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EFL VI TESTER - TFT MANUEL BOOK

(FAULT LOCATOR WITH IMPEDANCE (VI) CURVES TECHNIQUE)

NOTES:

- 1) Disconnecting the power to discharge the capacitor in the abdomen and tested electronic board never start the test.*
- 2) Insert trying your ESD bracelet (Plug your grid ground).*
- 3) The device does not require calibration.*
- 4) Remove power before the unit maintenance. Wipe with a damp cloth.*

EFLVI Tester-TFT Information:

All electronic components can be easily tested with impedance curves (VI). It is the most commonly used VI test method in the World for electronic board repairing.

EFL VI Tester-TFT has two test channels. A and B channel. At the same time good-defective board can be tested with live A-B channel.

The easiest handy in its class, is the quality and durability.



Pic 1. EFLVI Tester-TFT front panel.

All of the buttons are push button. ARM microprocessor architecture device has a control unit. The device has a high resolution TFT screen.

↕ ↔ : The impedance curve horizontally and vertically allows the removal. Two channels allows the movement of the live A and B channels when used simultaneously.

RANGES : Voltage-current levels applied during the test is.

LOGIC : 10 V, 10 mA test range.

LOW : 10 V, 120 mA test range.

MED : 20 V, 4 mA test range.

HIGH : 50 V, 0,5 mA test range.

LOCK (Lock Ranges) : The cancellation of the unwanted test stage, will engage. button is pressed and held down to perform this operation. Then in step with our other

hand we want to use selected. LOCK'R button is released. The curves on the stage you select only when you press the Cycle button appears.

CYCLE : Test ranges will scan automatically. LOCK button is used, it scans the selected test steps.

CYCLE SPEED : Set the CYCLE speed.

FREQ (Frequency) : Device test frequency is 120 Hz. When the button is pressed, the frequency will be 2000 Hz. Press the button again to cancel.

A / B : The button open two channel. If you work one channel, this channel is A channel.

COM (Common) : Reference is connection. If you work two channel (live), usually connect to ground pin on the electronic board.

ESD : ESD wrist strap supplied with the device is inserted in the socket.

IMPEDANCE CURVES (VI CURVES)

Most electronic component test devices in the world are used to determine electronic fault. In their most important and also most preferred impedance tester. Ohm's law as is known from the voltage / current ratio, gives the resistance. If the capacitor and resistor values such as frequency coil according to the concept of resistance also be included in the changing electronic materials, the generic name 'impedance' will. The following is an academic approach to determine fault impedance curves; ***'impedance characteristic of an electronic material is degraded if the material degraded'***. EFL VI Tester TFT-impedance tester image are shown Picture 2. Our device ruggedness is a leader in the class in terms of usable quality and easy.



Pic 2. EFL VI Tester-TFT live two channel.

Voltage / Current ratio is called the short VI. Impedance test, ASA (Analog Signature Analysis) test expression is the same.

Fundamental VI curves are given fig1. The horizontal axis in this graph voltage, the vertical axis is current.

