

maglab Company Presentation

“**maglab** – your partner for magnetic system design and current measurement solutions”

Oct/2018

P. Krummenacher

Key Technologies for a Bright Future

- Our knowledge and products are used in
 - + E-mobility, HEV and EV
 - + Robotics and automation
 - + Renewable energies and energy efficiency
 - + Smart and fail-safe systems



maglab AG Profile

- Strong expertise in magnetic system design and current sensing applications based on Hall and shunt
- Engineering service for magnetic shields, cores, and current sensor modules
- Strong partnerships
 - + Exclusive sales representative of PML India
 - + Preferred shield and core supplier of Melexis
- Large network of automotive and industrial customers

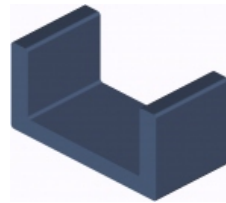


PML-maglab-Partnership

- maglab is PML design partner and exclusive representative
- One of the top 5 supplier in the automotive market for cores, shields, and shunts
- Collaborations with Valeo-Siemens, Delphi, Panasonic, Xiamen, Delta, Vertiv, Sekorm, Bosch, Tesla, Preh, Lear, and many more
- Design and manufacturing service for
 - + Magnetic components and systems,
 - + Shunt resistors and busbar assemblies, current sensor modules

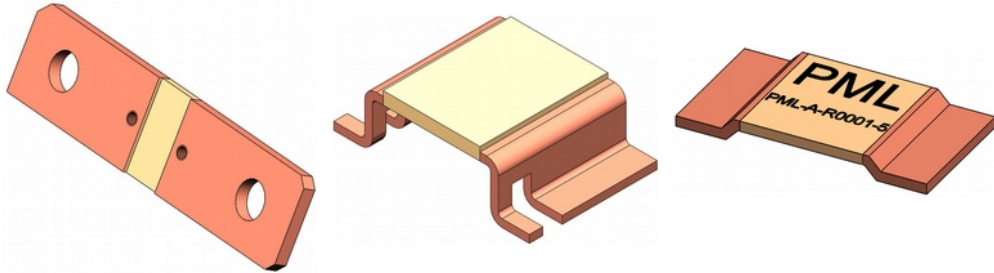
Shields and Cores

- Standard products and customer-specific designs
 - + Shields: U-shields, laminated U-shields
 - + Cores: Laminated cores, amorphous cores
 - + Nickel-iron alloys (Ni-Fe) and silicon steel (Si-Fe)



Shunt Resistors

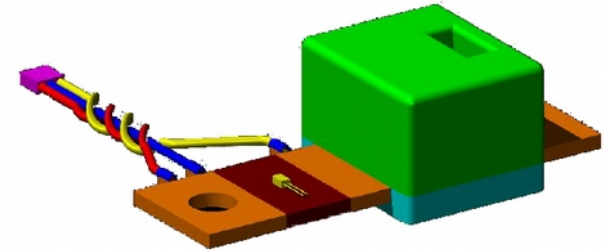
Standard Automotive Cu-Mn Shunt Resistors



Applications

- Current measurement
- Power inverters and IGBT modules
- Battery Management Systems (BMS)
- High power, high current
- Direct bonded copper and PCB assembly

Redundant Dual Current Sensor Modules



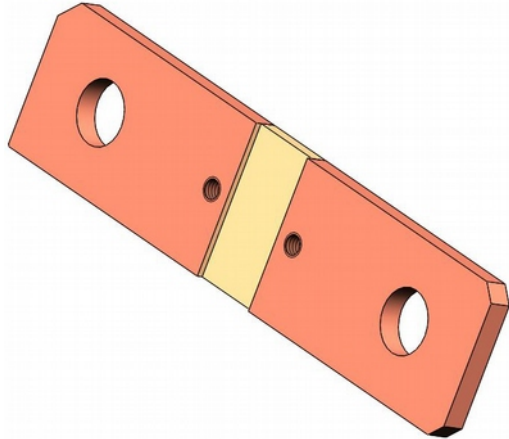
Applications

- Functional Safety
- Battery Management Systems (BMS)
- Junction Box
- High power, high current

