FADOS7F1 FAULT DETECTOR AND OSCILLOSCOPE

OSCILLOSCOPE - ANALOG OUTPUT

FAULT DEDECTOR - VI TESTER

Osciloscope

- Osc. Active
- Channel 1
- Manual
- Save

Button is clicked to activate oscilloscope or show graph at memory

To catch the last signal automaticly

Synchronous

- Channel 1
- Up

1. Channel

- Probe X1

Top Value : 2,98 V

Low Value : -0,02 V

Point :

Frequen. : 1,6 KHz

Position of probe's switch: X 1 or X 10

Ch.1 Input signal values

2. Channel

- Probe X1

Top Value : 0,00 V

Low Value : 0,00 V

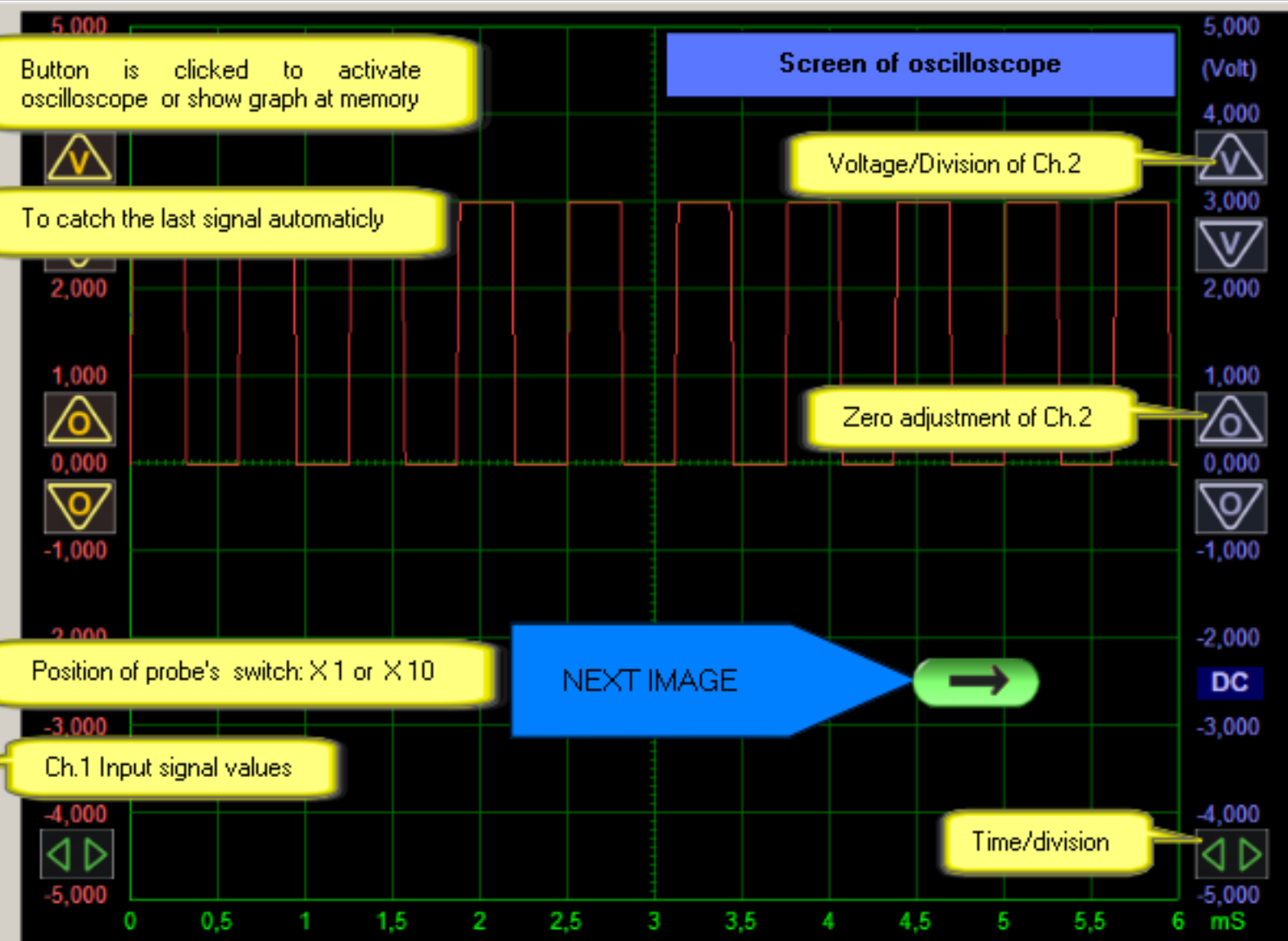Point :

Frequen. :

Analog Output (Channel 2)

- Active

Ch.2 actives output signal

- ⦿ Signal
- ◯ DAC

Frequence : 1600

Voltage mV: 3000

Design

Screen of oscilloscope

Voltage/Division of Ch.2

Zero adjustment of Ch.2

NEXT IMAGE

DC

Time/division

ATTENTION: Chassis to connect to the point must be isolated or grounded. ADVICE: Use Probe is10X position.

5.000 5,000

4,000 (Volt)

3,000

2,000

1,000

0,000

-1,000

-2,000

-3,000

-4,000

-5,000

0   0,5   1   1,5   2   2,5   3   3,5   4   4,5   5   5,5   6   mS

OSCILLOSCOPE - ANALOG OUTPUT

FAULT DETECTOR - VI TESTER

Test:

