

BMA7118: ASIL D Battery Cell Controller with high sync, dedicated ADC per channel

BMA7118 is an Automotive Li-ion battery cell controller IC with a dedicated, high accuracy ADC per voltage measurement channel with high synchronization capability (required for EIS). Introducing a product family approach where products are pin compatible and use the same software, you can upgrade to EIS at low cost. BMA7118 offers low 5 mA current consumption due to its integrated DC-to-DC converter. A fully redundant and independent internal architecture achieves ASIL D Functional Safety.

Key Features

- From 8 to 18 cells per device
- Dedicated, high accuracy ADC per cell voltage measurement channel with high synchronization capability required for EIS
- Typical ± 0.8 mV measurement error with ultra low long-term drift
- ISO 26262 ASIL D support for cell voltage and temperature measurements
- Passive cell balancing with 300mA capability timer/ voltage/ PWM
- External temperature and auxiliary voltage measurements
- Isolated daisy chain up to 62 nodes or SPI communication
- Diagnostics (redundant comparison primary and secondary) and robustness
- Low external BOM cost

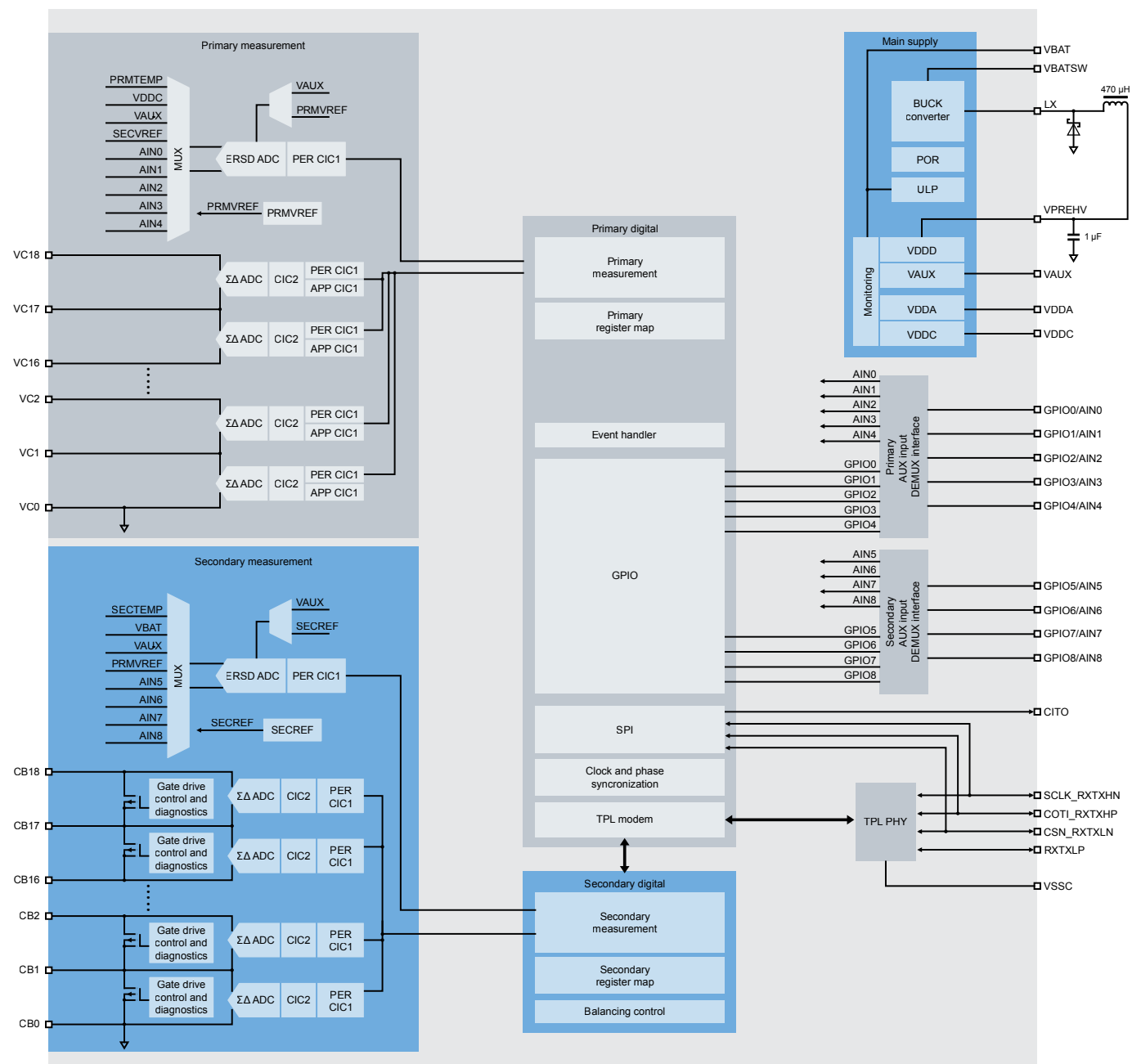


Target Applications

- Automotive:
 - Electric vehicle high voltage battery management
 - Electric vehicle 48 V battery management
- Industrial:
 - Utility ESS
 - Commercial ESS
 - Residential ESS
 - Micromobility
 - eBike/eScooter



Main Application Block Diagram



Orderable Samples

Part Number	Temp Range	Other Features	Other Features	Package
MBMA7118TA1AE	-40° C - 125° C	TPL	9 GPIO	QLFP 64 Pin
MBMA7118SA1AE	-40° C - 125° C	SPI	9 GPIO	QLFP 64 Pin

For more information, visit [nxp.com/BMA7118](https://www.nxp.com/BMA7118)

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