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# High Bandwidth Low Insertion Loss Solenoid Transformers Using FeCoB Multilayer

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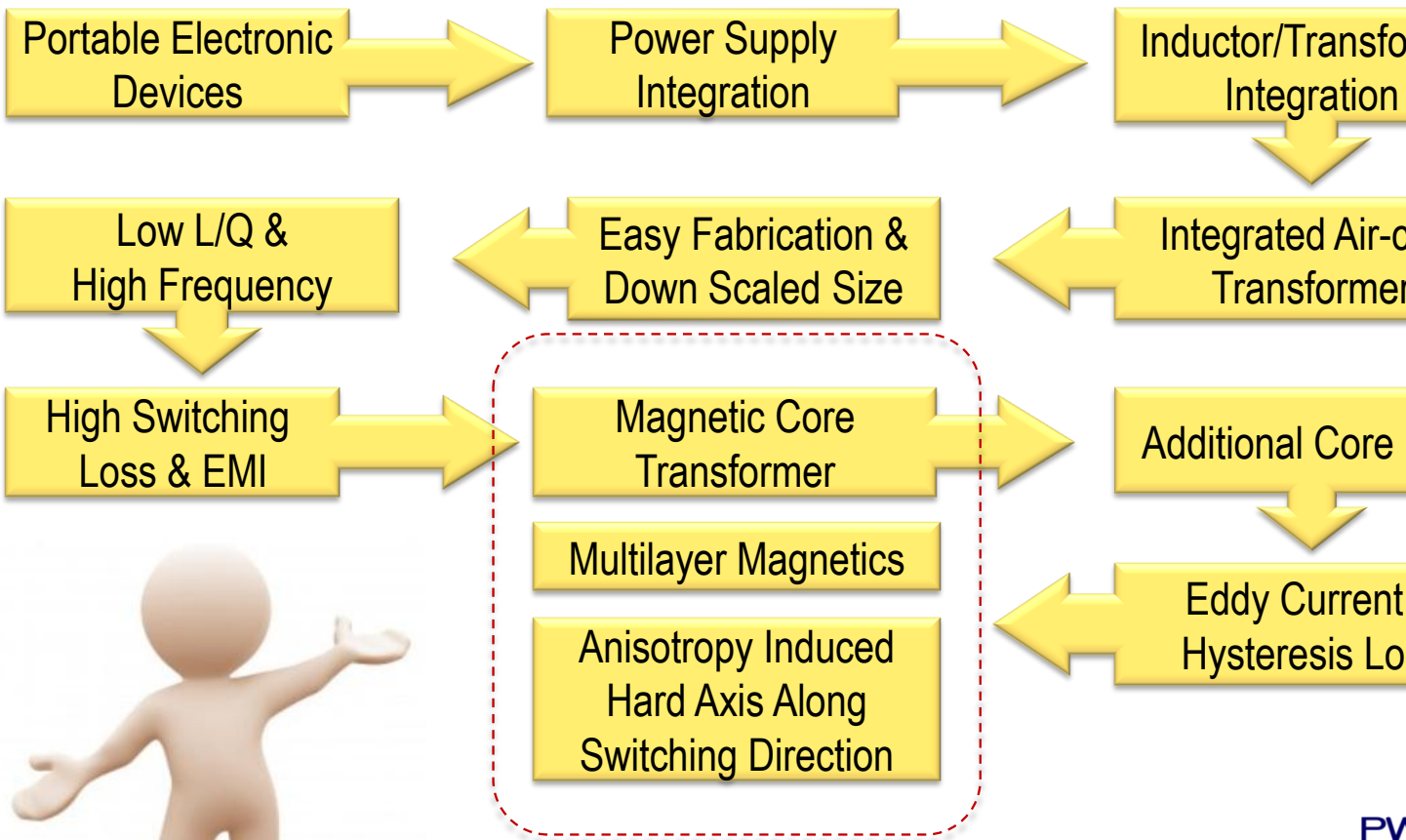


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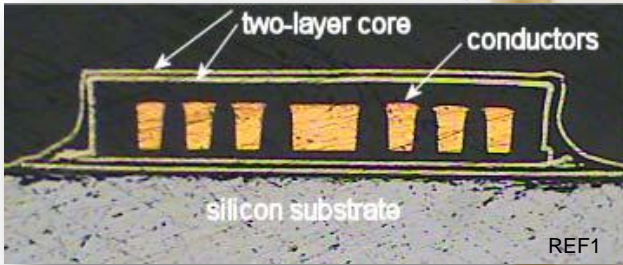


# Introduction



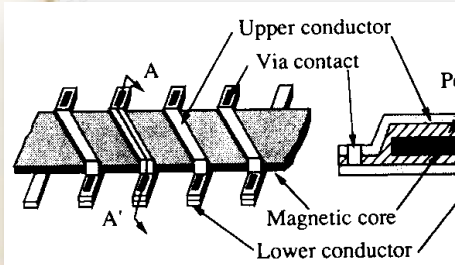


**Pot-core**



- Magnetic Core Transformer
- Multilayer Magnetics
- Anisotropy Induced Hard Axis Along Switching Direction

**Solenoid**



- Magnetic layers enclosing spirals
- Complex core structure
  - Limited magnetic permeability
  - Difficulty in domain alignment controlling
  - Significant core loss

- Windings enclosing magnetic core
  - Via complexity
- Simple core structure
  - Higher permeability
  - Easy domain alignment
  - Limited hysteresis loss

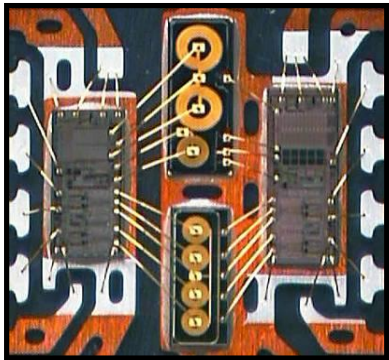
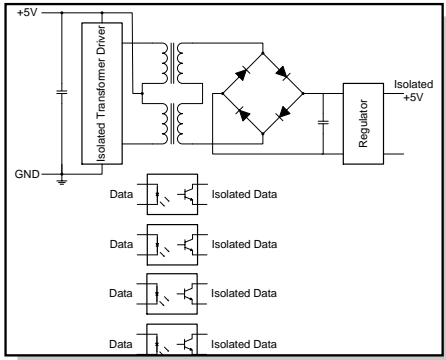




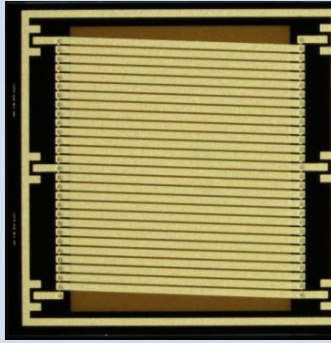
# Developing the Next Generation of *isoPower* Magnetic Core *iCoupler*® Transformers

Discrete solutions with optocouplers and external transformers are Large, Custom designs with Poor Reliability.

Proprietary *isoPower* integrates data & power in one package.



Today's air core transformers will be replaced with magnetic core transformers.



- Magnetic Core *isoPower***
- Better Efficiency & Power
  - Low Noise Emissions (EMI)

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