

# Component Parameter Test Instruments

## C. TH2825/TH2825A High speed LCR Meter

### Features

- Ultrahigh measurement speed: 15ms (frequency $\geq$ 100Hz)
- 240 $\times$ 64 dot-matrix LCD display
- Humanization operation board
- 10 typical frequencies from 50Hz to 100kHz
- Programmable test level from 10mVrms to 1.0Vrms
- Built-in bias voltage source from -5VDC to +5VDC or max DC bias current source of 200mA
- Accurate load correction
- 5 selectable source impedance modes
- List sweep function for up to 4 frequencies, signal levels and DC bias levels
- Measurement signal V/I monitor function
- Transformer parameter measurement function (only for TH2825A)
- Built-in 10-bin comparator, sorting and bin counter
- Hi/Go/Low comparison function and beeper alarm
- Key lock function
- Automatic LCZ function
- 10 sets of measurement parameters saved
- Measurement parameters automatically loaded at the time of turning on instrument
- Handler interface compatible with Agilent 4263B
- IEEE-488 control command compatible with Agilent 4263B



**TH2825/TH2825A**

### Brief Introduction

■ TH2825/TH2825A high-speed LCR meter is new-generation component parameter measurement instrument. It offers high measurement speed up to 20times/second, 10 frequencies from 40Hz to 100kHz, programmable signal level from 0.01V to 1.0V with step of 10mV, 5-digit resolution, multi source resistance selections, and strong measurement functions. So it is suitable for quality control on production line, incoming inspection, and component design.

#### High measurement speed

■ This instrument, using the most advanced technology in the field, has the strong measurement function which is compatible with advanced products in the world. It provides incomparable measurement speed up to 20times/second, which solves the problem of slow measurement speed at low frequency. So it is ideal instrument to perform high-speed measurement for

electrolytic capacitor, ceramic capacitor, and transformer.

#### Multi selectable signal source impedance modes

■ Different LCR meters get different measurement results because of different impedances. TH2825/TH2825A provides 5 selectable impedance modes to meet different needs, to ensure the consistency of measurement results between different meters. Constant-voltage mode suitable for measurement of multilayer ceramic capacitor(MLCC)

#### Constant-voltage mode suitable for measurement of multilayer ceramic capacitor (MLCC)

■ MLCC is rather sensitive to signal test level. And TH2825/TH2825A can measure large-amount MLCC with constant high-level signal. It is allowed to measure MLCC of 30 $\mu$ F at constant 1kHz/1Vrms, and MLCC pf 300 $\mu$ F at constant 100Hz/1Vrms.

#### Powerful transformer measurement function

■ TH2825A has the function of measuring transformer. Using special transformer test fixture, turns ratio (N, 1/N), mutual inductance (M), primary and secondary inductances (L2A, L2B), primary and secondary DC resistances (DCR, R2) can be measured without changing test cable mode. With adjustable DC bias current up to 200mA (TH2825/TH2825A both have), the meter can conveniently measure communication transformer and choke with small power.

#### Interface being compatible with famous meters

■ HANDLER, GPIB interfaces and GPIB interface command are completely compatible with Agilent 4263B, which help build conversion with 4263B.

### Specifications

		TH2825	TH2825A
<b>Measurement function</b>			
Parameter	LCR	Z , R, X, G, B, C, L, Q, D, $\theta$ (deg), $\theta$ (rad)	
	Transformer	-----	DCR, DCR2, M, Turns, N, 1/N, LA, LB
Basic accuracy		0.1%	
Equivalent circuit		Series, parallel	
Mathematical function		$\Delta$ ABS (absolute value deviation), $\Delta$ % (percent deviation)	
Range mode		Auto, Hold, Manual conversion	
Trigger mode		Internal, Manual, External, BUS	
Measurement time		Fast: 20ms (note 1), medium: 60ms, slow: 295ms	
Average times		1—255	
Calibration function		Open, short, load correction	
Measurement terminal		5-terminal	
List sweep		4 frequencies, level, DC bias list sweep measurement	

# Component Parameter Test Instruments

## C. TH2825/TH2825A High speed LCR Meter

Display mode	Direct, $\Delta$ ABS, $\Delta$ %, V/I (voltage/current monitor), bin No., and bin counter	
Display	240×64 dot-matrix LCD display with resolution of 5 digits	
<b>Measurement signal</b>		
Signal frequency	Total 10 points: 50Hz,60Hz,100Hz, 120Hz,1kHz,10kHz,20kHz, 40kHz, 50kHz,100kHz	
Output impedance	25 $\Omega$ ,100 $\Omega$ , 25 $\Omega$ /100 $\Omega$ ,C.V. (constant voltage)	
Test level	10mVrms—1.0Vrms, with step of 1mV <200mV,step 1mV $\geq$ 200mV,step 10mV	
DC bias source	-----	Fixed $\pm$ 1.75VDC, 0~ $\pm$ 5VDC adjustable
		Resistance is 100 $\Omega$ : $\pm$ 50mA Max Resistance is 25 $\Omega$ : $\pm$ 200mA Max
<b>Measurement display range</b>		
Z , R, X	0.0001 $\Omega$ — 99.999M $\Omega$	
G, B	0.0001 $\mu$ S — 999.99S	
C	0.001pF — 1.9999F	
L	0.001 $\mu$ H — 99.99kH	
D	0.0001 — 9999	
Q	0.0001 — 99999	
$\theta$ (DEG)	-179.99° — 179.99 °	
$\theta$ (RAD)	-3.1416 — 3.1416	
$\Delta$ %	-99.999% — 999.999%	
N,1/N	-----	0.001—999.99
DCR	-----	0.1 m $\Omega$ —199.99 k $\Omega$
M,L2	-----	0.001 $\mu$ H—99.99 kH
<b>Comparator and interface</b>		
Files Comparator	10 bins: 8 pass bins, 1 fail bin, 1 AUX bin	
Comparator	HIGH/PASS/LOW	
Memory	12 sets of instrument settings saved and loaded	
Interface	RS-232C, HANDLER, GPIB (option)	

Note 1: Fast measurement time includes A/D, calculation, main/sub parameter comparison judgment, and small-character display of measurement parameter. If measurement parameter is displayed in large character, fastest measurement time is added by 5ms.

## General Specifications

Operating temperature	0°C – 40°C	
Operating humidity	$\leq$ 90%RH	
Power supply	Voltage	99V – 242V
	Frequency	47.5Hz – 63Hz
Power consumption	$\leq$ 30VA	
Dimensions (W×H×D)	350mm×120mm×425mm	
Weight	Approx. 4.8 kg	

## Ordering Information

TH2825	High-speed LCR Meter
TH2825A	High-speed LCR Meter

## Instrument Accessories

TH26005A	4-terminal test fixture
TH26011A	4-terminal Kelvin test cable
TH26010	Gilded shorting plate

## Options

TH26001A	4-terminal test fixture
TH26005B	4-terminal test fixture
TH26006	Axial component test fixture (used with TH26005A)
TH26007	Core test fixture
TH26008	SMD component test fixture
TH26009B	SMD component test tweezers
TH26029B	SMD component test tweezers
TH26004-1	4-terminal test fixture
TH10001	GPIB interface board