D. Testing for Continuity (See figure 5)
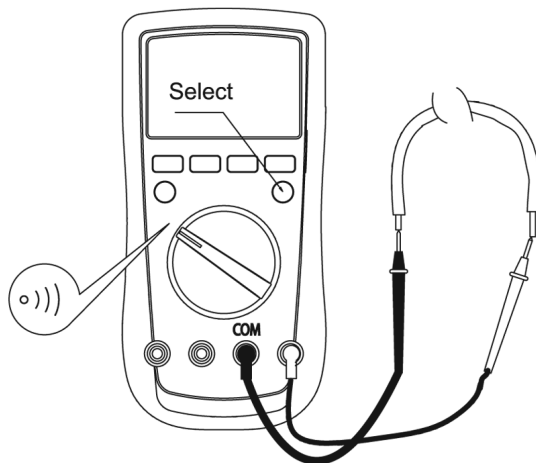

Select

figure 5

⚠ Warning
To avoid damages to the Meter or to the devices under test, disconnect circuit power and discharge all the high-voltage capacitors before testing for continuity.

To avoid harm to yourself, do not input higher than DC 60V or AC 30V voltages.

To test for continuity, connect the Meter as below:
1. Insert the red test lead into the Ω terminal and the black test lead into the COM terminal.
2. Set the rotary switch to ·ɯ) and press BLUE button to select measurement mode.
3. The buzzer sounds continuously if the resistor to be tested is <10Ω.
   The buzzer does not sound if the resistor to be tested is >35Ω

Note

l   UT61A, UT61B, UT61C and UT61D: open circuit voltage is around 0.45V

    UT61E: open circuit voltage is around -1.2V
l   When continuity testing has been completed, disconnect the connection between
    the testing leads and the circuit under test, and remove the testing leads away
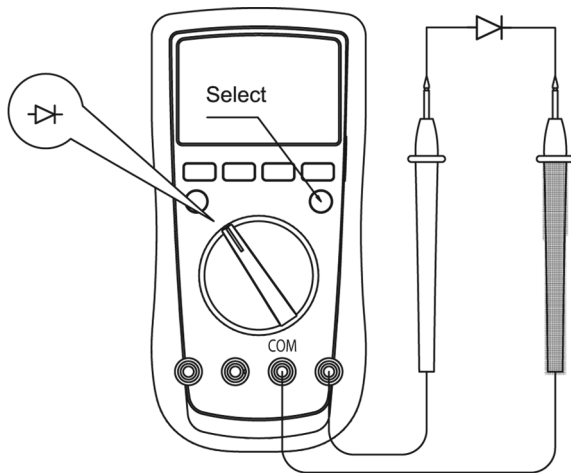   from the input terminals of the Meter.

E. Testing Diodes (See figure 6)

figure 6

⚠ Warning
To avoid possible damage to the Meter and to the device under test, disconnect circuit power and discharge all high-voltage capacitors before testing diodes.

To avoid harm to yourself, do not input higher than DC 60V or AC 30V voltages.

1. Insert the red test lead into the Ω terminal and the black test lead into the **COM** terminal.
2. Set the rotary switch to ✦ and press **BLUE** button to select ✦ measurement mode.
3. For forward voltage drop readings on any semiconductor component, place the red test lead on the component's anode and place the black test lead on the component's cathode.The measured value shows on the display.

Note
● In a circuit, a good diode should still produce a forward voltage drop reading of 0.5V to 0.8V; however, the reverse voltage drop reading can vary depending on the resistance of other pathways between the probe tips.

27

l   Connect the test leads to the proper terminals as said above to avoid error display. The LCD will display OL indicating diode being tested is open or polarity is reversed. The unit of diode is Volt (V), displaying the forward voltage drop readings.

l   When diode testing has been completed, disconnect the connection between the testing leads and the circuit under test, and remove the testing leads away from the input terminals of the Meter.

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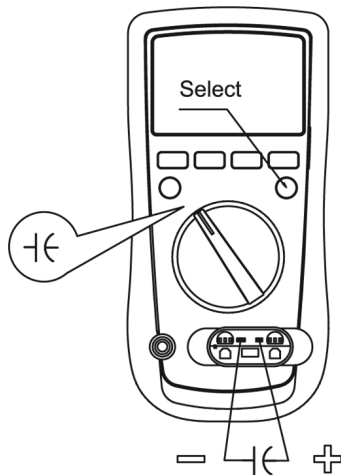## F. Capacitance Measurement (See figure 7)

figure 7

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⚠ Warning
To avoid damage to the Meter or to the equipment under test, disconnect circuit power and discharge all high-voltage capacitors before measuring capacitance. Use the DC Voltage function to confirm that the capacitor is discharged.