Channel 1 - 2

Automatic

1 V
2 V
5 V
10 V

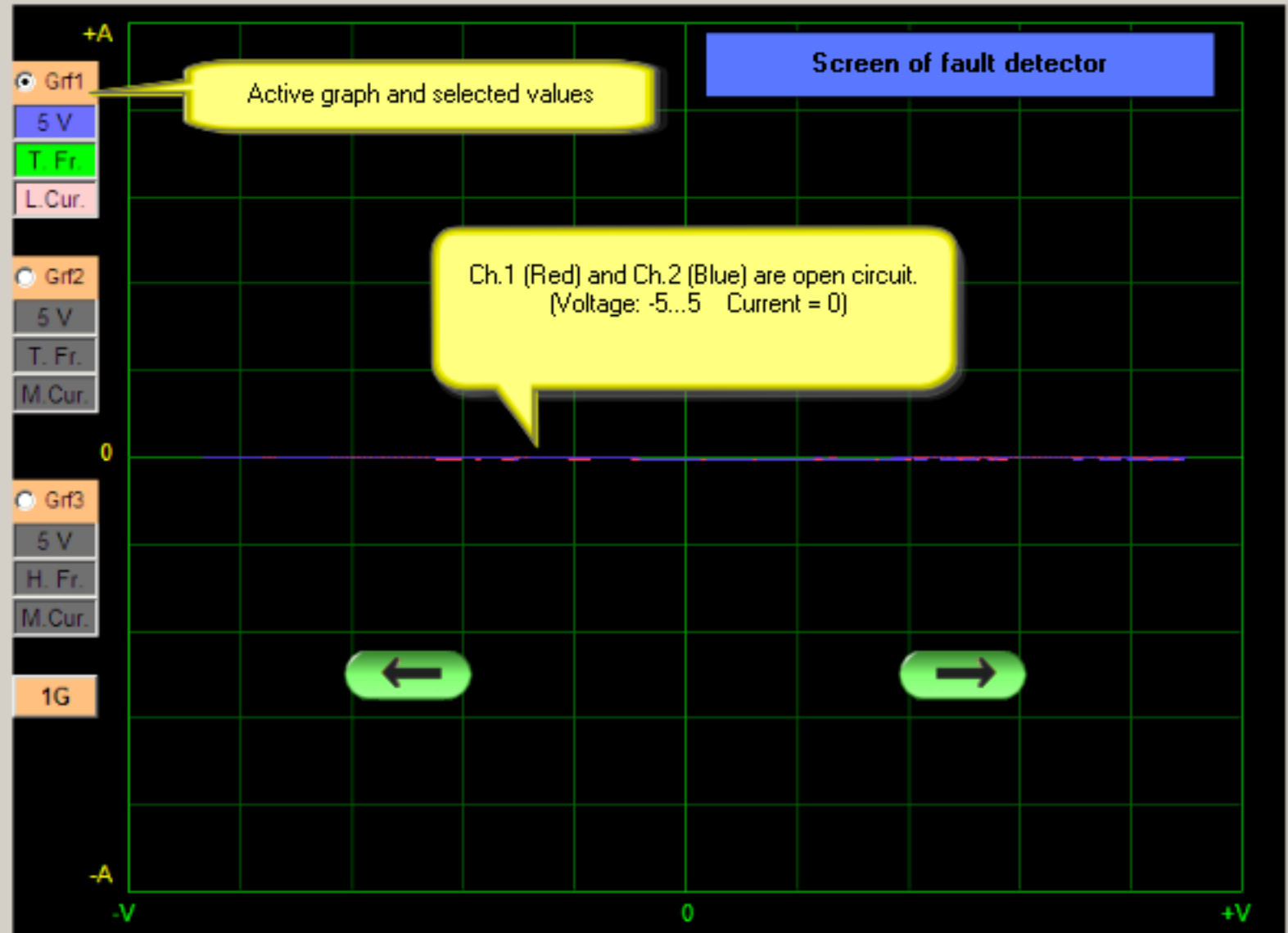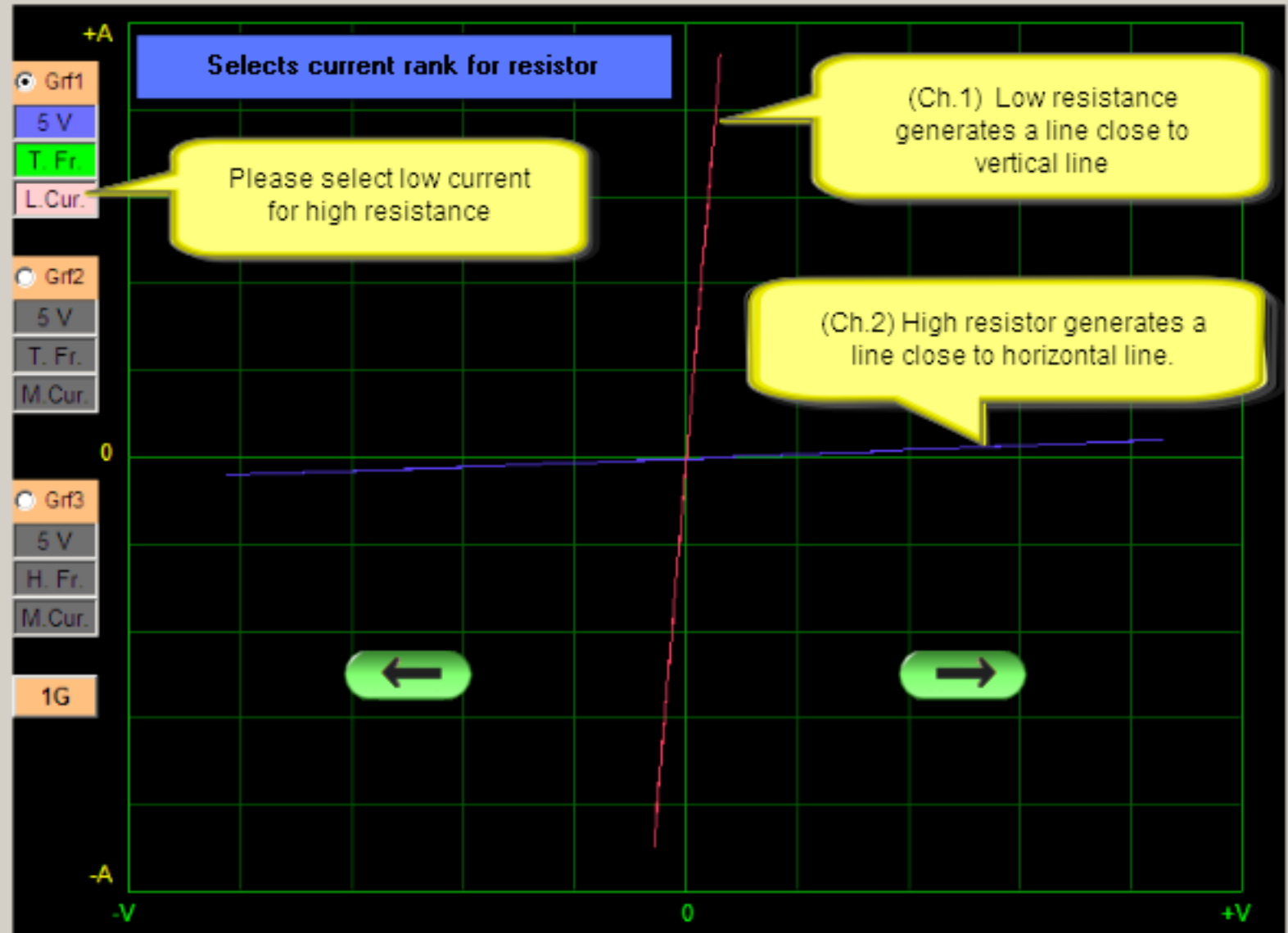Very Low Frk.
Low 2 Frk.
Lov 1 Frk.
Test Frk.
H. Frk. (5-10V)

L. Current (47K)
M. Current (2K7)
H. Current (550)

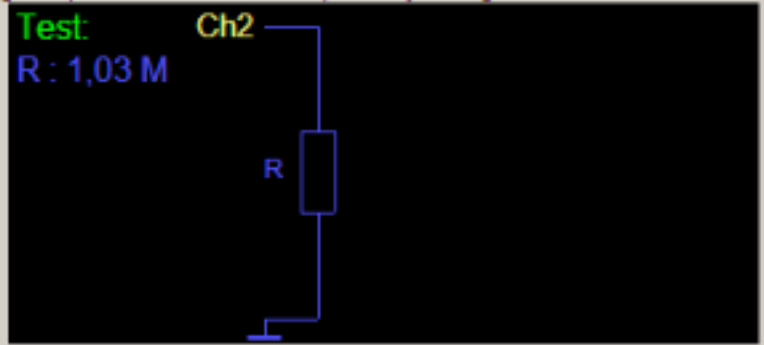☑ Compare
☐ Capasite Test
☐ T.T.T. FET IGBT

Memory Save - Test

Recording

Tolerance (%) [3]

○ Grf1
5 V
T. Fr.
L.Cur.

○ Grf2
5 V
T. Fr.
M.Cur.

○ Grf3
5 V
H. Fr.
M.Cur.

1G

+A

0

-A

-V   0   +V

Screen of fault detector

Active graph and selected values

Ch.1 (Red) and Ch.2 (Blue) are open circuit.
(Voltage: -5...5   Current = 0)

Click to display fault detector screen

ATTENTION: Probe must be at 1X position. High-voltage capacitors must be emptied by using a resistor.

Referance: Ch1 —

Test: Ch2 —

Open Circuit

Open Circuit

FADOS7F1 FAULT DETECTOR AND OSCILLOSCOPE

OSCILLOSCOPE - ANALOG OUTPUT

FAULT DETECTOR - VI TESTER

Test:

- Channel 1 - 2
- Automatic
- 1 V
- 2 V
- 5 V
- 10 V
- Very Low Frk.
- Low 2 Frk.
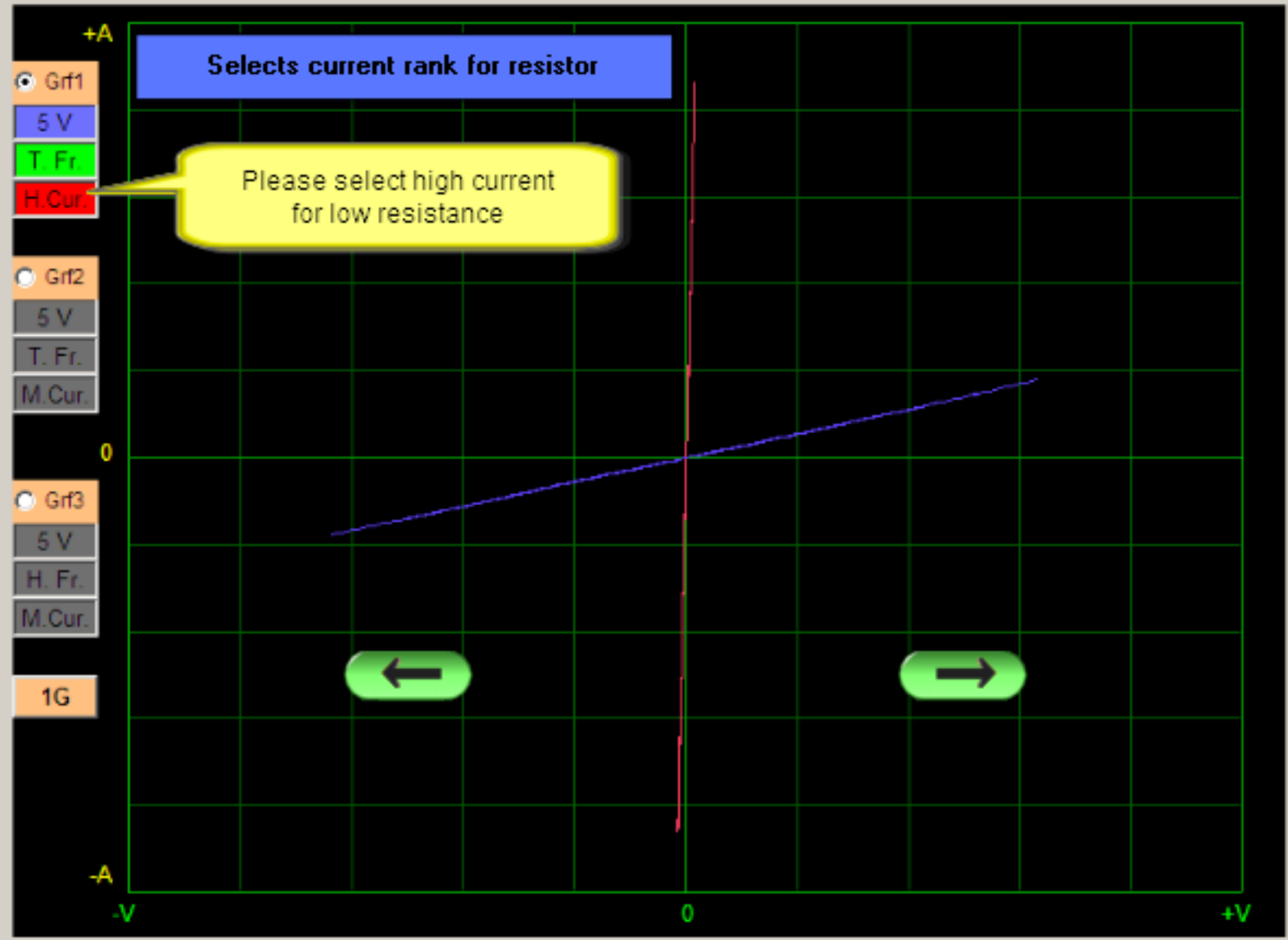- Lov 1 Frk.
- Test Frk.
- H. Frk. (5-10V)
- L. Current (47K)
- M. Current (2K7)
- H. Current (550)
- ☐ Compare
- ☐ Capasite Test
- ☐ T.T.T. FET IGBT