Shunt Resistors

R100-BAR-03

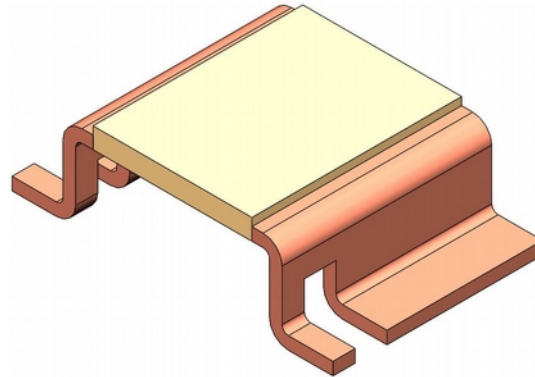
$\pm 600\text{A}$ | 36W



- Battery monitoring
- Battery mgmt systems
- eMobility, HEV, EV

R500-BRI-04

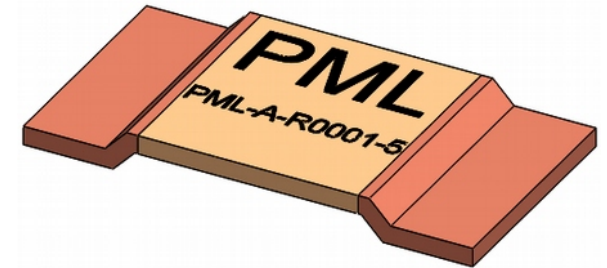
$\pm 150\text{A}$ | 12W



- Power inverters
- IGBT modules
- Direct bonded copper

R1000-SMD-05

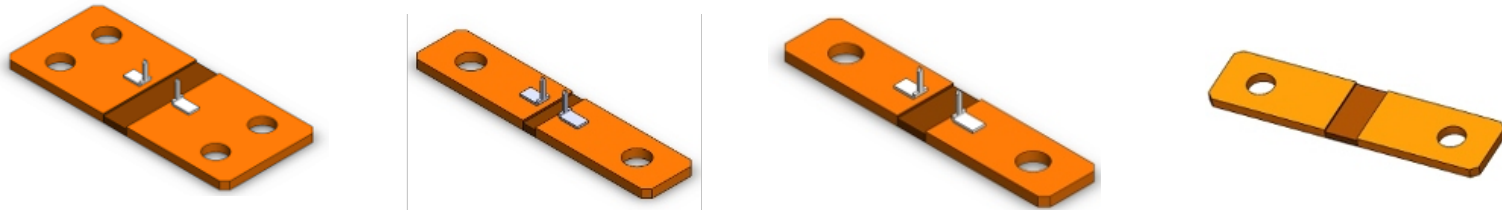
$\pm 70\text{A}$ | 5W



- Current sensing
- e-motorbike
- PCB assembly

High-Power Shunt Resistors

- Applications include e-mobility, battery management systems (BMS), electric drive train
- Resistance values starting from 25 $\mu\Omega$
- Available as bare standard shunt elements or customer-specific busbar assembly, e.g., with battery clamp
- Contact pin options for pressfit, soldering



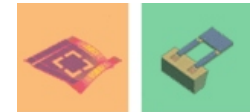
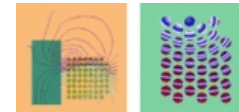
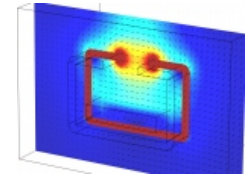
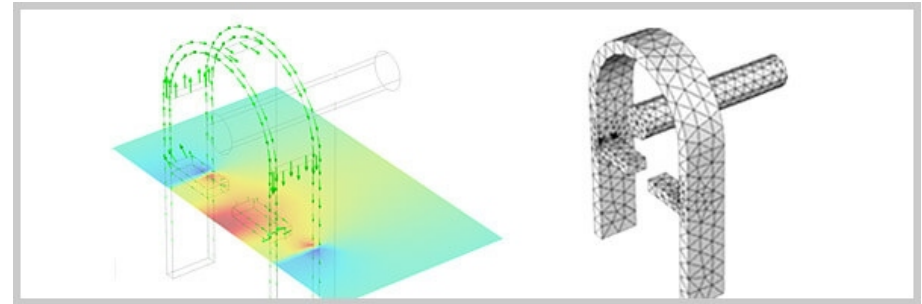
Manufacturing

- PML India: www.pmlindia.com
 - + Shields and Cores: High Perm Unit
 - + Shunt resistors: Shunt Unit
 - + Proven track record: automotive, energy meters
 - + Certified company: ISO 9001:2015, ISO 14001:2015
TS16949:2016



Engineering, Simulation, and Modelling

- Magnetic system engineering
 - + Performance – cost optimization
- Modelling partner
 - + Numerical Modelling GmbH
www.nmtec.ch
 - + Magnetic, dynamic systems
 - + Thermal modelling
 - + Multiphysics, self-heating



Customers



Thank you for choosing **maglab**

maglab AG
Güterstrasse 141
CH-4053 Basel
Switzerland
Tel: +41 61 261 16 44
info@maglab.ch
www.maglab.ch