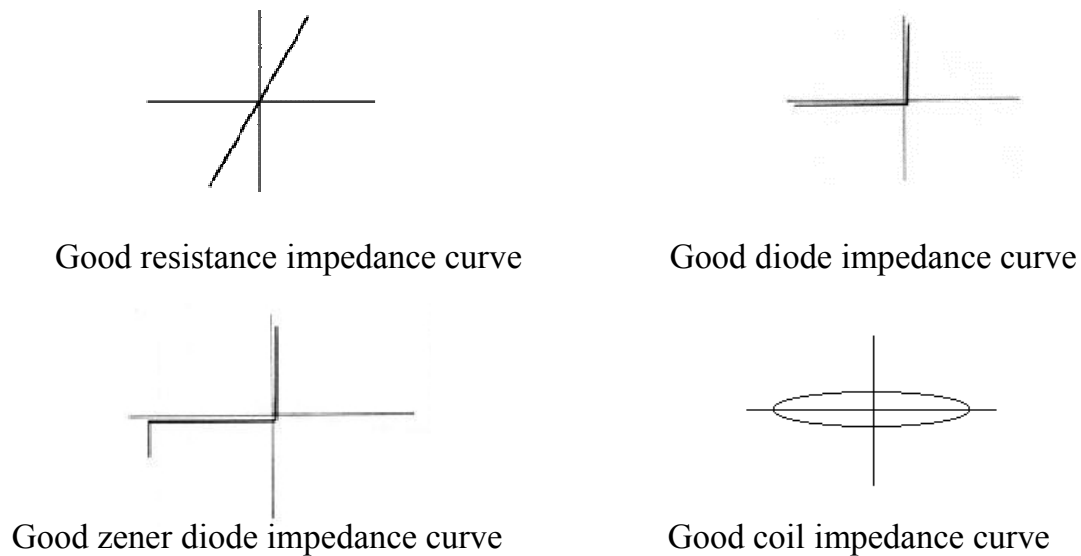


Figure 1. Fundamental VI curves

Capacitors and inductors are elliptical curves. It is symmetrical with respect to the center. When the internal resistance of the coil ring is made slightly tilted in the vertical plane. This can be done starting from the basic test of all electronic component curves.

Digital and Analog integrated (IC) fuses the pins has a purpose zener diodes. Please see figure 2.

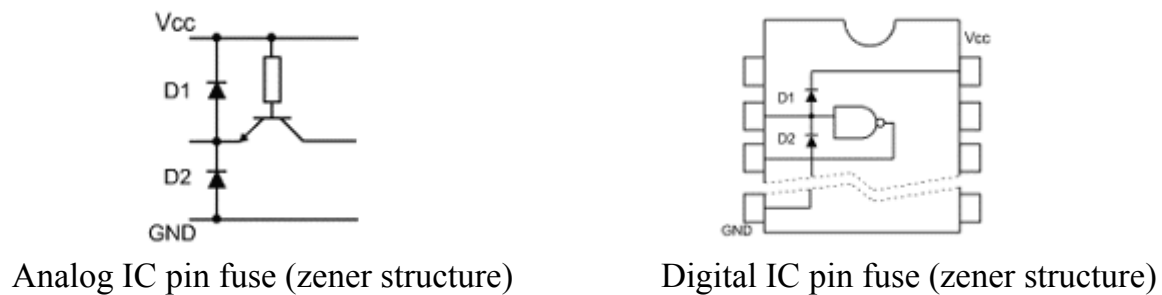


Figure 2. Integrated protection diode structures in the pins.

Generality of Integrated Circuits (IC's) can be easily tested with impedance test (VI). According to VI test method; '**similar work IC pins gives the same curve**'. For example, ULN2003 IC, so, it is out of circuit. VI curves on output pins are similar. If someone is defective creating very little difference.

We can easily find IC pin names by www.google.com searching. You can see figure 3 for results of TL084 IC datasheet search .

Google TL084 Ara [Gelişmiş Arama](#)

Ara: ☒ Web ☐ Türkçe sayfalar ☐ Türkiye'den sayfalar

Web [Seçenekleri göster...](#) TL084 için yaklaşık 176.000 sonuçtan 1 - 10 arası sonuçlar (0,29 saniye)

İpucu: [Aramayı sadece Türkçe dilinde yap.](#) Arama yapacağınız dili [Tercihler](#) ile seçebilirsiniz.

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TL084 1A, TL084 Figure 27. Positive-Feedback Bandpass Filter OTHER QUALIFIED VERSIONS OF TL082, TL082M, TL084, TL084M : •Automotive: TL082-G1 ...
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Figure 3. TL084 IC searching and pinouts.

Good and Bad Electronic Board Comparison Finding Fault With VI Curves

Defective electronic component can be easily determined good and bad electronic board compared. Two and three pin (discrete) electronic components are tested with test probes directly. For IC test, you have to use reference the IC ground. If you don't know ground, please search and see IC datasheet. You can see two bad boards comparison the fig.4.

