Component Parameter Test Instruments

A. TH283X Series Compact LCR Meter

Features

- Low cost, high performance, small size
- 4.3 inch TFT LCD Display
- Soft power switch
- Selectable Chinese-English operation language
- Max. 200kHz test frequency
- Max. 6 digit reading resolution
- 10mVrms-2.0Vrms programmable signal level, built-in 0 - ± 5V/50mA bias source
- DCR, 50mV-2V programmable test level, resolution 10µΩ
- Ls-Rd / Lp-Rd Function (L, Rd display simultaneously) ∗
- Highest test speed 13ms/time
- Selectable 30Ω/100Ω signal source impedance
- V/I monitor and auto level adjustment function
- Built-in comparator, 10 bins sorting and count function
- File storage and firmware update through U disk
- RS232, RS485, USB, HANDLER, GPIB interface

∗ Rd means DCR.

TH283X Series

Rack mount (mm): 215(W) x 88(H) x 335(D)
Dimension (mm): 235(W) x 105(H) x360(D)
Net weight: 3.6 kg

Brief Introduction

- Adopting the latest technology & high density circuit design and concentrating the essence of LCR test, TH283X series is a new generation compact LCR meter of low cost and high performance. Instead of traditional mechanical power switch, it adopts software control power switch. The basic accuracy of 0.05% and good test stability can compare favourably with those high-end models. Being equipped with 4.3 inch TFT LCD Display and brand new interface system, TH283X series LCR meters possess elegant appearance and easy operation. Also, being provided with various interfaces and good compatibility with SCPI commands, TH283X series LCR meters are convenient for constituting all kinds of test system and satisfy various kinds of demands for inspection, production and scientific research.

Specifications

Model		TH2830	TH2831	TH2832
Basic measurement accuracy (See details in technical specification)	LCRZ	0.05%	0.1%	0.05%
	DCR	0.1%		
	Calibration condition	Warm up time: ≥ 30 minutes ; Environment temperature: 23±5ºC Signal level: 1Vrms ; Corretion: after OPEN, SHORT Testing cable length: 0 m		
Test signal frequency		**50Hz-100kHz** , 34points 50Hz, 60Hz, 75Hz, 100Hz,120Hz,150Hz,200Hz,250Hz,300Hz, 400Hz,500Hz,600Hz,750Hz,1kHz,1.2kHz, 1.5kHz,2kHz, 2.5kHz, 3kHz, 4kHz,5kHz, 6kHz,7.5kHz,10kHz,12kHz,15kHz,20kHz, 25kHz,30kHz,40kHz,50kHz,60kHz,75kHz, 100kHz	**50Hz-200kHz**, 37 points 50Hz, 60Hz, 75Hz, 100Hz, 120Hz,150Hz,200Hz,250Hz, 300Hz,400Hz,500Hz,600Hz, 750Hz,1kHz,1.2kHz,1.5kHz, 2kHz, 2.5kHz, 3kHz, 4kHz, 5kHz, 6kHz, 7.5kHz,10kHz, 12kHz,15kHz,20kHz,25kHz, 30kHz,40kHz,50kHz,60kHz, 75kHz,100kHz,120kHz,150kHz, 200kHz	**20Hz-200kHz**, 15025 points
Signal source output impedance		Selectable 30Ω, 100Ω, ±1% @1kHz		

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AC test signal level	Normal	10mV—2Vrms		
		Resolution: 10mV, Accuracy: 10% x setting voltage+2mV		
		100µA—20mArms		
		Resolution: 0.1mA		
	Constant level (ALC ON)	------	------	20mV—1Vrms
		------	------	Resolution: 10mV Accuracy: 10%
		------	------	200µA—10mArms
		------	------	Resolution: 0.1mA
DCR test signal level		1V DC	1V DC	50mV—2V DC
		------	------	Resolution: 0.5mV
DC bias voltage source		------	------	0V— ± 5V
		------	------	Resolution: 0.5mV, Accuracy: 1%
		------	------	0mA—± 50mA
		------	------	Resolution: 0.5µA
Test parameters		|Z|, |Y|, C, L, X, B, R, G, D, Q, θ, DCR		
DCR display range		0.00001 Ω – 99.9999 MΩ		
LCR parameters display range		|Z|, R, X　　0.00001Ω — 99.9999MΩ |Y|, G, B　　0.00001µs — 99.9999s C　　　　　 0.00001pF — 9.99999F L　　　　　 0.00001µH — 99.9999kH D　　　　　 0.00001 — 9.99999 Q　　　　　 0.00001 — 99999.9 θ(DEG)　　 -179.999º — 179.999º θ(RAD)　　 -3.14159 — 3.14159 Δ%　　　　 -999.999% — 999.999%		
Display digits		6	5	6
Measurement time (≥10 kHz)		Fast: 75 meas/sec(13ms), Medium:11 meas/sec(90 ms), Slow: 2.7meas/sec(370 ms)		
Equivalent circuit		Serial, Parallel		
Range mode		Auto, Hold		
Trigger mode		Internal, Manual, External, Bus		
Average time		1–255		
Correction		Open, Short, Load		
Math operation		Direct reading, ΔABS, Δ%		
Trigger delay time setting		0 - 60.000s, 1ms steps		
Step delay time setting		0 - 60.000s, 1ms steps		
List Sweep		·10 points list sweep ·Frequency, AC voltage/current, internal/ external bias voltage/ current can be swept. ·Each sweep point can be sorted separately.		
Comparator function		10 bins, BIN1–BIN9, NG, AUX		
		Bin count function		
		PASS, FAIL LED display on front panel		
Built-in Storage		Internal 100 LCRZ instrument setting files, 201 times test results		
USB Storage		Instrument setting files , measurement result CSV files, printed screen (GIF format)		
Interface	Control interface	HANDLER		
	Communication interface	USB HOST, RS232C, RS485(option), GPIB(option)		
	Storage interface	USB DEVICE (U-disk storage)		