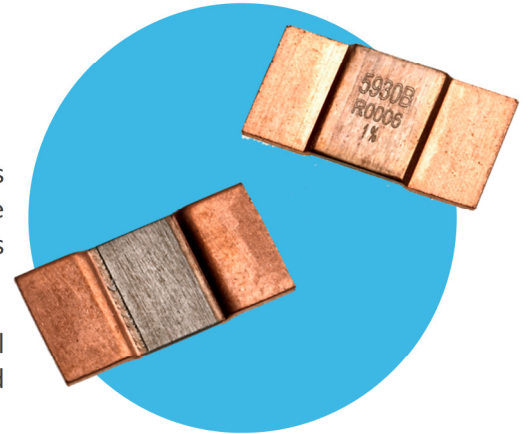


Fast Facts

LRMAP5930 – Low Resistance Metal Alloy Power Resistors

LRMAP5930 is a high power, low value SMT shunt resistor. With values down to $200\mu\Omega$ and a corresponding power rating on FR4 of 10W, the maximum measurable current is over 200A, and therefore in most cases restricted only by the capacity of the PCB tracks.

A power rating of up to 15W may be achieved for assemblies on thermal substrates like DBC ceramic or IMS, making this part ideal for power hybrid modules.



Market Segments

- Industrial
- Automotive
- Medical

Applications

- Power supplies
- Steering control
- Motor drives
- Battery monitoring

Features

- Up to 10W rating on FR4 PCB
- Up to 15W rating on thermal substrate
- AEC-Q200 qualified
- Values $200\mu\Omega$ to $2m\Omega$
- High surge energy up to 33J

Benefits

- Low thermal impedance minimises the temperature rise and enhances the reliability of the assembly
- High surge tolerance gives reliable product performance under inrush and momentary short circuit conditions
- Good long term stability of value, low TCR and low thermal EMF all mean that a small part of the designer's error budget is consumed, enabling more design freedom elsewhere in the circuit

Our Advantage

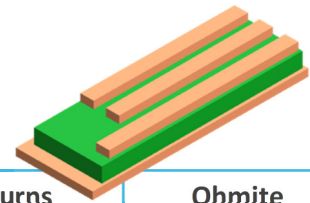
For circuit designers who need to guarantee stable and accurate sensing of AC and DC currents up to 200A in SMD assemblies we provide LRMAP5930 which matches or exceeds the power ratings of key competitors' parts at most ohmic values as demonstrated in Appendix 1.

Fast Facts

Appendix 1 Competitor Comparison

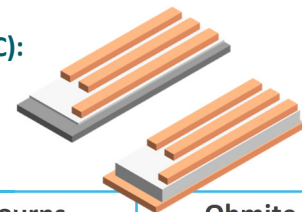
When comparing the power ratings, it is important to understand the mounting conditions. These are defined clearly on our datasheet, which presents a dual rating based on standard FR4 PCB and thermal substrate.

Power Rating (W) @ terminal temperature $\leq T_r$ mounted on FR4 PCB:



Supplier & Type	TTE	Vishay	Isabellenhütte	Bourns	Ohmite
Ohmic Value	LRMAP5930	WSLP5931	BVE	CSS2H-5930	EBWB
R0002	10	Not stated on datasheet	10	10	7
R0003	7		7	10	N/A
R0005	6 / 7		6 / 7	6	6
R0006	5		Not available		
R001	6		6	6	6
R002	4		4	4	4
Temperature T_r	140°C		100 to 120°C	130°C	65°C

Power Rating (W) @ terminal temperature $\leq 70^\circ\text{C}$ on thermal substrate (IMS/DBC):



Supplier & Type	TTE	Vishay	Isabellenhütte	Bourns	Ohmite
Ohmic Value	LRMAP5930	WSLP3921	BVS	CSS2H-5930	EBWB
R0002	15	10	15	15	Not stated on datasheet
R0003	10	10	10	15	
R0005	8 / 10	10	8 / 10	8	
R0006	8	Not available			
R001	9	7	9	9	
R002	7	7	7	7	

Appendix 2 Search Keywords

current sense shunt	smt shunt	surface mount shunt
current sense resistor	metal element shunt	high power shunt