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| DTC | P0A1F | BATTERY ENERGY CONTROL MODULE |
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CIRCUIT DESCRIPTION

For the purpose of calculating the SOC (state of charge) of the HV battery and ensuring safety in the event of malfunction in the HV battery assembly, the battery ECU provides the following control functions:

- SOC calculation
The battery ECU calculates the SOC by estimating the charging and discharging amperage and monitoring other values.
- Cooling fan control
The battery ECU controls the battery blower assembly in order to protect the HV battery assembly from the heat that is generated during charging and discharging. By maintaining a stable temperature, it promotes the effective operation of the HV battery assembly.
- HV battery assembly malfunction monitoring
If the battery ECU detects malfunction, it protects the HV battery assembly by limiting or stopping the charging or discharging of the HV battery in accordance with the temperature or voltage of the HV battery assembly.

| DTC No. | DTC Detection Condition | Trouble Area |
|---------|---|---------------|
| P0A1F | Battery ECU internal error (1 trip detection logic) | • Battery ECU |

MONITOR DESCRIPTION

If the battery ECU detects an internal malfunction in the ECU itself, it illuminates the MIL and sets a DTC.

MONITOR STRATEGY

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| Related DTCs | P0A1F: Battery ECU/Rationality |
| Required sensor/components | Battery ECU |
| Frequency of operation | Continuous |
| Duration | TOYOTA's intellectual property |
| MIL operation | Immediately |
| Sequence of operation | None |

TYPICAL ENABLING CONDITIONS

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| The monitor will run whenever the following DTCs are not present | TOYOTA's intellectual property |
| Other conditions belong to TOYOTA's intellectual property | – |

TYPICAL MALFUNCTION THRESHOLDS

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| Battery ECU | Abnormal |
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COMPONENT OPERATING RANGE

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| Battery ECU | DTC P0A1F is not detected |
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INSPECTION PROCEDURE

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| REPLACE BATTERY ECU ASSY (See page 21-98) |
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