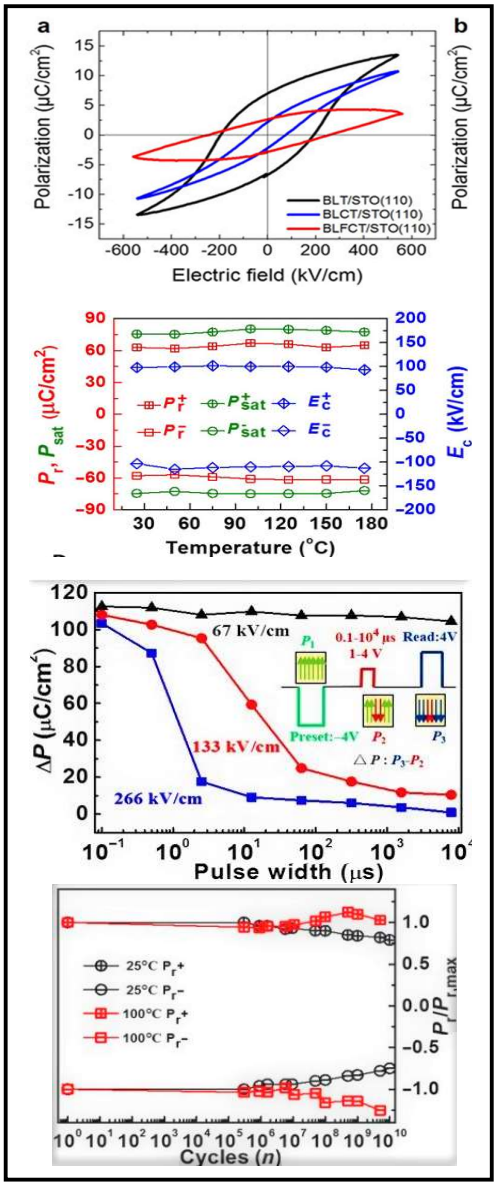
ADVANCE PE LOOP FERROELECTRIC TEST SYSTEM



ABOUT THE SYSTEM

The Ferroelectricity is a characteristic of certain materials that have continuous electric polarization that can be reversed by the application of an external electric field. All ferroelectrics are pyroelectric, with the additional property that their natural electrical polarization is reversible. The term is used In analogy to ferrimagnetism, in which a material exhibits a permanent magnetic moment. When most materials are polarized, the polarization induced, *P*, is almost exactly proportional to the applied external electric field *E*; so, the polarization is a linear function. This is called dielectric polarization. Some materials, known as paraelectric materials, show a more enhanced nonlinear polarization. The electric permittivity, corresponding to the slope of the polarization curve, is not constant as in dielectrics but is a function of the external electric field. PE Loop Ferroelectric Test systems designed by our company are most advanced in its specifications and can undertake various tests needed by researchers. The accuracy and the resolution of the system is precise as low as femto coulomb. Details to various models available with us is described in following page.

MODEL: 0.1PE 1MHZ 1F

Various Tests Performed by this Model

- Ferroelectric charge at different frequencies
- Fatigue measurement
- Ferroelectric charge at different temperature
- Remnant hysteresis, curve energy, Charge, leakage current.
- Ferroelectric charge at different magnetic field
- Single point C/V, PUND measurement, General pulse and sample pulse

Optional test performed by this model

- Electrical vs Field

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TECHNICAL SPECIFICATION

ADVANCE PE – Main unit	0.1PE 1MHZ 1F
Field	± 10KV/ (100KV/cm)
Frequency	0.1 Hz – 1MHz
Fatigue	up to 20th order of cycles
Resolution	18 Bit (1fC)
Data/ Interface	ASCI (USB/RS232)
Wave Form Generator	18 Bit
ADC Resolution	20 Bit
Minimum Charge Sensitivity of Bulk	1fC
Maximum Charge Measurement	100uC
Minimum Sample Area	1sq.mm
Maximum Sample Dia./Thick	10-15mm/3mm
Maximum Hysteresis Frequency	10KHz (Bulk) / 1MHz (Film)
Minimum Hysteresis Frequency	0.1Hz
Minimum Leakage Current	1fA
Input Capacitance	1pf
High Voltage Power Amplifier	**Models**
TREK (0 to ±4 kV DC or peak AC)	609E - 6
NF Corp (0 to ±10kV DC or peak AC)	HVA4321
Temperature Options	**Models**
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	Brass
Sample Dimension	2- 10 mm diameter
Thickness (Bulk)	0.1mm to 1mm
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
Electrical Strain Vs Field Option	**0.1 SM 100HZ 18**
Frequency Range	1Hz – 10Hz
***For detailed specification, please refer to respective brochures.**	

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