Memory Save - Test

- Recording

Tolerance (%) [3]

Grf1
- 5 V
- T. Fr.
- L.Cur.

Grf2
- 5 V
- T. Fr.
- M.Cur.

Grf3
- 5 V
- H. Fr.
- M.Cur.

1G

Selects current rank for resistor

Please select low current for high resistance

(Ch.1) Low resistance generates a line close to vertical line

(Ch.2) High resistor generates a line close to horizontal line.

+A

0

-A

-V   0   +V

ATTENTION: Probe must be at 1X position. High-voltage capacitors must be emptied by using a resistor.

Referance: Ch1
R : 3,22 K
R

Test: Ch2
R : 1,03 M
R

FADOS7F1 FAULT DETECTOR AND OSCILLOSCOPE

OSCILLOSCOPE - ANALOG OUTPUT

FAULT DETECTOR - VI TESTER

Test:

- Channel 1 - 2
- ☐ Automatic
- 1 V
- 2 V
- 5 V
- 10 V
- Very Low Frk.
- Low 2 Frk.
- Lov 1 Frk.
- Test Frk.
- H. Frk. (5-10V)
- L. Current (47K)
- M. Current (2K7)
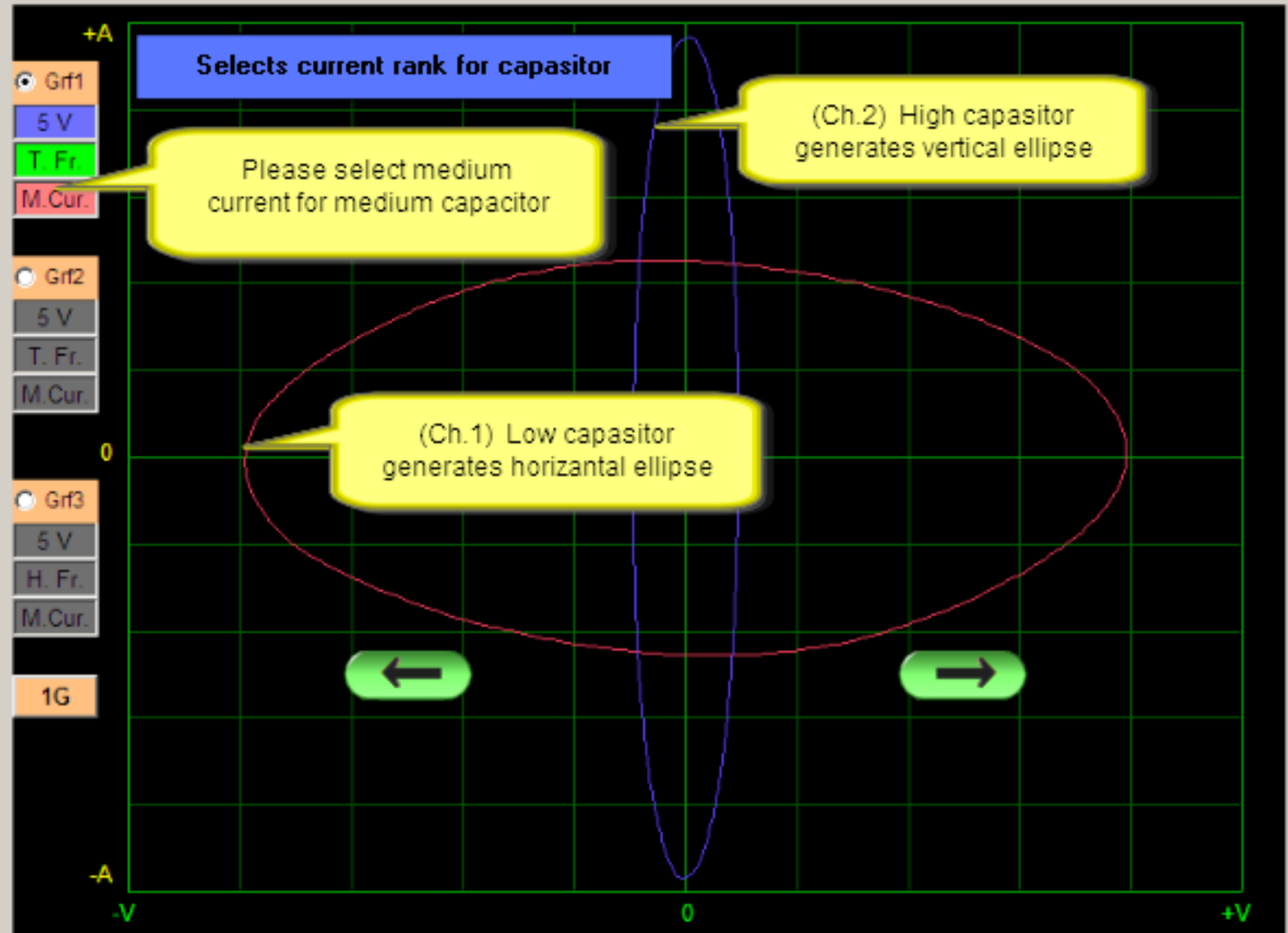- H. Current (550)
- ☐ Compare
- ☐ Capasite Test
- ☐ T.T.T. FET IGBT

Memory Save - Test

- Recording

Tolerance (%) **3**

○ Grf1
- 5 V
- T. Fr.
- H.Cur.

○ Grf2
- 5 V
- T. Fr.
- M.Cur.

○ Grf3
- 5 V
- H. Fr.
- M.Cur.

1G

Selects current rank for resistor

Please select high current
for low resistance

+A

0

-A

-V   0   +V

ATTENTION: Probe must be at 1X position. High-voltage capacitors must be emptied by using a resistor.

Referance: Ch1
R : 5 Ohm

R

Test: Ch2
R : 2,17 K

R

FADOS7F1 FAULT DETECTOR AND OSCILLOSCOPE

OSCILLOSCOPE - ANALOG OUTPUT

FAULT DETECTOR - VI TESTER

Test:

- Channel 1 - 2
- ☐ Automatic
- 1 V
- 2 V
- 5 V
- 10 V
- Very Low Frk.
- Low 2 Frk.
- Lov 1 Frk.
- Test Frk.
- H. Frk. (5-10V)
- L. Current (47K)
- M. Current (2K7)
- H. Current (550)
- ☐ Compare
- ☐ Capasite Test
- ☐ T.T.T. FET IGBT

Memory Save - Test

Recording

Tolerance (%) [3]

- ◉ Grf1
  - 5 V
  - T. Fr.
  - M.Cur.
- ○ Grf2
  - 5 V
  - T. Fr.
  - M.Cur.
- ○ Grf3
  - 5 V
  - H. Fr.
  - M.Cur.

1G

+A

0

-A

-V   0   +V

Selects current rank for capasitor

Please select medium current for medium capacitor

(Ch.2) High capasitor generates vertical ellipse

(Ch.1) Low capasitor generates horizantal ellipse

ATTENTION: Probe must be at 1X position. High-voltage capacitors must be emptied by using a resistor.