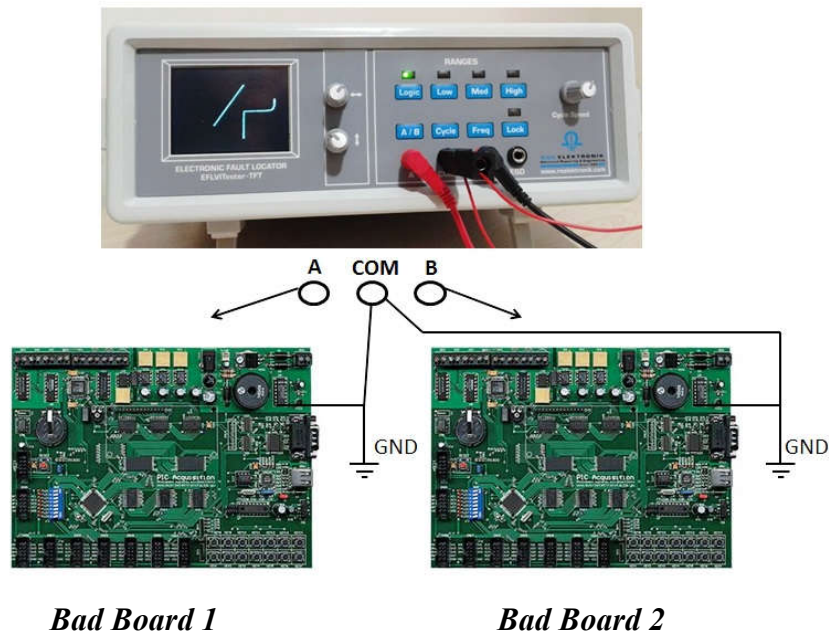


Figure 4. Two Bad boards comparison

When comparing two electronic boards should be aware of the following.

