

Probe Block Validation

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Design Details

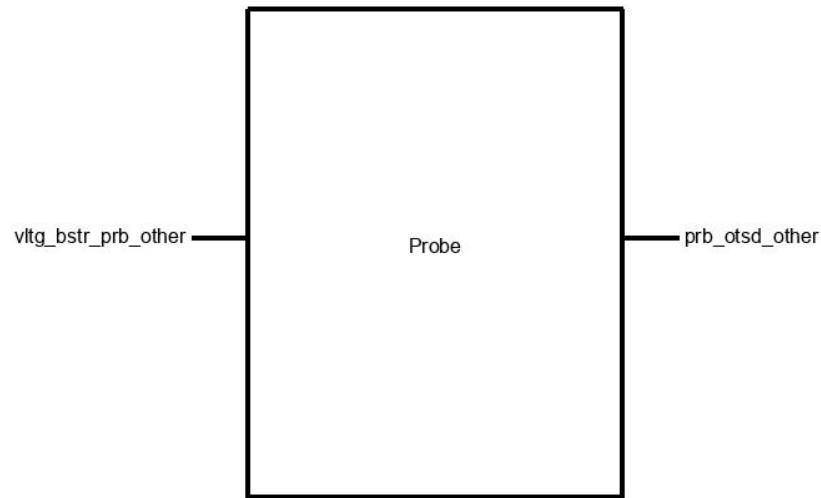


Image 1: Black box image of block



Image 2: PVC Pipe used

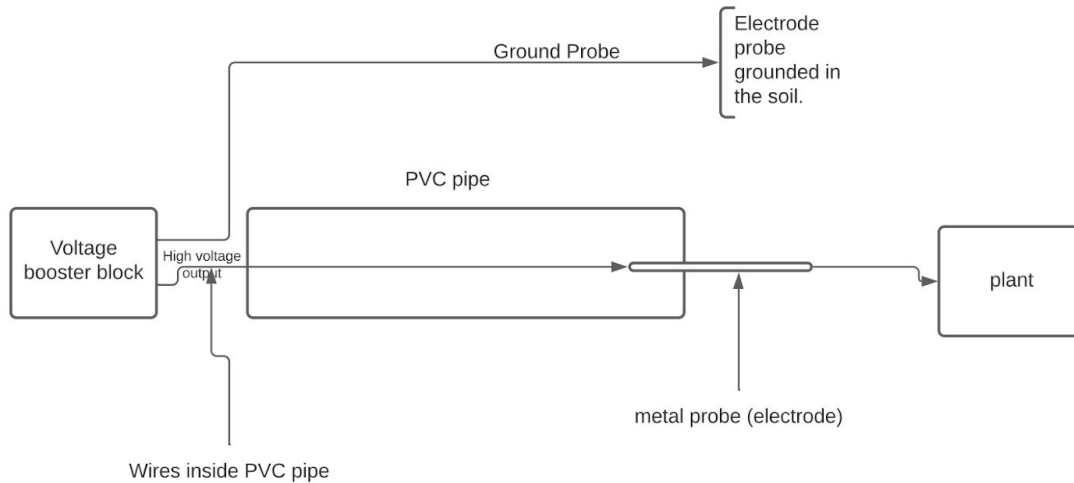


Image 3: Probe Design Diagram

Design Validation Overview

The probe block is based on the handheld probe that will be applied on the plants. This block is important as it is the main way to deliver the high voltage to the plant desired. It will be hand held and controlled by the user. The probe block mainly consists of a PVC pipe, with the wires coming from the voltage booster block running inside the pipe, and connected to an electrode on the tip of the probe. The electrode is what will conduct the high voltage when touching the plants. The main reason we are using PVC for the hand held probe is that it insulates electricity, making it safe for the user to play around with and zap multiple plants. Some other reasons are that it is cheap and available for purchase in many places.

Design Validation Interface Table

Interface Property**Why is this interface this value?****Why do you know that your design details for this block above meet or exceed each property?****vltg_bstr_prb_other : Input**

Other: the wires inside the probe will be connected internally to electrodes that are on the tip of the probe.	The wires will connect to a metal probe inside the PVC pipe with the tip of the probe coming out of the PVC pipe. The electrode will conduct the electricity from the wires coming in from the voltage booster block, and apply it to the plant. That prevents any unwanted contact between the metal probe (electrode) and the user.	This would be a very safe way that was tested , it prevents any contact and getting electrocuted by mistake while handling the device.
Other: wires from the voltage booster block will be inside the hand held probe.	The wires are going to be hidden inside the PVC for safety to the user, and to be able to move freely using the probe to zap the plants desired.	The best way to keep the wires hidden for a better appearance and for more functionality is to have them inside the hand held probe.
Other: PVC pipe will be used as main material for the hand held probe	PVC will be used because it is a good insulator, it is cheap and easy to find.	After building a hand held taser using PVC pipe, it shows that pvc does not conduct any electricity and is safe to use as a probe.

prb_otsd_other : Output

Other: The probe will be handheld by the user	The probe will be handheld by the user to be moved freely to zap several plants.	To zap the desired plant and move the probe around, the user operating the device will move the probe as they desire.
Other: Electrodes on the tip of the probe will be applied to plant and soil	The electrodes will conduct the electricity from the wires inside the probe, and when the electrodes are on the soil and plant, the plant in contact will be zapped.	To deliver the electricity to the plant, the only way would be through an electrode that is connected to the high voltage source.

References

https://www.google.com/search?q=pvc+pipe&rlz=1C5CHFA_enUS892QA901&sxsrf=ALeKk01TkPI8xZwSsRQE_CC_KksS3bUY0Q:1613104039326&source=Inms&tbm=isch&sa=X&ved=2ahUKEwjOn__pwOPuAhWHHDQIHQqyBAEQ_AUoAnoECBsQBA&biw=1440&bih=821#imgrc=DyhKUNcWowUwaM