Referance: Ch1

C : 1,1 µF

Test: Ch2

C : 21 µF

FADOS7F1 FAULT DETECTOR AND OSCILLOSCOPE

OSCILLOSCOPE - ANALOG OUTPUT

FAULT DETECTOR - VI TESTER

Test:

Channel 1 - 2

☐ Automatic

1 V
2 V
5 V
10 V

Very Low Frk.
Low 2 Frk.
Lov 1 Frk.
Test Frk.
H. Frk. (5-10V)

L. Current (47K)
M. Current (2K7)
H. Current (550)

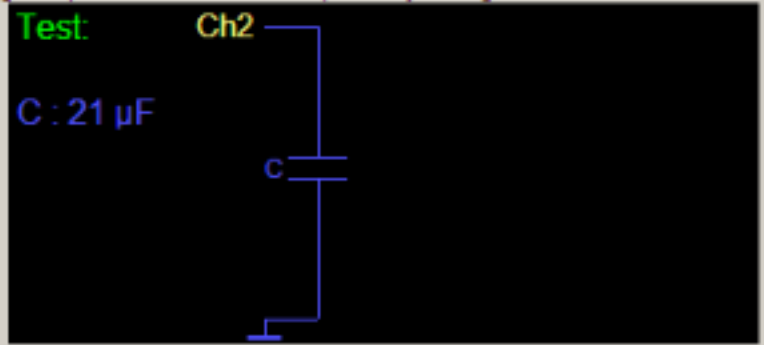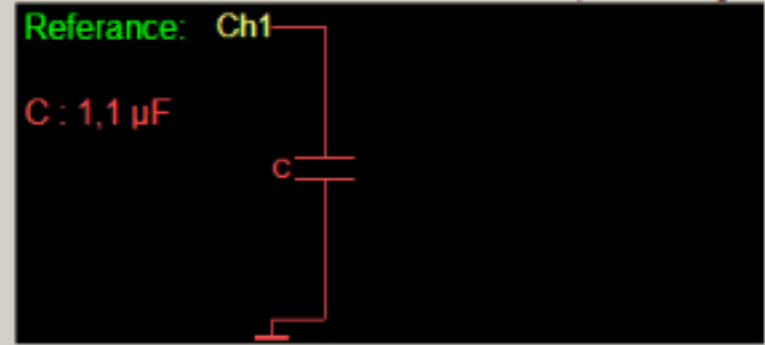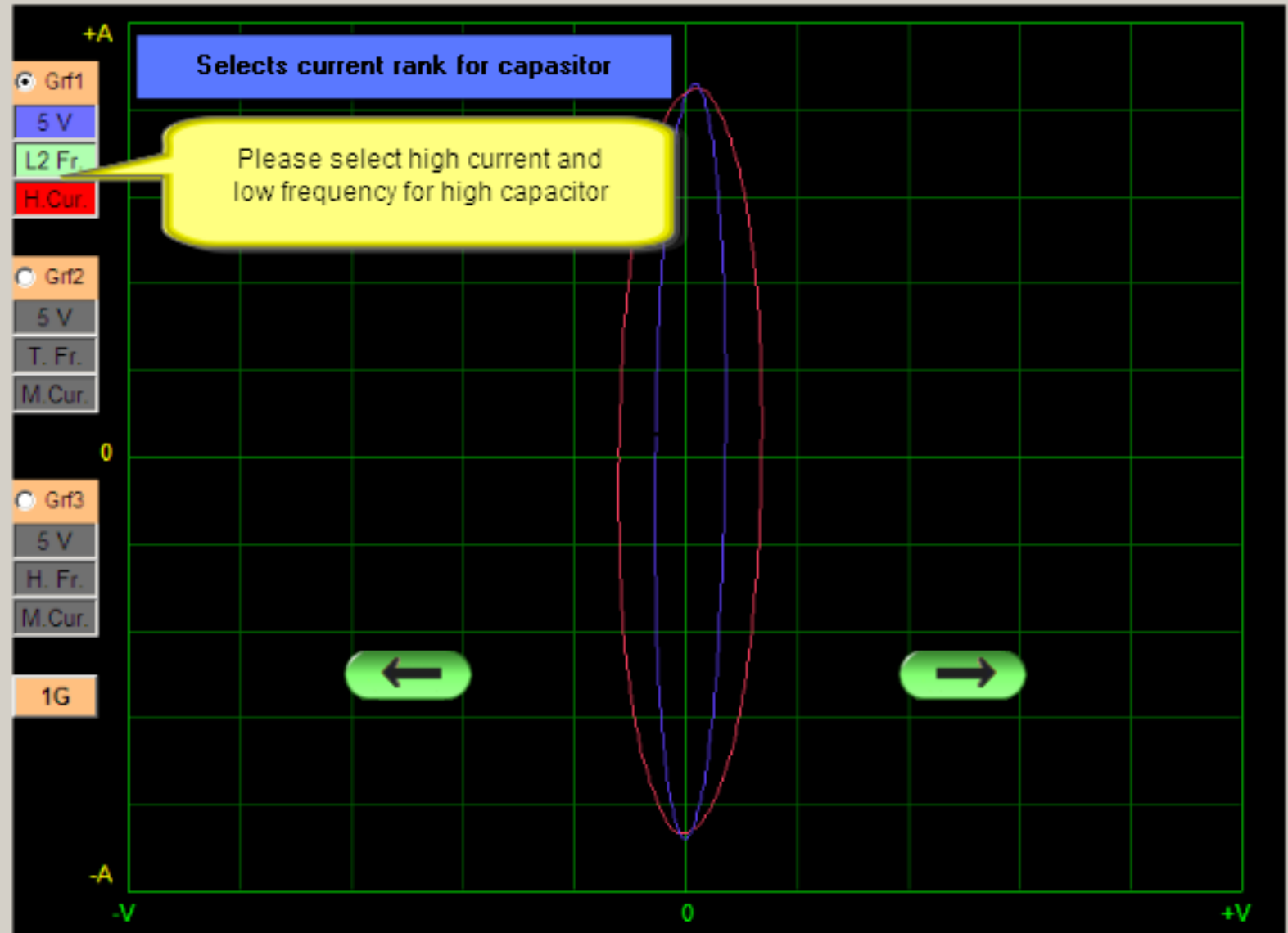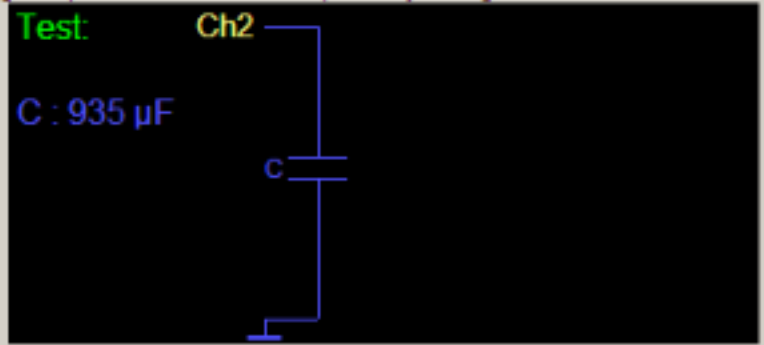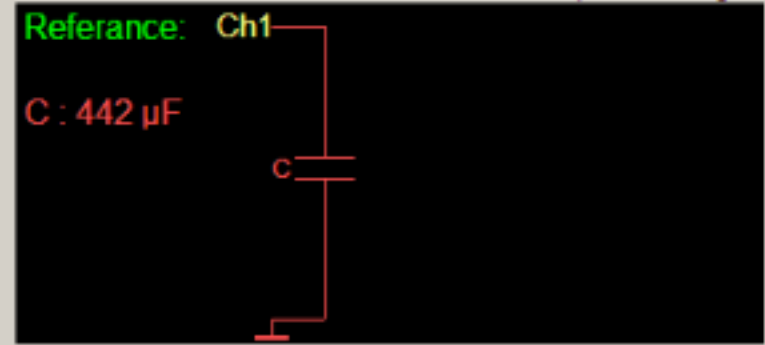☐ Compare
☐ Capasite Test
☐ T.T.T. FET IGBT

Memory Save - Test

Recording

Tolerance (%) 3

○ Grf1
5 V
L2 Fr.
H.Cur.

○ Grf2
5 V
T. Fr.
M.Cur.

○ Grf3
5 V
H. Fr.
M.Cur.

1G

+A

0

-A

-V   0   +V

Selects current rank for capasitor

Please select high current and low frequency for high capacitor

ATTENTION: Probe must be at 1X position. High-voltage capacitors must be emptied by using a resistor.

