Battery Fuel Gauge IC

Filefish

Easy-to-Start Solution for Li-ion Battery Management Systems

The Filefish is a FIXED firmware solution for Renesas Battery Fuel Gauging IC (FGIC), which requires no additional firmware development. Using this solution, the battery management system (BMS) can be easily and quickly designed, and the time to market can be significantly reduced.

Easy-to-Use
- No programming knowledge required
- GUI base PC software (RSB_TOOL2)

Quick Design
- No need for F/W design (Pre-programmed to the EVM)
- Adjustable parameters (Using a dedicated tool)

Safe System
- Pre-programmed safety functions
- Fuse Blow & software shutdown options

Accelerate time to market

Since the Filefish is a fixed firmware (integrated in the FGIC); it eliminates the need for F/W development and hence shortens the time to market.

Conventional Design Process

Design Process with the Filefish

Target Application

- Power Tools
- Handheld Electronics
- Vacuum Cleaner
- Industrial
Filefish Outline

Evaluation System

Li ion Battery  EVM  USB SMBus I/F  PC

Filefish Outline

Hardware
- Evaluation Module (EVM)
- USB SMBus I/F
- Wires

Firmware
- Voltage, Current, Temperature measurement
- FCC, RC, RSOC calculation
- Safety functions
  - Over/Under Voltage, Over/Short Current,
  - Over/Under Temperature
- High-side Nch FET control

Software
- GUI based PC software “RSB_TOOL2”
  for Monitoring and Control
- Dedicated tool for Parameter setting

Documentation
- Manuals
- EVM schematic

Comparison : Current solution vs Filefish

<table>
<thead>
<tr>
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<th>Current Solution</th>
<th>Filefish</th>
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<tbody>
<tr>
<td>F/W Development</td>
<td>Necessary</td>
<td>Not necessary</td>
</tr>
<tr>
<td>Required Battery Knowledge</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Flexibility</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Suitable Systems</td>
<td>Complex</td>
<td>Simple</td>
</tr>
</tbody>
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Filefish Line-up

<table>
<thead>
<tr>
<th>FGIC</th>
<th>Series Cells</th>
<th>Supply Voltage</th>
<th>PKG</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAJ240100</td>
<td>3 to 10 Cells</td>
<td>4V - 50V</td>
<td>LQFP64 10mmx10mm</td>
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</tbody>
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To request the Filefish, please contact your regional sales channel.
FGIC product information : https://www.renesas.com/us/en