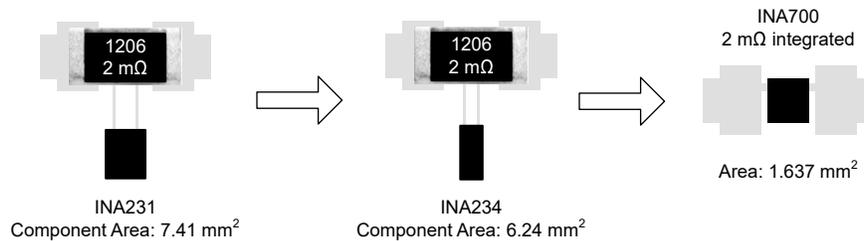


INA700: Current Sensing With EZShunt™ Technology



Electronics designers and purchasing or procurement managers seek smaller, simpler, and more integrated current-sensing designs. The INA700 digital power monitor with EZShunt™ technology vastly decreases a designer's overall design size and design time. In the past, designers typically needed to purchase multiple ICs, including an analog-to-digital converter (ADC) and a shunt resistor, to achieve the same function.



Layout Savings Using INA700

What Does INA700 Provide to a System?

- The smallest current sensor in the industry with an integrated shunt at 1.24 mm × 1.32 mm, small enough to fit within the footprint of a 1206 shunt resistor and 74% smaller than the INA234 and a 1206 resistor combined
- Simplified layout and design complexity as Kelvin or 4-wire connections are removed, a technique that reduces measurement error when using traditional current sensors
- Excellent measurement accuracy:
 - ±0.65% maximum system current sense gain error at 5 A
 - 2.0-mA maximum offset current
 - 250-μA/°C maximum offset drift
- In discrete current-sensing implementations, the resistor alone contributes an average of 1% tolerance or error, making the measurement accuracy of INA700 excellent before considering the amplifier or signal chain of other discrete components
- Integration of a shunt resistor shrinks the bill of materials and PCB area required versus traditional current sense devices
- Active calibration of measurement error due to resistor temperature drift, the INA700 device renders system calibration of a shunt resistor and current sensor unnecessary

Need additional assistance? Ask our engineers a question on [TI E2E™ amplifier support forum](#).

Recommended Parts

Part Number	Automotive Qualified	Features	Maximum Current at 25°C	Package (Dimensions)
INA700	N/A	Measures current, bus voltage, power, energy, charge, and die temperature	±15 A	PowerWCSP-10 (1.24 mm × 1.32 mm)

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