Referance: Ch1

C : 442 µF

Test: Ch2

C : 935 µF

OSCILLOSCOPE - ANALOG OUTPUT

FAULT DETECTOR - VI TESTER

Test:

Channel 1 - 2

☐ Automatic

1 V
2 V
5 V
10 V

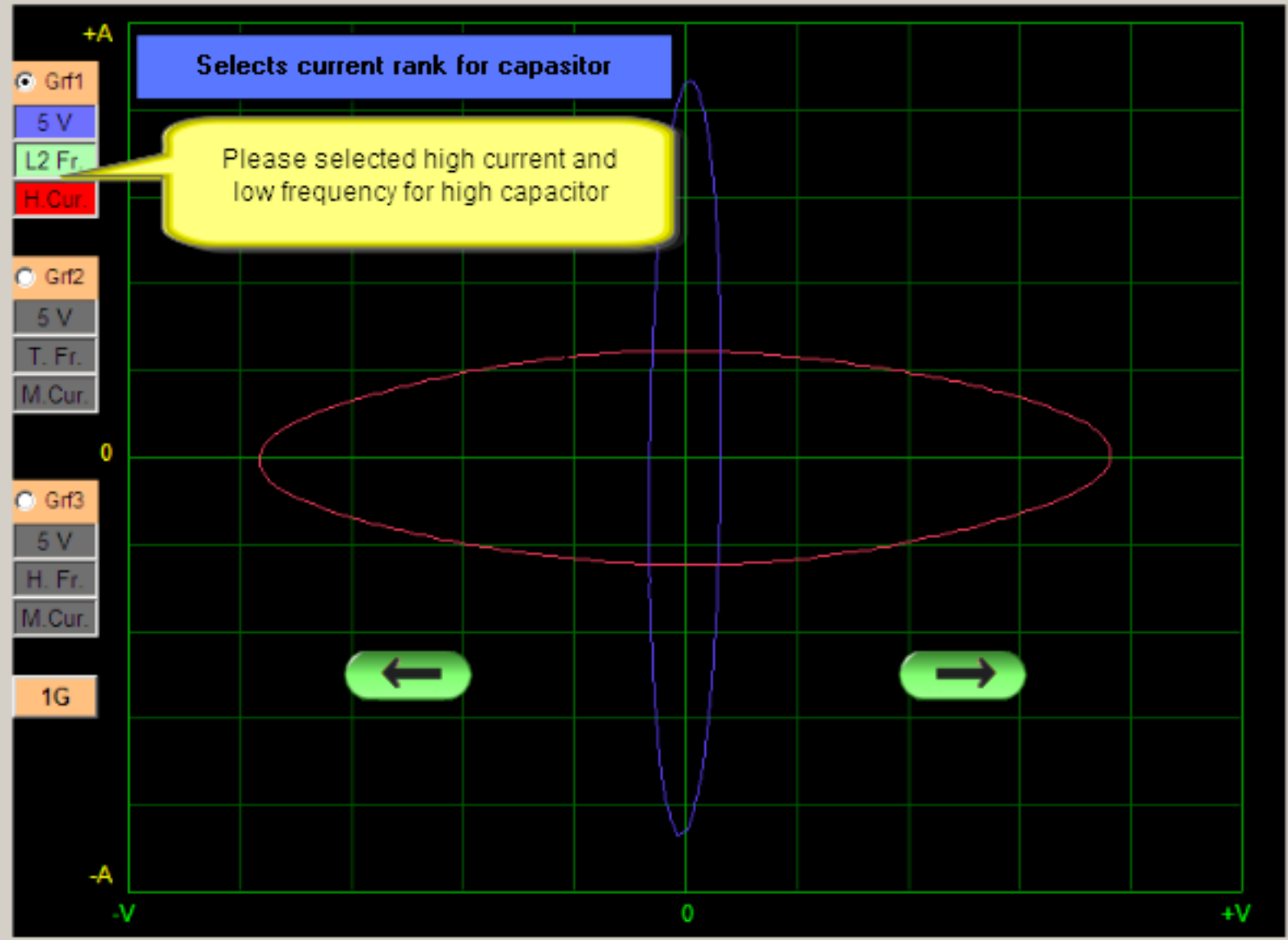Very Low Frk.
Low 2 Frk.
Lov 1 Frk.
Test Frk.
H. Frk. (5-10V)

L. Current (47K)
M. Current (2K7)
H. Current (550)
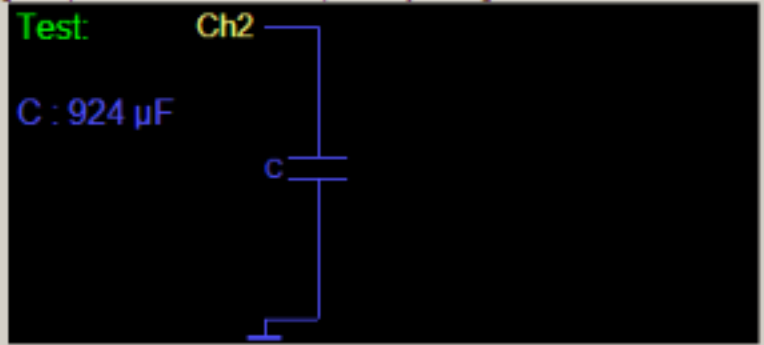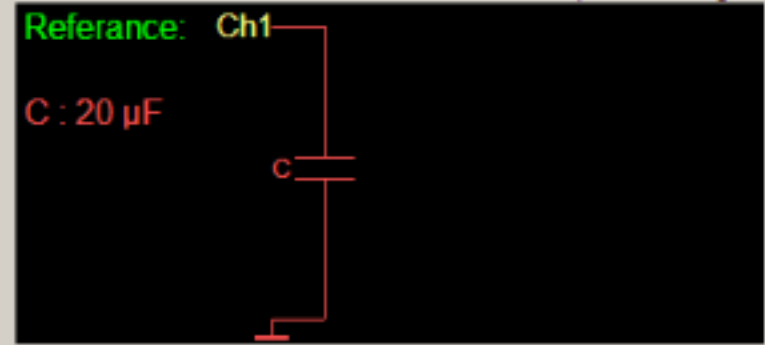
☐ Compare
☐ Capasite Test
☐ T.T.T. FET IGBT

Memory Save - Test

Recording

Tolerance (%) 3

+A

○ Grf1
5 V
L2 Fr.
H.Cur.

○ Grf2
5 V
T. Fr.
M.Cur.

0

○ Grf3
5 V
H. Fr.
M.Cur.

1G

-A

-V   0   +V

Selects current rank for capasitor

Please selected high current and
low frequency for high capacitor

←   →

ATTENTION: Probe must be at 1X position. High-voltage capacitors must be emptied by using a resistor.

Referance: Ch1

C : 20 µF

C

Test: Ch2

C : 924 µF

C

OSCILLOSCOPE - ANALOG OUTPUT

FAULT DETECTOR - VI TESTER

Test:

Channel 1 - 2

☐ Automatic

1 V
2 V
5 V
10 V

Very Low Frk.
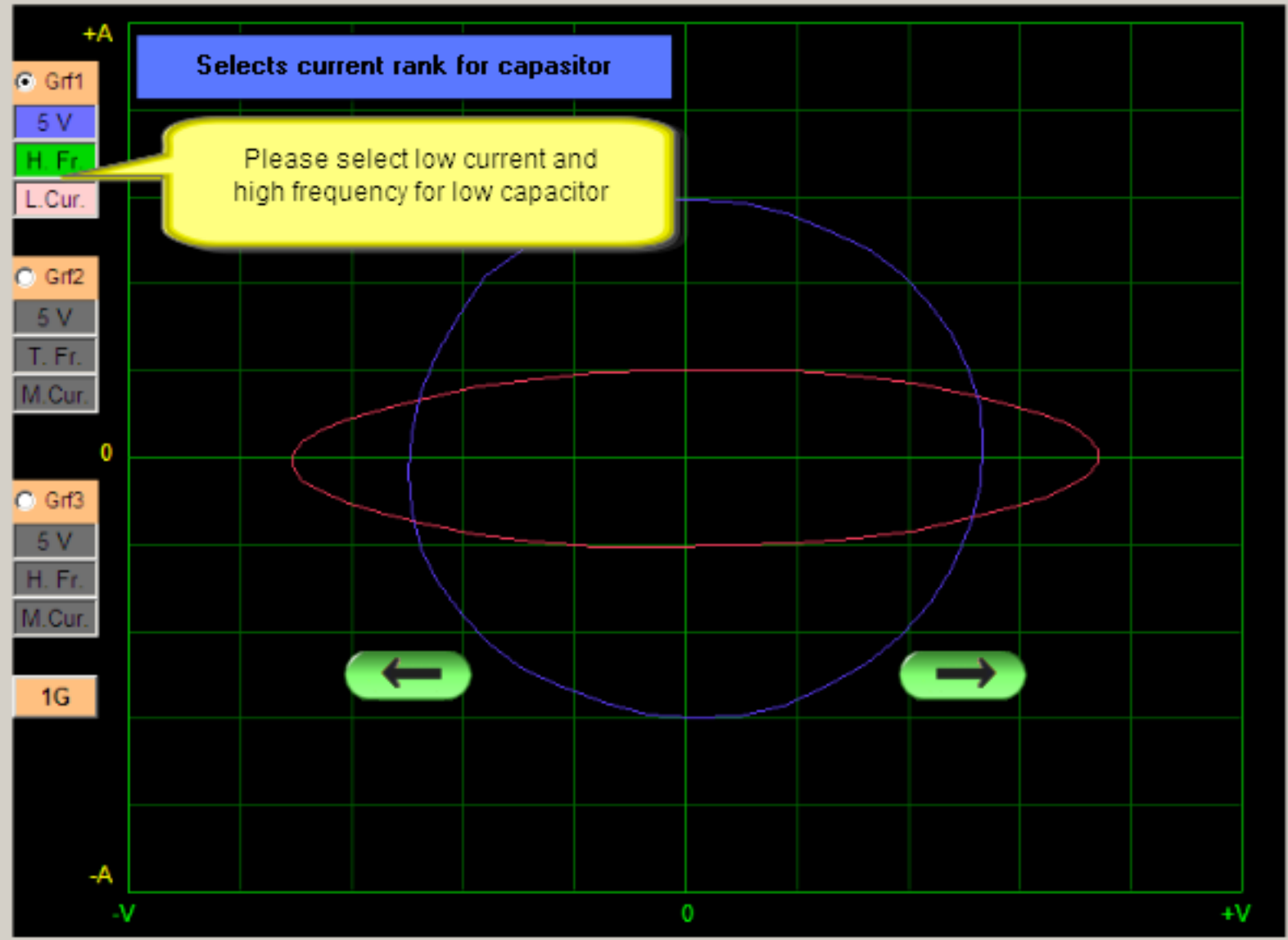Low 2 Frk.
Lov 1 Frk.
Test Frk.
H. Frk. (5-10V)