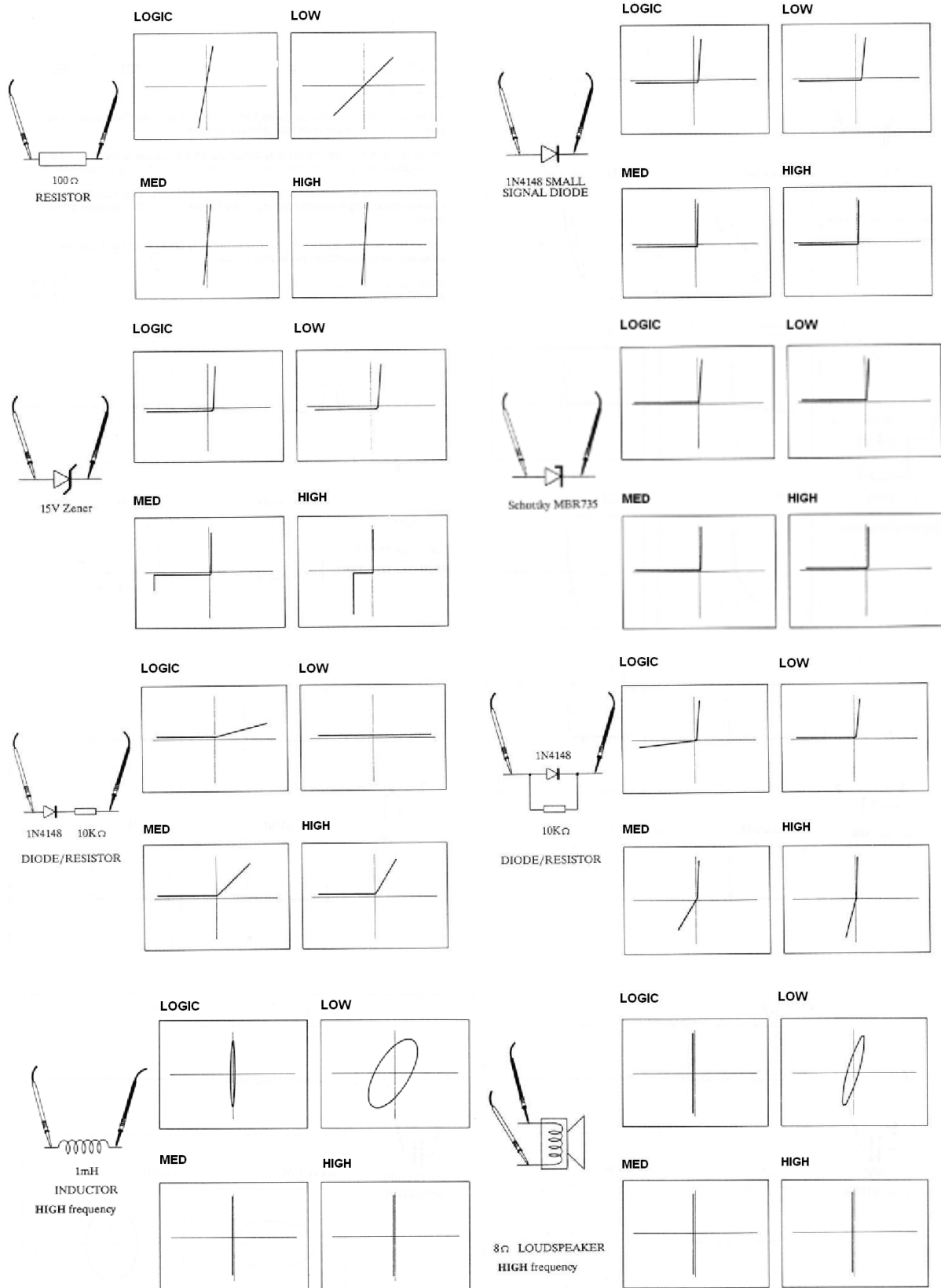
1. Electronic boards must be exactly the same, not modification or neo other version.
2. Electronic boards should not be in power.
3. Use ESD wrist strap. You can plug ESD socket.

