Institute of Technology of Cambodia

Department of Electrical and Energy Engineering

Lab: MOTOR DRIVE

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ENGINEERING'S DEGREE
DEPARTMENT OF ELECTRICAL AND ENERGY ENGINEERING
INSTITUTE OF TECHNOLOGY OF CAMBODIA
PHNOM PENH

Academic Year:
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TP4 : IGBT

Objective: To simulate to analyze Characteristics of IGBT

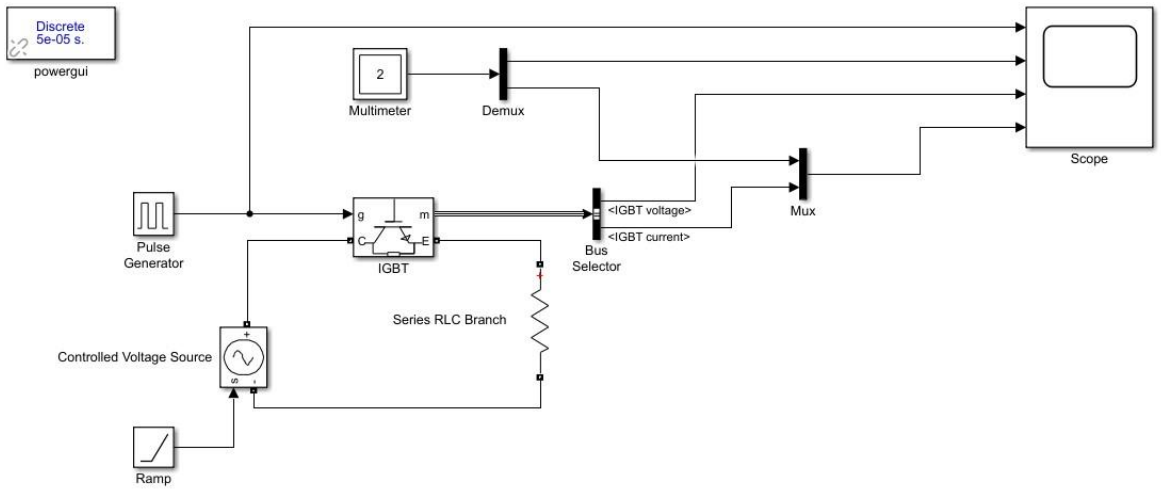

Figure 1: Block diagram of the circuit **Exercise**

Questions:

Descript meaning of the 4 outputs after the simulation for Forward Biased Mode and Backward Biased mode:

- Forward Biased Mode: Voltage across the load resistor and IGBT's current are on when the signal of the pulse generator is HIGH with the delay of pulse signal 1 period. For the IGBT's voltage start to turn on when the pulse signal is LOW and turn off to the default forward voltage when pulse generator is HIGH.