L. Current (47K)
M. Current (2K7)
H. Current (550)

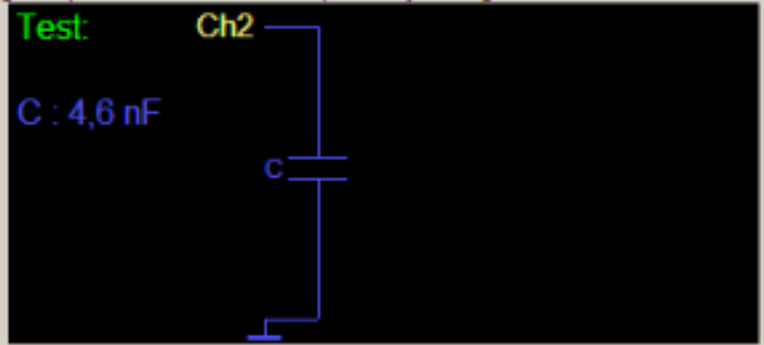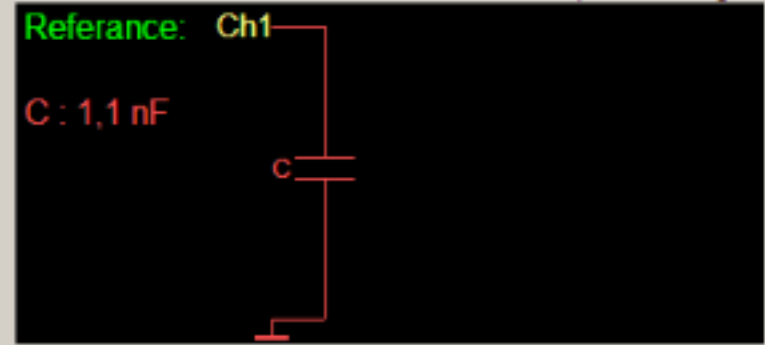☐ Compare
☐ Capasite Test
☐ T.T.T. FET IGBT

Memory Save - Test

Recording

Tolerance (%) 3

+A

● Grf1
5 V
H. Fr.
L.Cur.

○ Grf2
5 V
T. Fr.
M.Cur.

○ Grf3
5 V
H. Fr.
M.Cur.

1G

0

-A

Selects current rank for capasitor

Please select low current and
high frequency for low capacitor

-V   0   +V

ATTENTION: Probe must be at 1X position. High-voltage capacitors must be emptied by using a resistor.

Referance: Ch1

C : 1,1 nF

C

Test: Ch2

C : 4,6 nF

C

FADOS7F1 FAULT DETECTOR AND OSCILLOSCOPE

OSCILLOSCOPE - ANALOG OUTPUT

FAULT DETECTOR - VI TESTER

Test:

Channel 1 - 2

Automatic

1 V
2 V
5 V
10 V

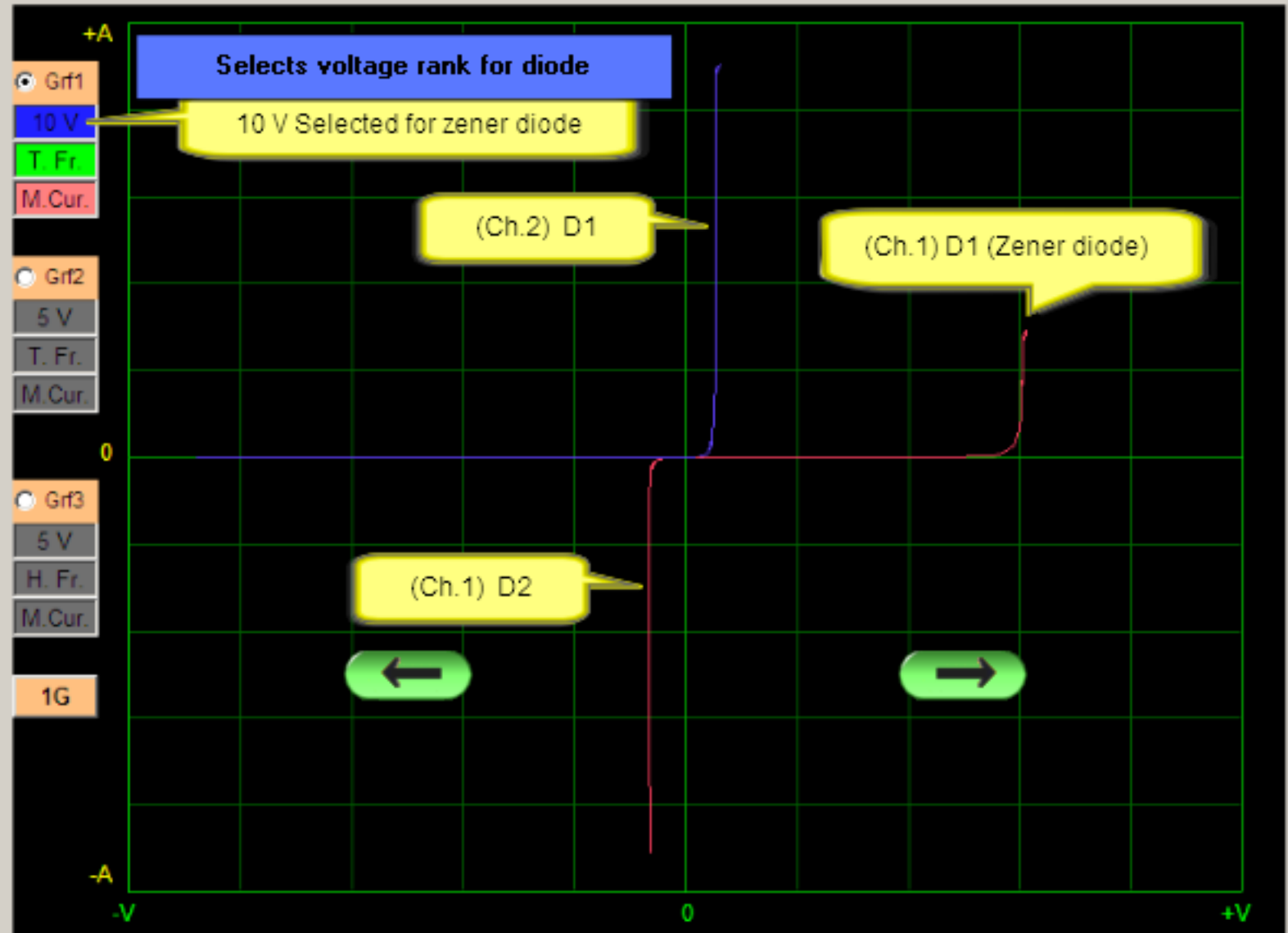Very Low Frk.
Low 2 Frk.
Lov 1 Frk.
Test Frk.
H. Frk. (5-10V)

L. Current (47K)
M. Current (2K7)
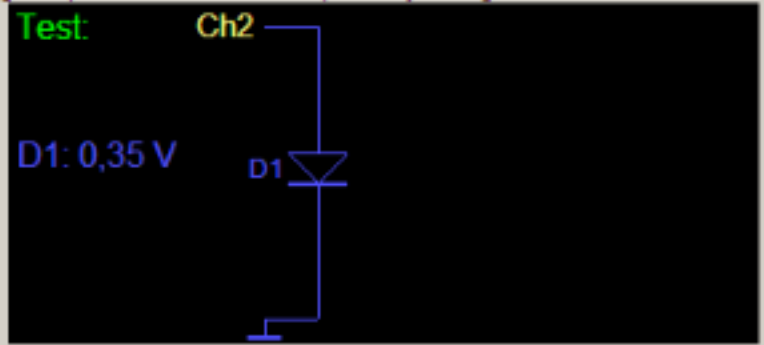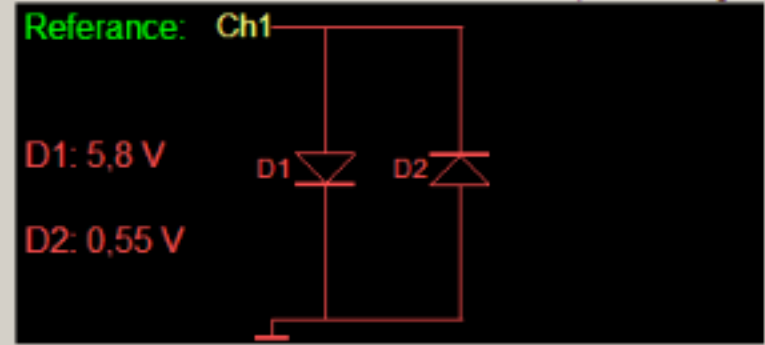H. Current (550)

Compare
Capasite Test
T.T.T. FET IGBT

Memory Save - Test

Recording

Tolerance (%) 3

+A

Grf1
10 V
T. Fr.
M.Cur.