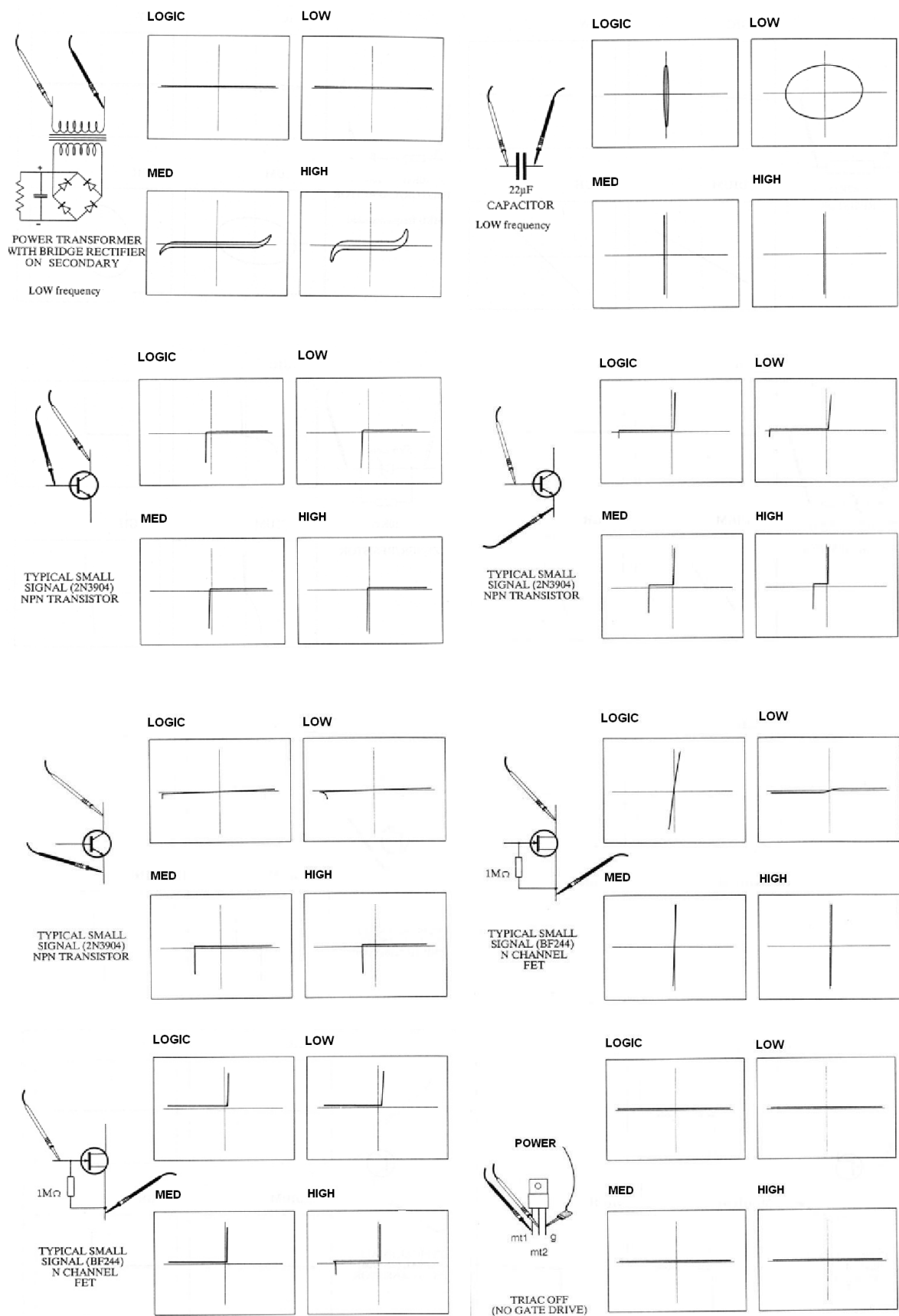


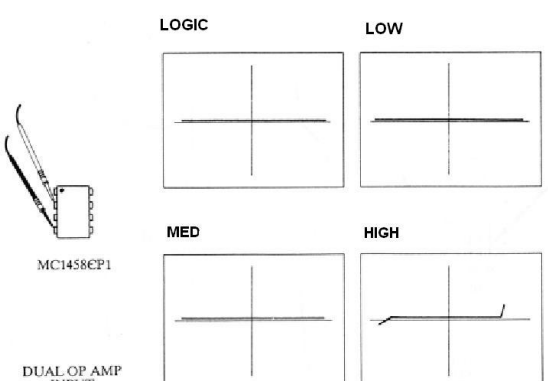
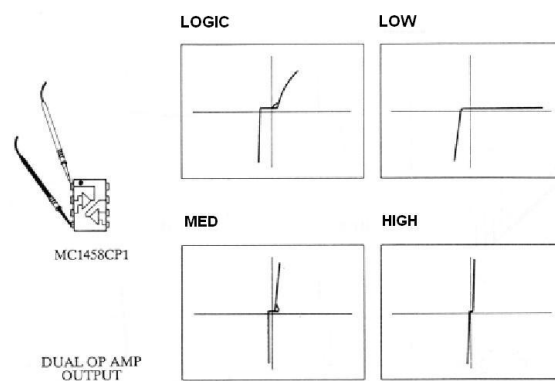
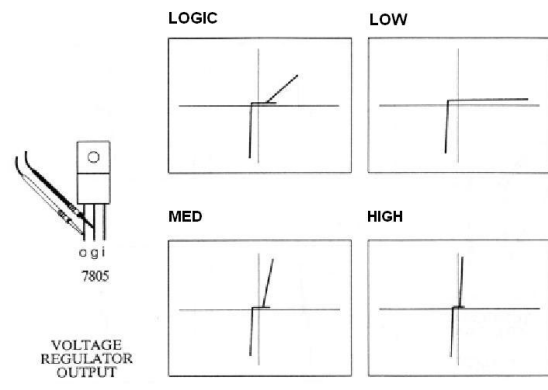
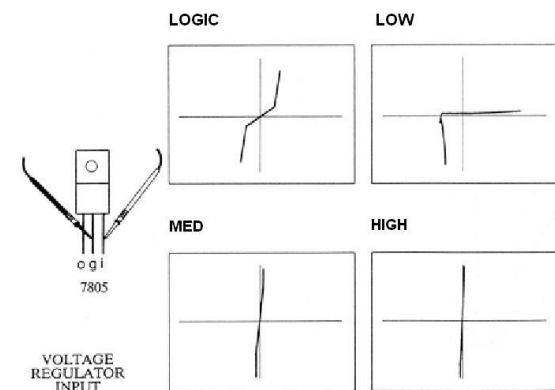
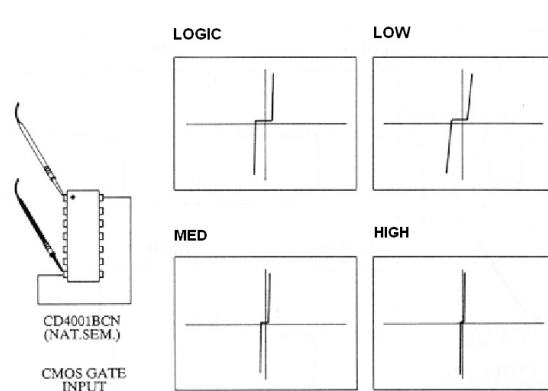
