

CH-012 Transistor Curve Tracer Adapter for OSC

This board has to be used with an analog or digital oscilloscope which can display the signal in x-y mode, it is designed to have 2 ranges of I_b to bias 2 types of transistor, Small transistor / Power transistor and requires dual power supply +15V and -15V, due to main components are op-amp which need dual supply to operate

Technical information.

- Require Power supply +15VDC/-15VDC (1A)
- Capable to check IV curve both NPN / PNP Power Transistor / Small Transistor
- 8 step I_b 0uA,24uA,48uA,72uA,96uA,120uA,144uA,168uA for small transistor
- 8 step I_b 0.0mA,0.32mA,0.64mA,0.96mA,1.28mA,1.6mA,1.92mA,2.24mA,
- $V_{ce} = +10V$ for NPN and $-10V$ for PNP
- Switching frequency 642Hz
- 2 Jumper to select ranges of I_b and type of transistor { NPN / PNP }
- hole PCB for wiring to external 2 way switches to select ranges of I_b and type of transistor
- Require 2 CH Analog or Digital Oscilloscope in x-y mode to connect both CH to this adapter board (CH1 is X-Axis and CH2 is Y-Axis)
- PCB size 9.0cm x 10.0cm

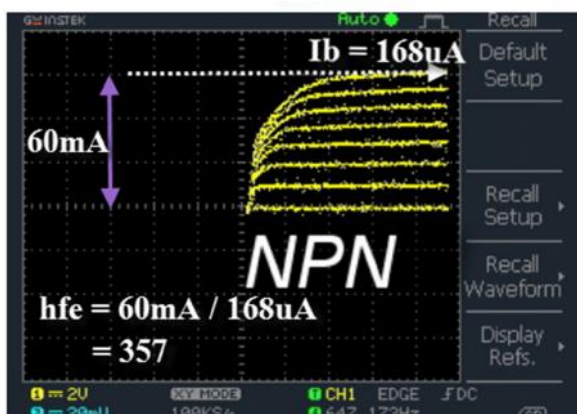
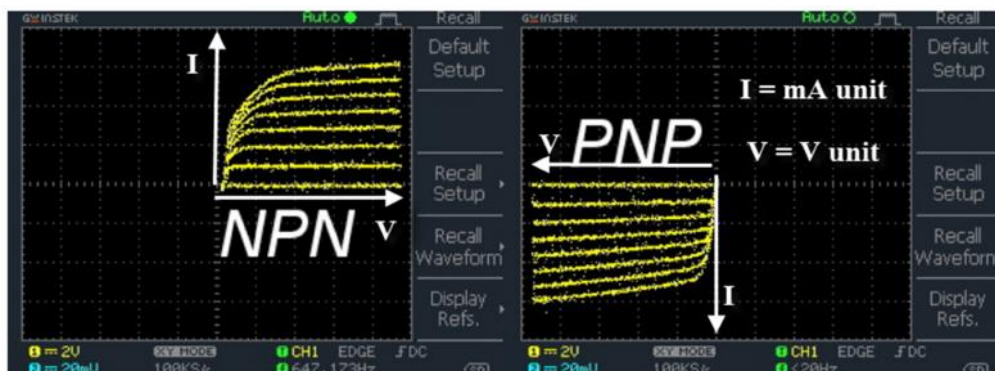
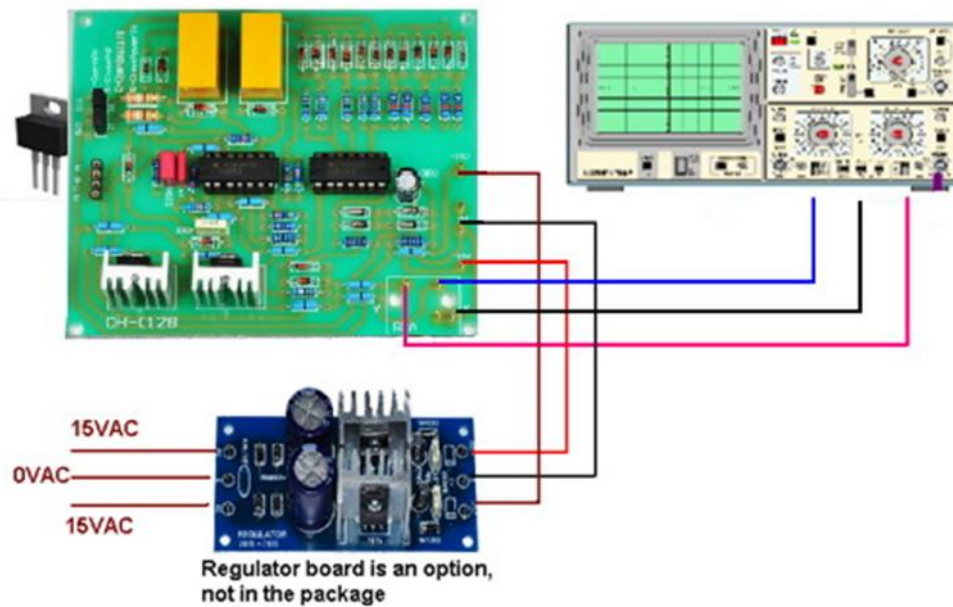
How to setup