Grf2
5 V
T. Fr.
M.Cur.

Grf3
5 V
H. Fr.
M.Cur.

1G

0

-A

-V   0   +V

Selects voltage rank for diode

10 V Selected for zener diode

(Ch.2) D1

(Ch.1) D1 (Zener diode)

(Ch.1) D2

ATTENTION: Probe must be at 1X position. High-voltage capacitors must be emptied by using a resistor.

Referance: Ch1

D1: 5,8 V

D2: 0,55 V

D1   D2

Test: Ch2

D1: 0,35 V

D1

OSCILLOSCOPE - ANALOG OUTPUT

FAULT DETECTOR - VI TESTER

Test:

- Channel 1 - 2
- ☐ Automatic
- 1 V
- 2 V
- 5 V
- 10 V

- Very Low Frk.
- Low 2 Frk.
- Lov 1 Frk.
- Test Frk.
- H. Frk. (5-10V)

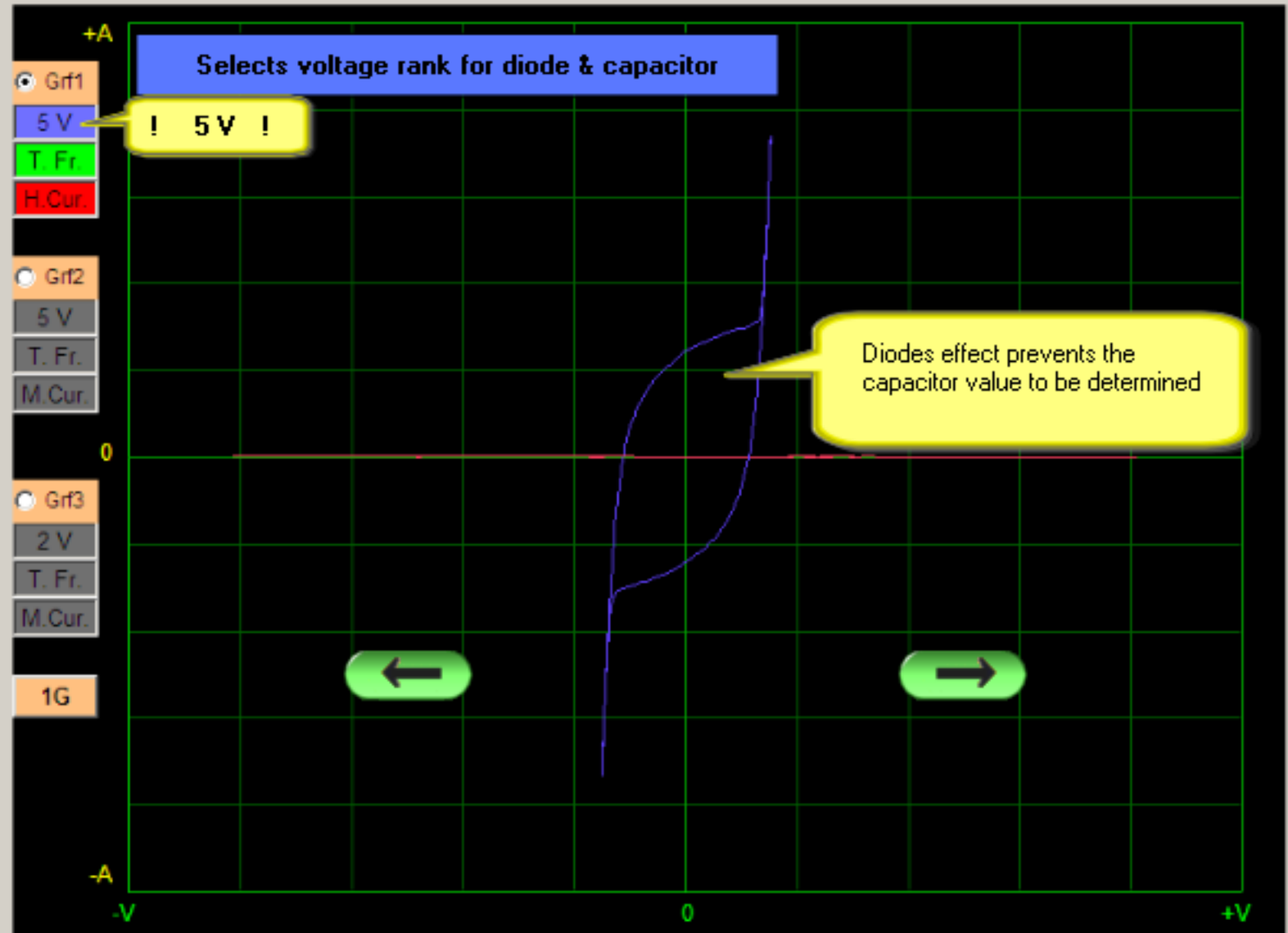- L. Current (47K)
- M. Current (2K7)
- H. Current (550)

- ☐ Compare
- ☐ Capasite Test
- ☐ T.T.T. FET IGBT

Memory Save - Test

- Recording

Tolerance (%) [3]

○ Grf1
- 5 V
- T. Fr.
- H.Cur.

○ Grf2
- 5 V
- T. Fr.
- M.Cur.

○ Grf3
- 2 V
- T. Fr.
- M.Cur.

1G

+A

Selects voltage rank for diode & capacitor

! 5 V !

0

Diodes effect prevents the capacitor value to be determined

-A

-V   0   +V

ATTENTION: Probe must be at 1X position. High-voltage capacitors must be emptied by using a resistor.

Referance: Ch1 ——

Open Circuit

Test: Ch2

D1: 0,7 V

D2: 0,7 V

D1   D2   C

FADOS7F1 FAULT DETECTOR AND OSCILLOSCOPE

OSCILLOSCOPE - ANALOG OUTPUT

FAULT DETECTOR - VI TESTER

Test:

- Channel 1 - 2
- ☐ Automatic

- 1 V
- 2 V
- 5 V
- 10 V

- Very Low Frk.
- Low 2 Frk.
- Lov 1 Frk.
- Test Frk.
- H. Frk. (5-10V)

- L. Current (47K)
- M. Current (2K7)
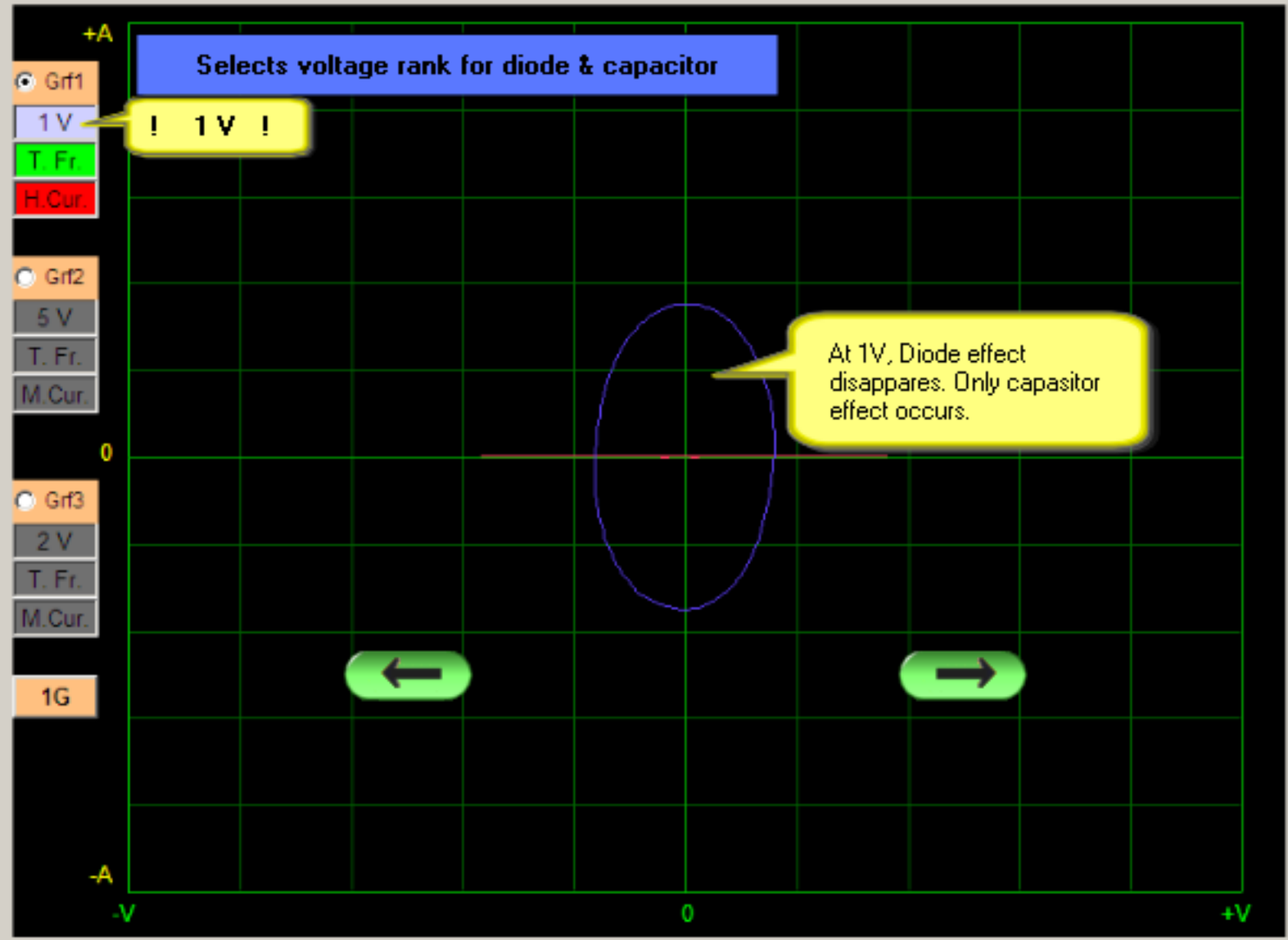- H. Current (550)