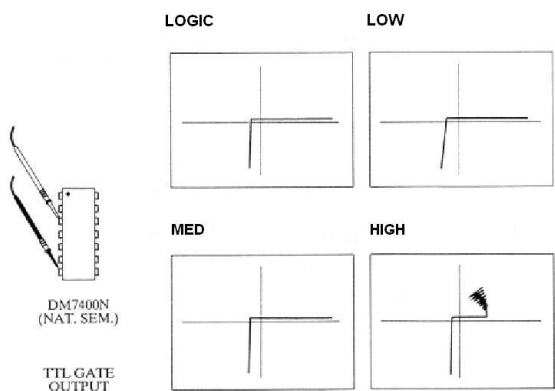
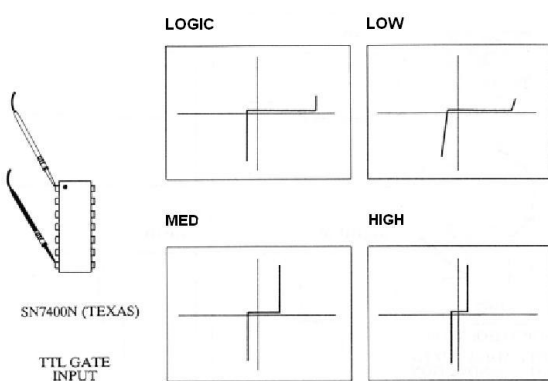
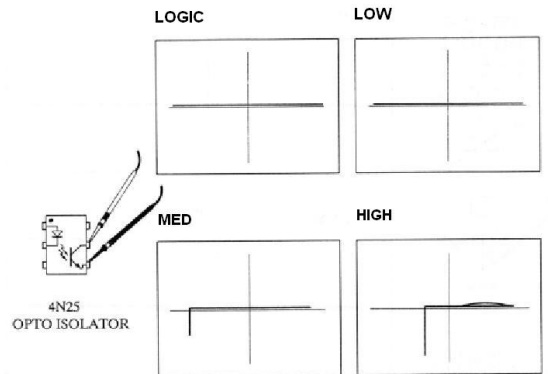
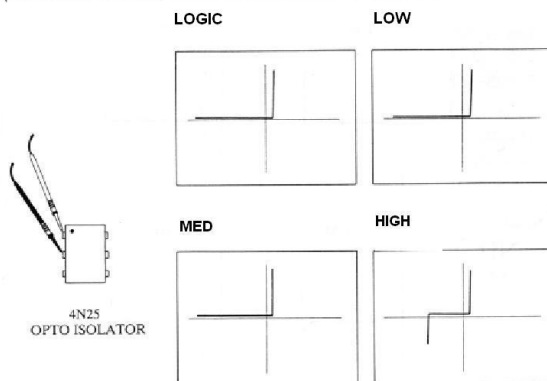
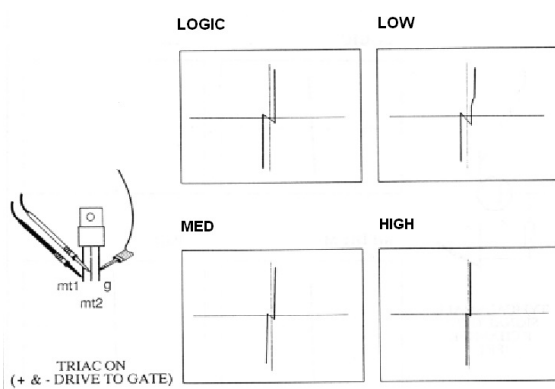
Figure 5. Differences finding from the comparison of the two boards.