- Switch on OSC
- Connect X to CH1 of OSC and Y to CH2 of OSC
- Connect dual power supply to the board { don't swap between +15V and -15V }
- Set time base of OSC to 500us to 1ms
- Volt per DIV of CH1 = 2V / DIV
- Volt per DIV of CH2 = 20-100mV / DIV
- Put jumper to be suitable with your transistor NPN/PNP , first start with small transistor range .
- Put transistor on test DUT socket, please put correct pin E , C , B. Don't swap
- Power on the IV curve tracer board
- If no graph or you see only a few IV curves, this means that I_b are not enough. Change jumper to select power transistor

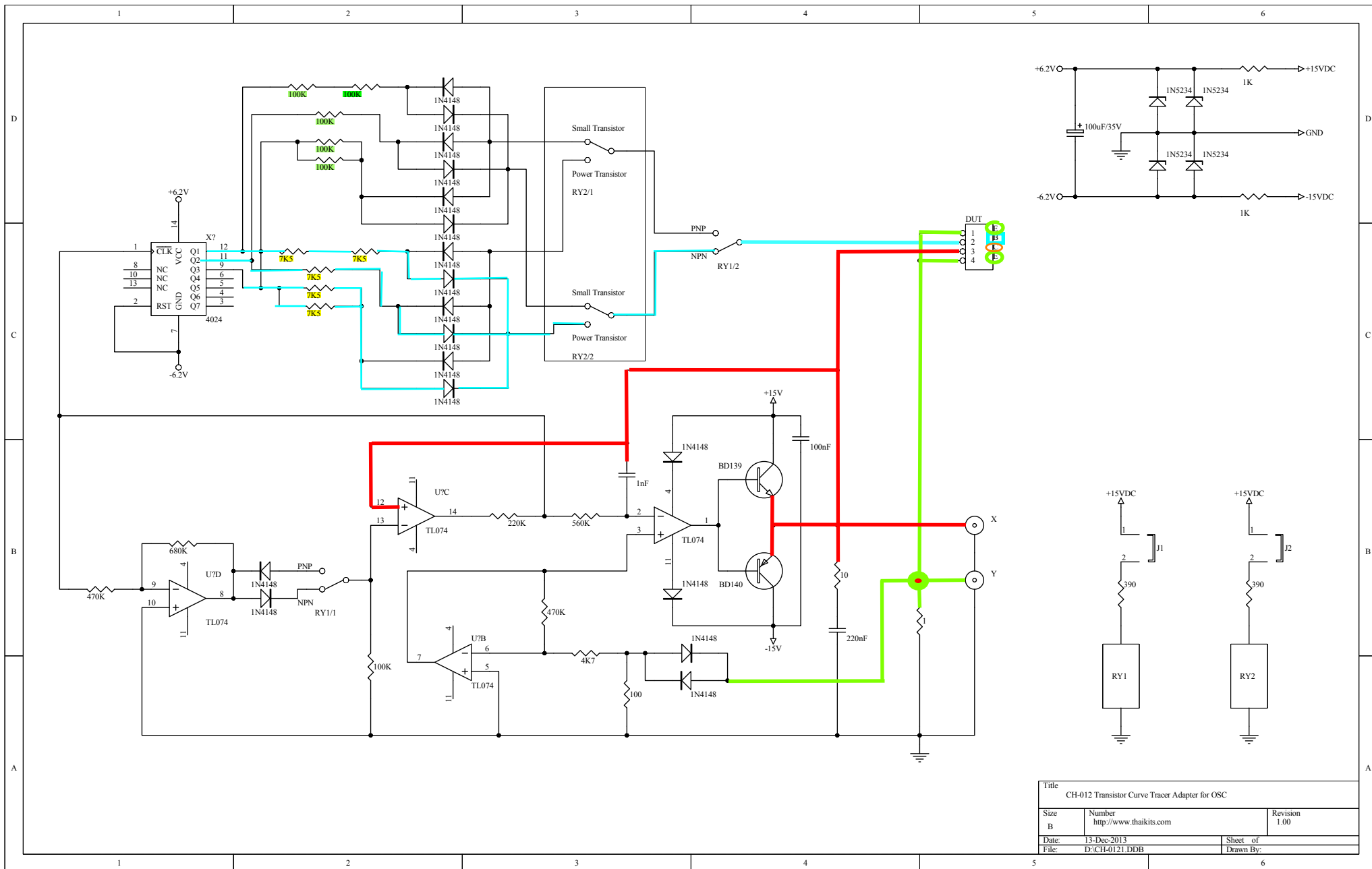
Warning : Don't select between NPN / PNP during transistor is on the test DUT. Transistor maybe damaged.