- ☐ Compare
- ☐ Capasite Test
- ☐ T.T.T. FET IGBT

Memory Save - Test

Recording

Tolerance (%) [3]

+A

○ Grf1
1 V
T. Fr.
H.Cur.

○ Grf2
5 V
T. Fr.
M.Cur.

0

○ Grf3
2 V
T. Fr.
M.Cur.

1G

-A

-V   0   +V

Selects voltage rank for diode & capacitor

! 1 V !

At 1V, Diode effect disappares. Only capasitor effect occurs.

ATTENTION: Probe must be at 1X position. High-voltage capacitors must be emptied by using a resistor.

Referance: Ch1——

Open Circuit

Test: Ch2

C : 4,0 µF

c

OSCILLOSCOPE - ANALOG OUTPUT

FAULT DETECTOR - VI TESTER

Test:

Channel 1 - 2

☐ Automatic

1 V
2 V
5 V
10 V

Very Low Frk.
Low 2 Frk.
Lov 1 Frk.
Test Frk.
H. Frk. (5-10V)

L. Current (47K)
M. Current (2K7)
H. Current (550)

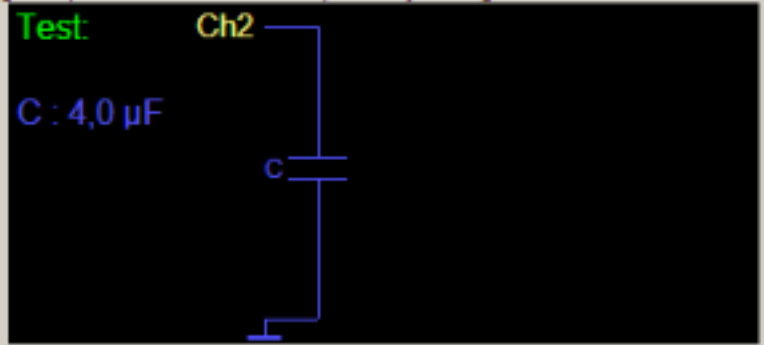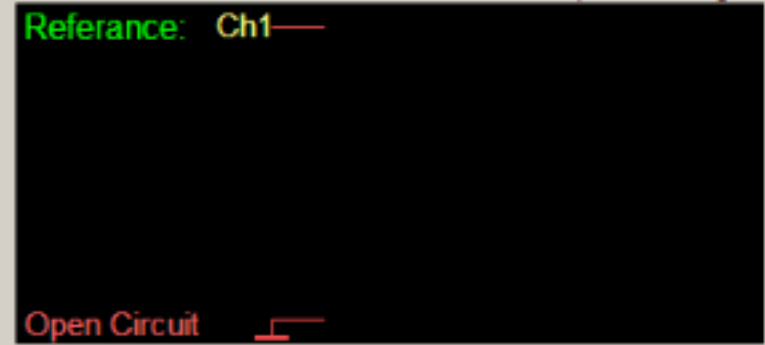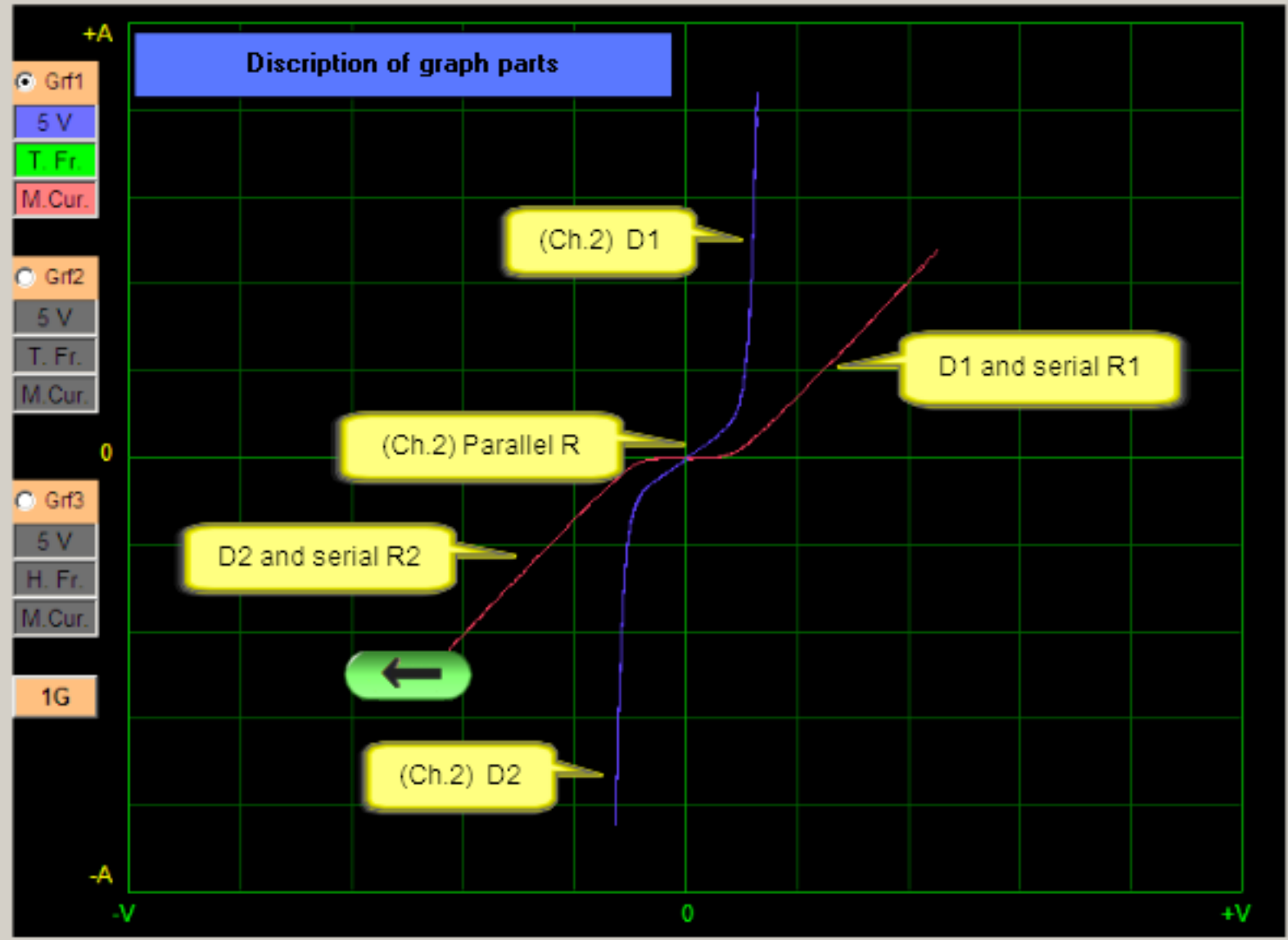☐ Compare
☐ Capasite Test
☐ T.T.T. FET IGBT

Memory Save - Test

Recording

Tolerance (%) 3

○ Grf1
5 V
T. Fr.
M.Cur.

○ Grf2
5 V
T. Fr.
M.Cur.

○ Grf3
5 V
H. Fr.
M.Cur.

1G

+A

0

-A

-V   0   +V

Discription of graph parts

(Ch.2) D1

D1 and serial R1

(Ch.2) Parallel R

D2 and serial R2

(Ch.2) D2

ATTENTION: Probe must be at 1X position. High-voltage capacitors must be emptied by using a resistor.

Referance: Ch1

R1   R2

D1   D2

D1: 0,45 V
R1: 2,24 K
D2: 0,45 V
R2: 2,26 K

Test: Ch2

R : 3,27 K

D1   D2   R

D1: 0,5 V

D2: 0,5 V