To measure capacitance, connect the Meter as follows:

1. Insert the red test lead into the ⊣⊢ terminal and the black test lead into the COM terminal.
2. Set the rotary switch to ⊣⊢ and press BLUE button to select nF measurement mode.
   l   At that time, the Meter will display a fixed value as below which is the Meter internal fixed distributed capacitance value. To ensure accuracy when measuring a small value of capacitance, the tested value must subtract this value, REL mode can help on that.
        UT61A, UT61B, UT61C, UT61D and UT61E: around 10nF
        UT61E: around 50PF
   l   For more convenience, use the included multi-purpose socket for measuring capacitor with leads or SMT capacitor. Insert the capacitor to be tested into the corresponding "+" and "-" jack of the multi-purpose socket. This method is more stable and correct for small value of capacitance testing.
3. Connect the test leads across with the object being measured.
   The measured value shows on the display.

Note
- It takes a longer time when the tested capacitor is more than 100uF
- The LCD displays **OL** indicating the tested capacitor is shorted or it exceeds the maximum range.
- When capacitance measurement has been completed, disconnect all the connection between multi-purpose socket, capacitor and the Meter.
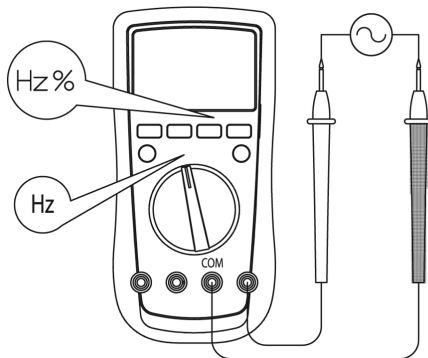
G. Frequency Measurement (see figure 8)

figure 8

31

⚠ **Warning**
To avoid personal harm, do not attempt to input higher than 30V rms tested frequency voltage

To measure frequency, connect the Meter as follows:

1. Insert the red test lead into the **Hz** terminal and the black test lead into the **COM** terminal.
2. Set the rotary switch to **Hz%**; frequency measurement (Hz) is default or press **Hz %** button to select **Hz** measurement mode.
3. Connect the test leads across with the object being measured.
   The measured value shows on the display.
4. If you need to measure duty cycle, press **Hz %** button to select **%** measurement mode

Note
● Input Amplitude: (DC electric level is zero)
   ➢ UT61A, B, C, D: When 10Hz ~ 10MHz: 200mV≤a≤30Vrms
   ➢ UT61E: When 10Hz ~ 10MHz: 300mV≤ a≤30Vrms
      When ≈10MHz~40MHz:400mV≤ a≤30Vrms
      When ≥40MHz:unspecified
● For UT61E:Measuring Audio frequency,if the input voltage is more than 15 volt.
      the meter will simulate the sound in same frequency.

32

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l When frequency measurement has been completed, disconnect the connection between the testing leads and the circuit under test, and remove the testing leads away from the input terminals of the Meter.

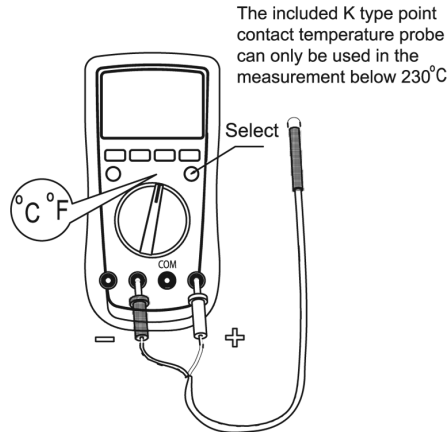H. Temperature Measurement (UT61B and UT61C only) (See figure 9)

The included K type point contact temperature probe can only be used in the measurement below 230°C

Select

°C °F

COM

figure 9)

⚠ Warning
To avoid harm to yourself, do not input higher than DC 60V or AC 30V voltages.

To measure temperature, connect the Meter as follows:
1. Set the rotary switch to °C°F.
2. Insert the temperature probe into the input terminal as shown on the figure 9.
3. Place the temperature probe to the object being measured.
   After few seconds, the measured value shows on the display.
4. Press BLUE button to toggle between °C and °F temperature.

Note
l   To avoid measurement error especially low temperature measurement, the
    operating temperature must not exceed 18 ~ 28°C.
l   When temperature measurement has been completed, disconnect the connection
    between the temperature probe and the object being measured, and remove the
    temperature probe away from the input terminals of the Meter.