Note : Please ignore RCA connector on PCB layout. We stopped to use this RCA connector since 2014. So, No RCA connector in this kit.

Diagram how to set-up



Example how to calculate hfe of transistor

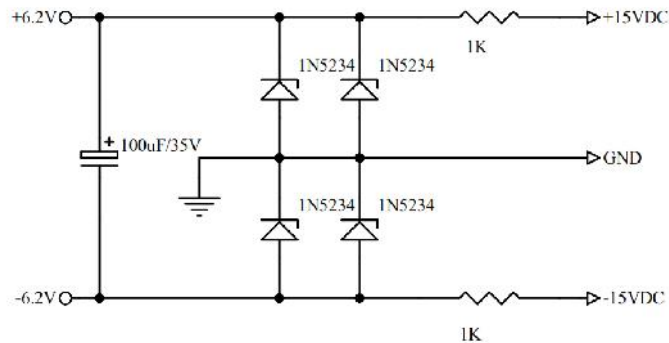


Title		
CH-012 Transistor Curve Tracer Adapter for OSC		
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Date:	13-Dec-2013	Sheet of
File:	D:\CH-012.DDB	Drawn By:

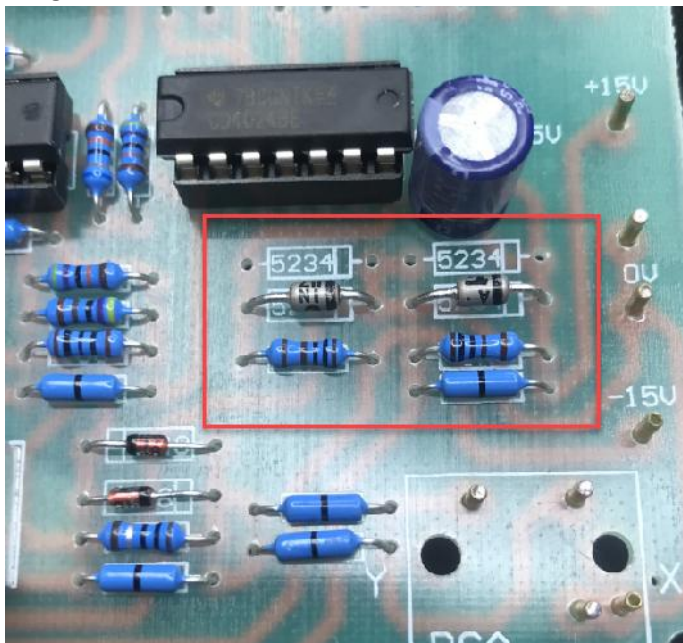
Engineer Change Notice

1. There are 2 options for 6.2V Zener diode.

1.1 In case, the kit has 4x 1N5234 which is 500mW, please install all 4 units.



1.2 In case, the kit has 2 x 1N4735 which is 1W, please install only 2 units. Please refer to the image.



2. Noise problem

We provide 2 units of female BNCs in the kit. To reduce the noise please use shield cables to connect between the board and BNC.

