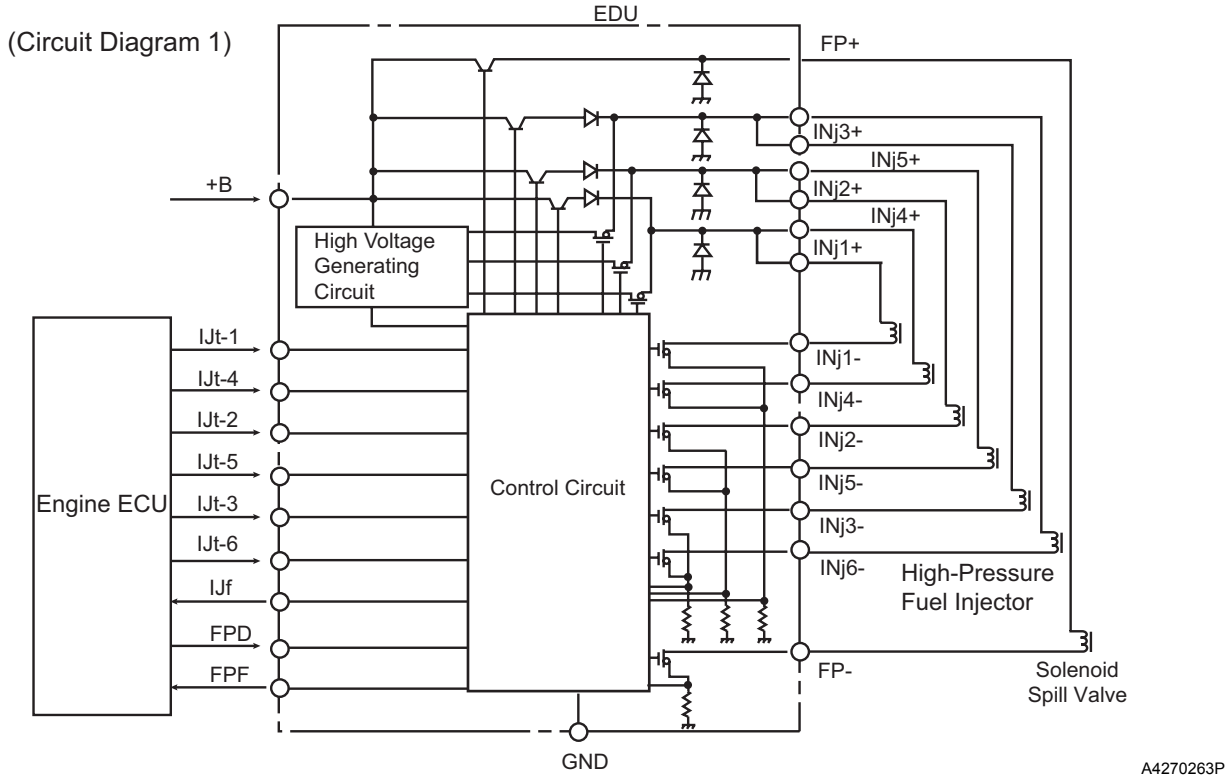
EDU(Electronic Driver Unit)

An EDU to operate the high-pressure fuel injectors at high speedsis placed in the engine compartment. The engine EDU converts theinjection request signal received from the engine ECU into high-voltage,high-amperage injector actuation signals, in order to actuate thehigh-pressure fuel injectors.

EDU Operation

EDU Operation (Circuit Diagram 1)

- When the engine ECU sends injection signals (IJt-1 to IJt-6) to the EDU, the COM terminal outputs a high voltage for actuating the injectors. When the injectors open the voltage switches to 12V to keep the injectors open. The current will flow from INj#+ to INj#- and to GND, in order to actuate the high-pressure fuel injectors.
- The control circuit constantly monitors the actuating state of the injectors, and sends an IJf fail signal to the engine ECU when the INj-# is actuated normally.



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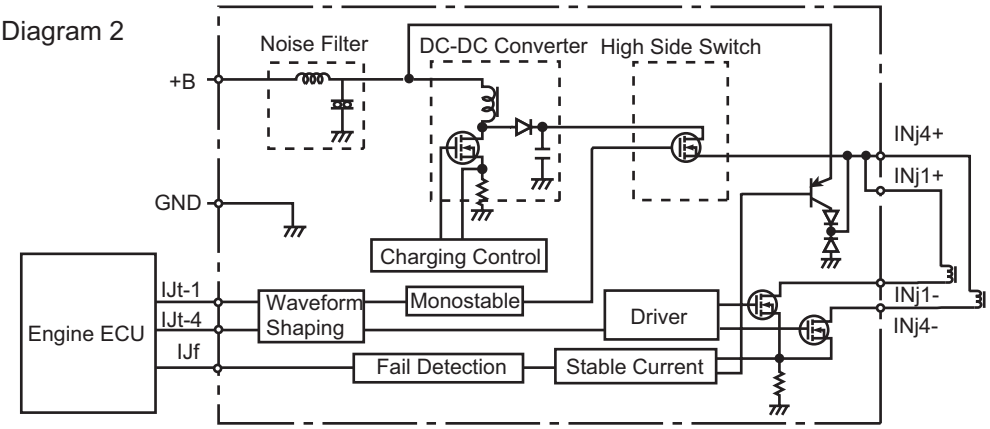
Example of IJt-1 Actuation (Circuit Diagram 2)

- The fuel injection request signal IJt-1 from the engine ECU passes through the waveform shaping circuit, and separates into the monostable circuit - high side switch and the driver circuit. Then, the high side switch applies the high voltage boosted by the DC-DC converter, in accordance with the fuel injection request signal, from the INj1+ and INj4+ terminal to the INj1- and INj4- terminals (injectors #1 and #4).
- In accordance with a signal received from the waveform shaping circuit, the driver circuit grounds the INj1- terminal in a timely manner, in order to control the fuel injection volume and injection timing of injector #1.

Circuit Diagram 2



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