

MULTIFERROIC PE LOOP TEST SYSTEM



ABOUT THE SYSTEM

The **Multiferroic PE loop Test system** is also versatile like our Advance Ferroelectric PE, having maximum test facilities for ferroelectric measurements. This Model is ideal for high End researcher who have wide interest in performing **multiferroic task**. Multiferroic PE Loop is available with **AC & DC** Magnetic field option. The **electromagnet** is fully integrated with the main multiferroic unit. This Model is capable of measuring **α and β values with lock – In amplifier option**. The resolution of the system is precise as low as **femto coulomb**.

- Hysteresis Frequency Range: **0.03Hz –250 KHz**
- **18 Bit** Resolution at **2.5 MHz**
- Hysteresis Accuracy: **0.5%**
- Max Data Points: **32768**
- Minimum Pulse Width: **0.2 μ s**
- Maximum Pulse Width: **1s**
- Leakage Current Resolution: **1 pA**
- **2** external input **+10V** range as low as **20 mV** with **1nV** resolution
- Fatigue Measurement: **2.5 MHz**

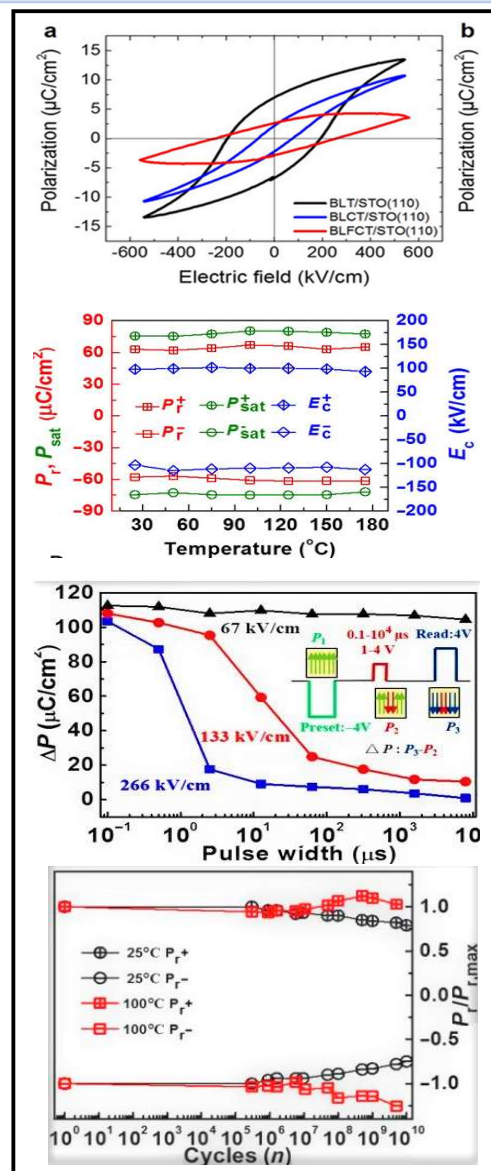
MODEL: 0.03PE 250KHZ 1F

Various tests performed by this model:

- Ferroelectric charge at different frequencies
- Ferroelectric charge at different temperature
- Fatigue measurement
- Ferroelectric charge at different magnetic field
- ME Coupling Measurement
- Remnant hysteresis
- Curve energy
- Leakage current/Current Density
- Single point C/V
- PUND measurement
- General pulse and sample pulse

Test options available in other models:

- DC Poling
- Pyroelectric current measurement
- Electrical Strain vs Field



MULTIFERROIC PE LOOP TEST SYSTEM

TECHNICAL SPECIFICATION

MODEL	0.03PE 250KHZ 1F
Field	+ 10 KV
Test Frequency Range Small Signal	0.03Hz to 250KHz
Test Frequency Range Large Signal (HV amplifier)	0.03Hz to 10 KHz
Wave Form Generator	18 Bit
ADC Resolution	18 Bit resolution at 2.5MHz
Minimum Charge Resolution	0.8 fC
Minimum Dot Size	0.08µm square
Maximum Charge Resolution	6 m C (with HV Amp)
Maximum area resolution	50 cm square (with HV Amp)
Maximum Hysteresis Frequency	250KHz
Minimum Hysteresis Frequency	0.03Hz
Minimum Pulse Width	0.2µs
Maximum Pulse Width	1s
Minimum Pulse Rise Time (10V)	400ns
Maximum Delay between Pulse	40ks
Internal Clock	20ns
Minimum Leakage Current	1pA
Leakage Current Accuracy	5pA 2.5% 1pA 10%
Input Capacitance	5f
Maximum Small Signal Cap Freq	250KHz
Minimum Small Signal Cap Freq	0.03 Hz
Fatigue	up to 20 th order of cycles
Resolution	18 Bit (1fC)
Helmholtz coil interface	200 Gauss
Electromagnet Options	0.8T /1.5T /1.8T
Magnetic Field	Field 0.8/1.5/1.8 Tesla
Field Resolution	10 Gauss in 2 Tesla Range
Lock-in amplifier Options	Specifications
SRS 830/ LI5645	1 mHz to 102.4 kHz /1 mHz to 250 kHz range
Temperature Options	Model
Cryogenic Temperature Stage	100RT (96K – 273K)
Temperature Stage	RT250 (RT – 500K)
Resolution/ Accuracy	0.1°K/1°K
Sample Holder	Specifications
Sample Holder	Two Probe Spring Loaded
Construction	SS304/ Teflon

(For optional items separate brochure is available)

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