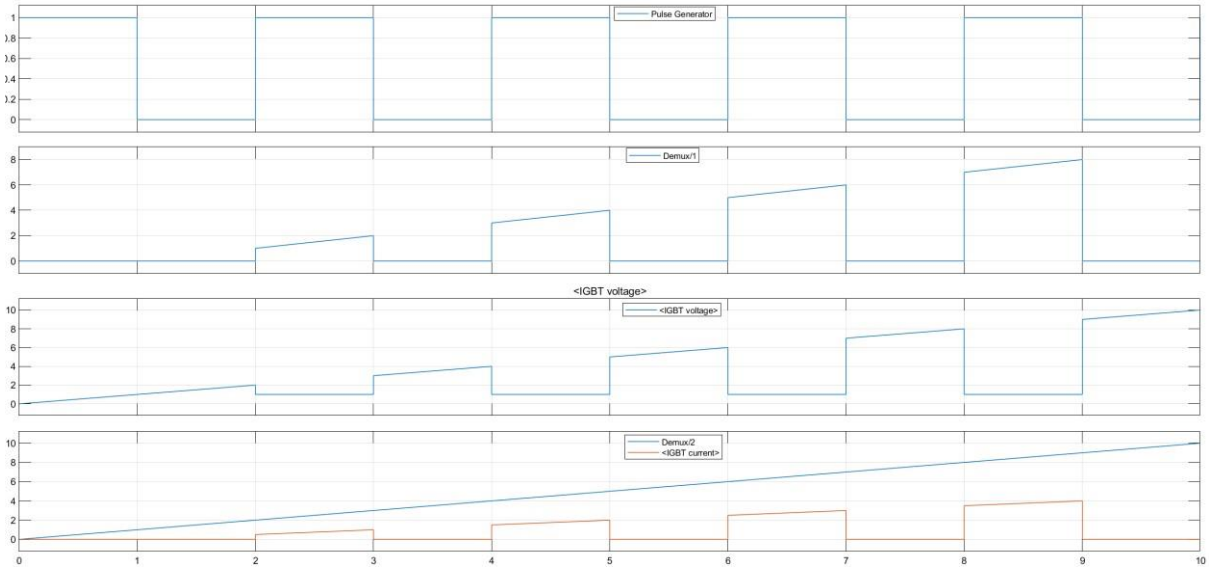

Figure 2: Response of the outputs in Forward Biased Mode

- Reverse Biased Mode: In this Mode, the voltage source flow in the opposite direction of the conventional current flow which makes all the voltages in the circuit leaning toward the negative values; while, there is no current flow in the circuit.

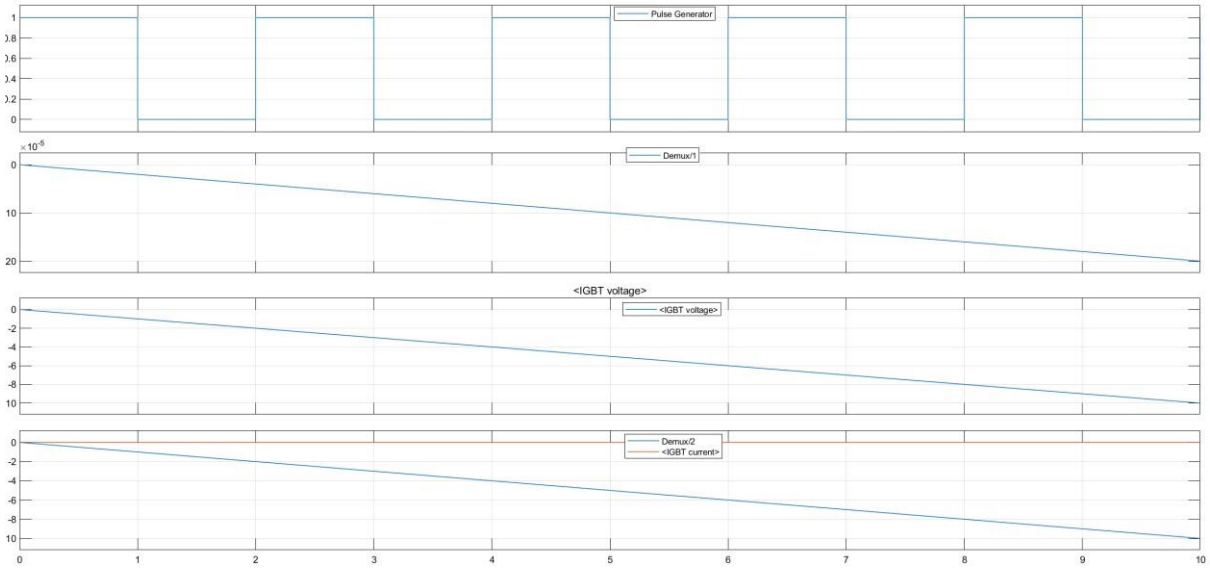

Figure 3: Response of the outputs in Backward Biased Mode