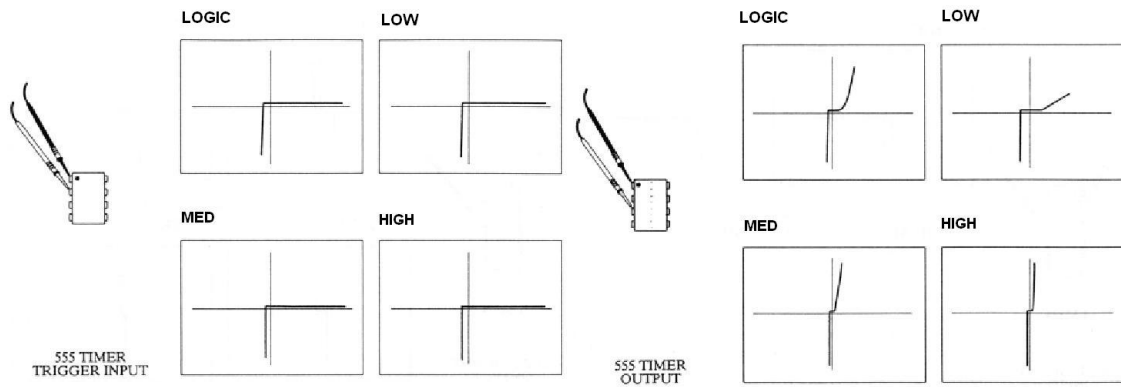
For example, please see the fig. 5. Two boards compared and finding this figure on 7400 IC pin1. EFLVTester-TFT used for VI test. This Faulty 7400 IC chanced and bad board worked good condition.

Good Impedance Curves of Electronic Components









Impedance Curves (VI) of Faulty Electronic Components:

Fault curves of electronic components is shown in Figure 6. In the form of short circuit and open circuit may occur.

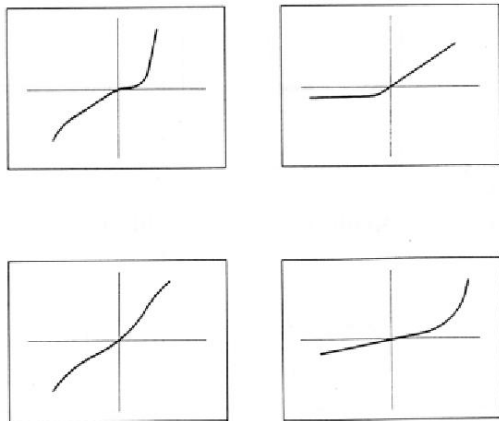


Figure 6. Electronic components faulty curves.