin-short test function. High-speed digital sampling measurement technology combined with scanning test fixture (A132501) design, improve low-efficiency transformer inspection to be more accurate and faster.

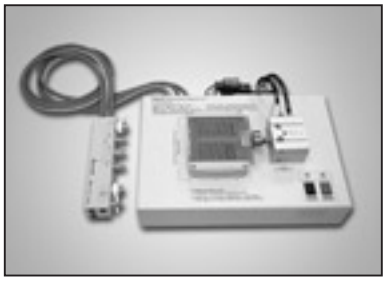
The 3250/3252/3302 even provides several output impedance selection to solve inductance measurement error problem caused by different test current caused by different output impedance provided by different LCR Meters. And, equivalent turns-ratio calculated from measured inductance of windings is also provided to improve turns-ratio measurement error problem caused by large leakage magnetic flux in transformer with low permeability magnetic core.

In addition to transformer scanning test function, the 3252/3302 have LCR Meter function, can be used in component incoming/ outgoing inspection, analysis and automatic production line.

ORDERING INFORMATION

3250 : Automatic Transformer Test System without RS-232 Interface
3252 : Automatic Component Analyzer
3252 : Automatic Component Analyzer with 8mA Bias
3302 : Automatic Component Analyzer
3302 : Automatic Component Analyzer with GPIB interface
3302 : Automatic Component Analyzer without Transformer Scan
A110104 : SMD Test Cable #17
A110211 : Component Test Fixture
A110212 : Component Remote Test Fixture
A110234 : High Frequency Test Cable
A110239 : 4 Terminals SMD Electrical Capacitor Test Box (Patent)
A132501 : Auto Transformer Scanning Box
A132563 : WINCPK Transformer Data Statistics & Analysis Software for Model 3250/3252/3302
A133004 : SMD Test Box
A133006 : 1A Internal Bias Current Source

Model 3302



A132501 : Auto Transformer Scanning Box

A132563 : WINCPK Transformer Data Statistics & Analysis Software for Model 3250/3252/3302

SPECIFICATIONS				
Model		**3250**	**3252**	**3302**
Main Function		Transformer Scanning Test	Transformer Scanning Test + LCR METER	
Test Parameter				
Transformer Scanning		Turn Ratio, Phase, Turn, L, Q, Leakage L, Balance, ACR, Cp, DCR, Pin Short		
LCR METER		- -	L, C, R, |Z|, Y, DCR, Q, D, R, X, θ , Ratio (dB)	
Test Signals Information				
Test Level	Turn	10mV~10V, ±10% 10mV/step		
	Others	10mV~2V, ±10% 10mV/step		
Test Frequency	Turn	1kHz~200kHz, ±0.02%,Resolution: 0.01 Hz		1kHz~1MHz, ±0.02%,Resolution: 0.01 Hz
	Others	20Hz~200kHz, ±0.02%,Resolution:0.001 Hz (<1kHz)		20Hz~1MHz,±0.02%,Resolution 0.001 Hz (<1kHz)
Output Impedance	Turn	10Ω , when level≦2V / 50Ω , when level < 2V		
	Others	Constant = OFF : Varies as range resistors Constant = 320X : 100Ω ±5% Constant = 107X : 25Ω ±5% Constant=106X : 100mA ±5% (1V setting); for inductive load less than 10Ω ,10Ω ±10%, for impedance ≧10Ω		
Measurement Range				
L, LK		0.00001μH~9999.99H		
C		0.00001pF~999.999mF		
Q, D		0.00001~99999		
Z, X, R		0.00001Ω ~99.9999MΩ		
Y		0.01nS~99.9999S		
θ		-90.00°~ +90.00°		
DCR		0.01mΩ ~99.999MΩ		
Turn,Ratio		0.01~99999.99 turns (Secondary voltage less than 100 Vrms)		
Ratio (dB)		-39.99dB~+99.99dB (seconding voltage less than 100 Vrms)		
Pin-Short		11 pairs, between pin to pin		
Basic Accuracy				
L, LK, C, Z, X, Y, R, DCR		0.1%(1kHz if AC parameter)		
Q, D		0.0005(1kHz)		
θ		0.03°(1kHz)		
Turn, Ratio (dB)		0.5% (1kHz)		
Measurement Speed (Fast)				
L, LK, C, Z, X, Y, R, Q, D, θ		80meas./sec.		
DCR		50meas./sec.		
Turn, Ratio (dB)		10meas./sec.		
Judge				
Transformer Scanning		PASS/FAIL judge of all test parameters output from Handler interface, 100 bin sorting for LK		
LCR METER		--	10 bins for sorting & bin sum count output from Handler interface/PASS/FAIL judge output from Handler interface	
Trigger		Internal, Manual, External		
Display		320x240 dot-matrix LCD display		
Equivalent Circuit Mode		Series, Parallel		
Correction Function		Open/Short Zeroing, Load correction		
Memory		15 instrument setups, expansion is possible via memory card		
General				
Operation Environment		Temperature:10°C~40°C, Humidity: 10%~90% RH		
Power Consumption		140 VA max.		
Power Requirement		90Vac~125Vac or 190Vac~250Vac, 48Hz~62Hz		
Weight		Approx. 9 kg		
Dimension(WxHxD)		430x180x320mm		

Model	**A132501**
Standard Jig	20 pins
Test Contact pin	Four terminals contact
Control	
Button	START, RESET
Indicators	GO, NG
Solenoid Valve	
Pressure	0.15~0.7Mpa(1.5~7.1kgf/cm^2)
General	
Operation Environment	Temperature: 10°C~40°C, Humidity: 10%~90% RH
Power Consumption	40 VA max.
Power Requirement	90Vac~250Vac,48Hz~62Hz
Weight	Approx. 3.2 kg
Dimension(WxHxD)	270 x 90 x 220mm