RENESAS
BIG IDEAS FOR EVERY SPACE

Shorten Battery Management System Development Time

Battery Management System Reference Design

BMS (Battery Management System) uses RH850 MCU and ISL78714 analog IC

Features

BMS reference design kit, can support up to 70 cells

- Provides near turn-key reference design for 70 cells with CAN, LIN, UART, GUI, and low-level drivers for RH850 peripherals and ISL78714

Advanced Analog Design Technology

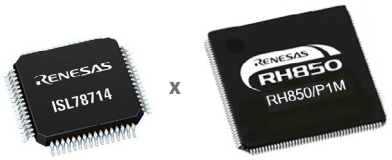
- Monitors up to 14 cells/IC with < ±2 mV measurement accuracy
- Achieves 15-year board-level accuracy (long term drift) of < ±6 mV @ ±6 σ

Industry-leading Renesas MCU Technology

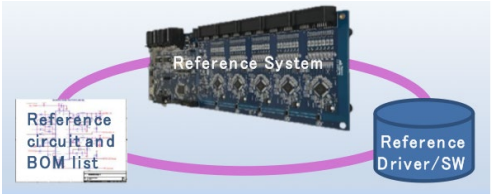
- Provides a safe and secure solution with multiple safety features
- Integrates high performance and cost effective MCUs

Solutions

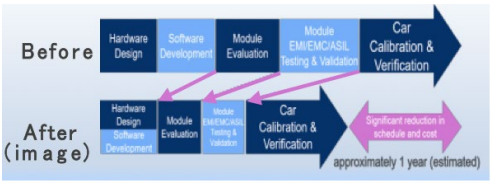
- Maximize battery cell life and driving range of HEV/EV by balancing all cell voltages simultaneously with high-precision measurement of each cell voltage and temperature.
- BMS reference design includes simultaneous balancing up to 70 battery cells, boot-up by CAN and UART and retrieving log data. The reference design makes it easy to shorten development period of hardware.
- Reference software also makes it easy to port software to the RH850 MCU, scale to any battery pack size and shorten development time.



Accelerate Verifications



Reduce R&D Effort and Time



RENESAS
BIG IDEAS FOR EVERY SPACE

Inductive Position Sensor for Motor Commutation

IPS25XX Seamless Resolver Replacement

A new era in motor commutation

Feature

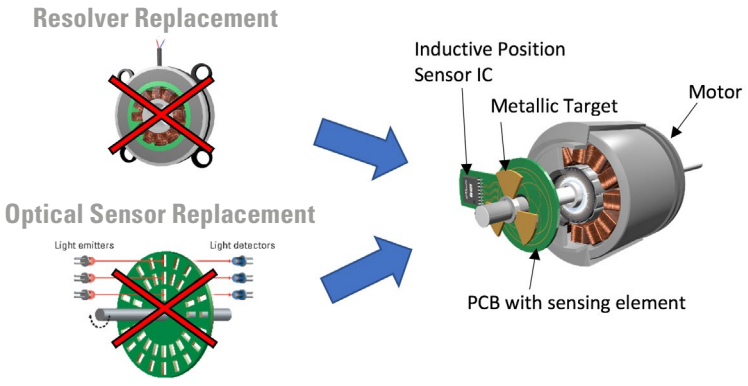
Reduce board space with increased flexibility and performance

- Sine/Cosine demodulated output interface
- Rotational speed up to 600k (electrical) rpm
- Low propagation delay < 5 µs
- Extremely cost effective
- Much thinner and lighter than resolvers
- Totally stray field immune to guarantee the best motor integration
- Flexible to be designed around the motor
- Automotive AEC-Q100 Grade-0 Designed & Qualified

Solution

- Contactless for no wear, ultra-high durability and robust against dust and vibration
- Ultra-thin and ultra-light using coils integrated onto the PCB and a metallic target
- Single technology for different motions, linear, rotary, arc, low and high speed

Inductive Postition Sensor for Motor Commutation



RENESAS
BIG IDEAS FOR EVERY SPACE

Radar transceiver enables with 4D* non-contact sensing for Automotive

Automotive Radar Transceiver (MMIC**) – RAA2702XX

Feature

High performance transceiver with best Noise Figure, Linearity and Sensitivity

- Ultra Wideband Radar in 76 – 81 GHz band with 4 Tx and 4 Rx
- High performance MMIC with best Noise Figure, 4 GHz Bandwidth, Linearity and Sensitivity
- Provides Better Safety through real-time high resolution 4D* Imaging
- Suitable for Ultra short (<1 m) to Very long Range (>300 m) Sensing
- Small size eWLB*** package (7.6x5.6x0.9 mm)

*4D : 3D + Velocity **MMIC : Monolithic Microwave Integrated Circuit ***eWLB : embedded Wafer Level Ball grid array

Solution

- SoC, Transceiver, PMIC and Timing IC for RADAR solution
- Industry-leading low-noise transceiver contributing to high accuracy
- Quick launching with Steradian Semi
- One-stop solution and combo proposal with Renesas SoC and PMIC products
- Scalable solution by cascade connection

RADAR Transceiver Solution