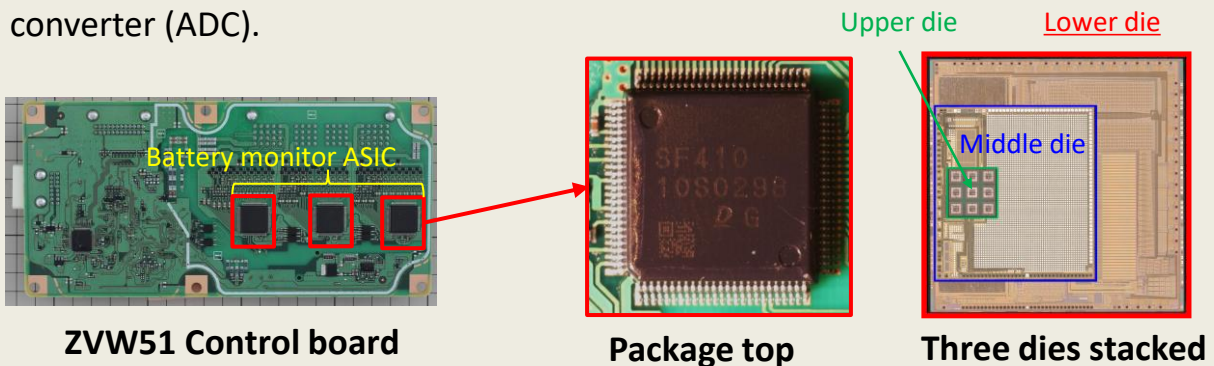


MULTI-CELL BATTERY MONITOR ASIC BY DESNO FOR TOYOTA PRIUS ZVW51 - DETAILED STRUCTURE ANALYSIS REPORT

June, 2016. This sixty-four page document is one of six reports, each analyzing various segments of the ZVW51 system. This report is focusing on Multi-cell battery monitor ASIC and its detailed structure analysis. Three dies are stacked in one package. The upper die is not connected electrically. We estimate that the function of the middle die is daisy chain communication, voltage reference and biasing, while the lower die is a multiplexer (MUX) and Analog to digital converter (ADC).



This report is a detailed structure analysis of the lower die. It includes layer-by-layer analysis, cross section analysis of the main devices (logic, LDMOS, ESD device, precision resistor, etc.), and an estimation of the process flow for forming the trench structure. Some of the key features are:

1. Up to twenty cells are monitored
2. Silicon on Insulator (SOI) and Wafer Bonding process with unique trench isolation structure
3. BCDMOS (Bipolar, CMOS and LDMOS) process
4. Use of precision thin film resistor

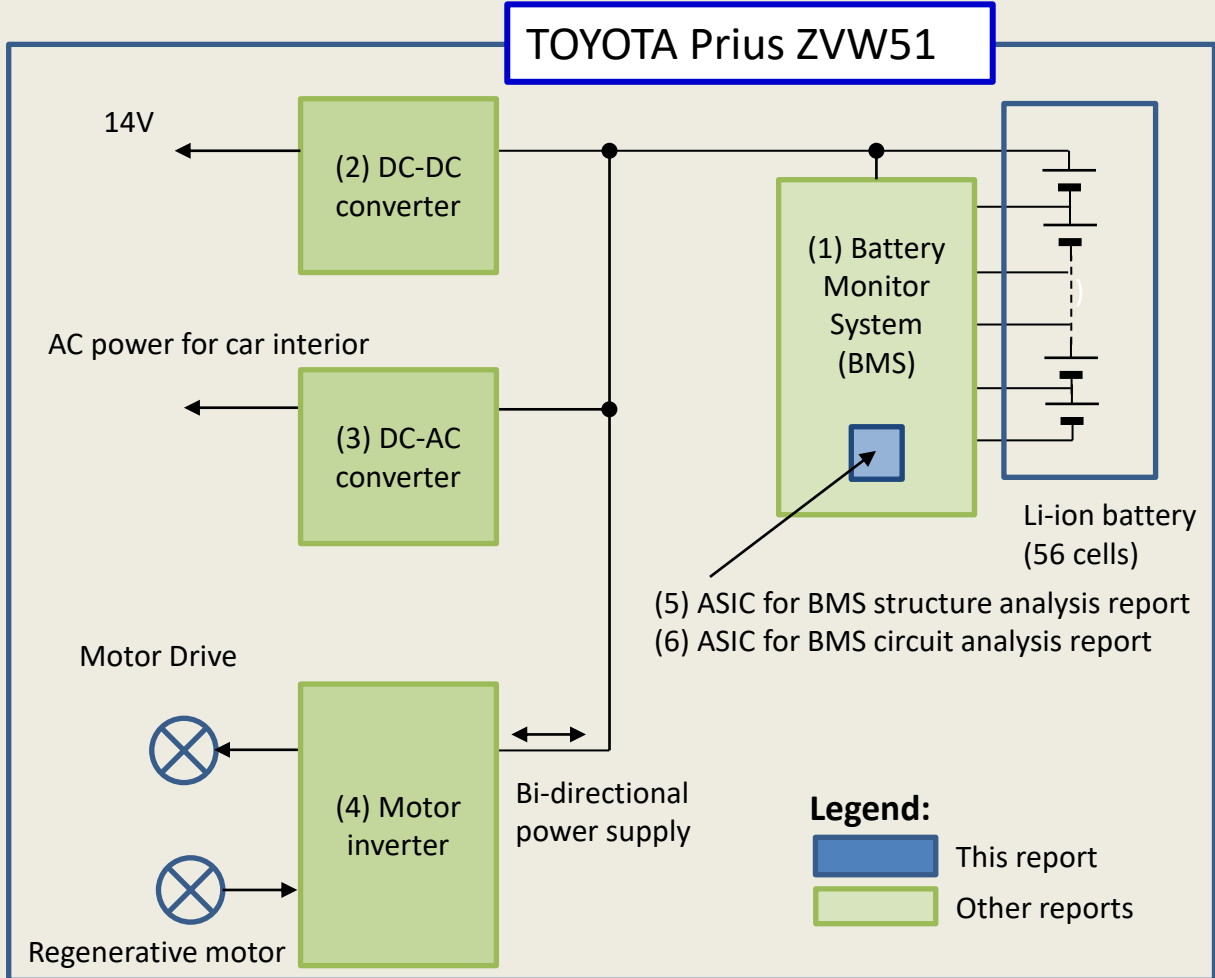
Note:

The listed report price may not be accurate as it decreases over time.

Please contact us for current report pricing info@ltecusa.com

15G-0013-1

The block diagram of the Toyota Prius ZVW51 system and the corresponding LTEC analysis reports are listed below:



Family of LTEC analysis reports related to the ZVW51 system

Report No.

- | | |
|---|------------|
| 1. BMS PCB circuit analysis report analysis report | 15G-0006-1 |
| 2. DC-DC converter PCB circuit analysis report | 15G-0007-1 |
| 3. DC-AC converter PCB circuit analysis report | 16G-0001-1 |
| 4. Motor-inverter PCB circuit analysis report | 15G-0008-1 |
| 5. ASIC for BMS structure analysis report (this report) | 15G-0013-1 |
| 6. ASIC for BMS circuit analysis report | 15G-0005-1 |

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