



## NEW LOW PROFILE ISOLATION TRANSFORMERS FOR LATEST BMS CHIPSET

Pulse Electronics' newest BMS transformers, at 3.45mm high, are the markets lowest profile packages and complement the current BMS range of products that Pulse already offers and by being matched and qualified to the latest BMS Silico. It makes them easy to design with.

The new options are ideal for use in EV (Electric Vehicle), marine, aviation and ESS (Energy Storage) applications where multiple large battery packs are connected in series and space is at a premium.

BMS transformers protect the digital controller boards from large potential voltage differences which may occur between battery packs. For the BMS to monitor and control each cell/pack, serial communication links between boards are used and these need to be isolated by transformer coupling circuits instead of capacitor coupling due to the high voltages, and in EV applications, a longevity of 15 years.

The two newest single channel transformers are qualified with the serial bus communications transceivers from Texas Instruments

Parts are AEC-Q200 certified meeting all automotive reliability requirements and can be manufacture in an ISO/IATF16949 facility.

Visit the Pulse website for more information.  
<https://www.pulseelectronics.com>



## KEY APPLICATIONS

- Electric Vehicles – Cars, Buses
- Solar energy & Green Renewables
- Energy Storage Systems
- Marine / Aviation Transportation

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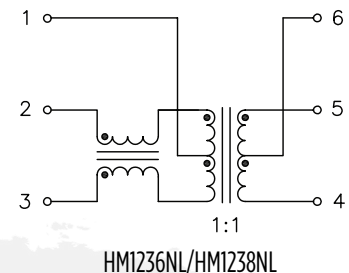
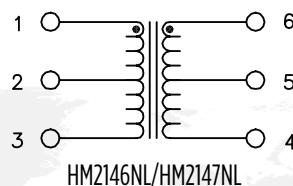
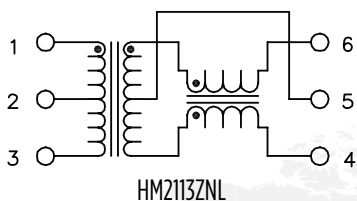
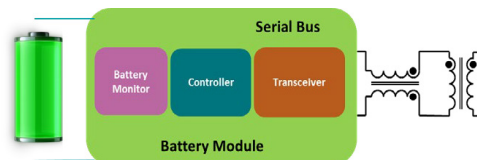
### BMS CHIPSET PART SPECIFICATIONS

Part Number	Turns Ratio	OCL (uH)	Isolation Voltage	Working Voltage	Isolation & Creepage	Temperature Rating	Package size (L x W x H) mm	Matched Silicon
HM2113ZNL	1:1	150uH Min, 450uH Max	3000VDC	1000Vdc	Functional >3mm	-40°C to +125°C	9.2x15.4x3.45	NXP, ADI, Infineon
HM1236NL HM1238NL	1:1	500uH Min,	3200VDC 4300VDC	600Vdc 1000Vdc	Functional >3mm	-40°C to +125°C -40°C to +150°C	8.6x10.9x4.06	Maxim: MAX17841B
HM2146NL	1:1	150uH Min, 650uH Max	3000VDC	1000Vdc	Functional >5mm	-40°C to +125°C	9.2x15.4x3.45	TEXAS/NXP/ADI
HM2147NL	1:1	500uH Min, 1400uH Max	4300VDC	1500Vdc	Functional >5mm	-40°C to +125°C	9.2x15.4x3.45	TEXAS: BQ7961x-Q1

Contact Pulse FAE's and Sales Team for other package sizes and configurations custom solutions from the wired Comms PBU.

## FEATURES & BENEFITS

- SingleChannel with center taps and chokes design
- Matching to leading BMS Cell monitor and Controller Chipsets – see table^
- Designed to the latest IEC-62368 standard
- Meets Functional insulation with creepage distance >5mm
- Longevity: -600/1000/1500VDC for 15 years
- High temperature operating range



Visit [www.pulseelectronics.com](http://www.pulseelectronics.com) to search for the JXD7 product family data sheet or contact the “Network” team or a local Sales rep or FAE support desk to receive a full technical datasheet on a specific part. The Resource Library has a really useful Ethernet layout consideration paper with tips for PCB layout.

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