Power Measurement Accuracy

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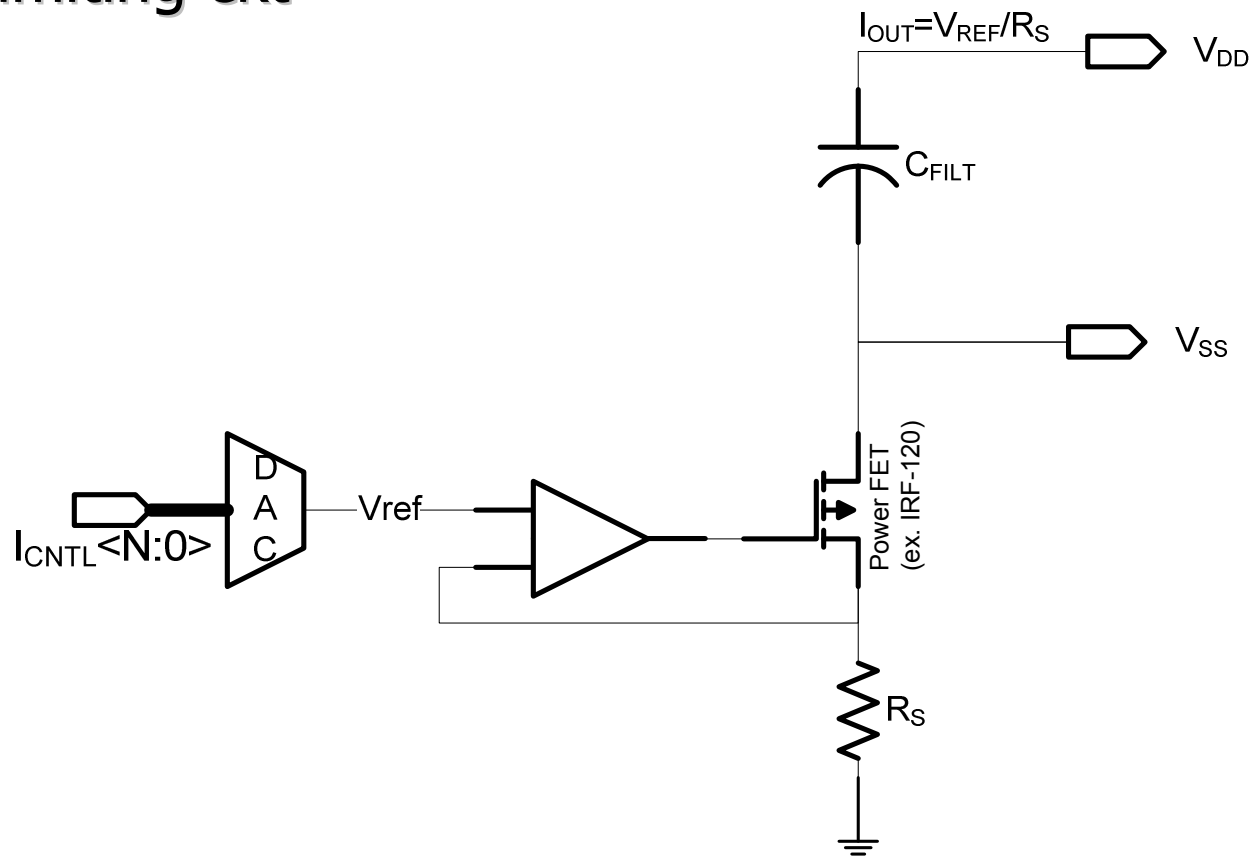
IEEE® 802.3at Presentation
Denver, CO
Mar 6th-9th 2006

Power accuracy limitations

- A typical (but by no means only) PSE power sensing and limiting ckt



Power accuracy limitations

- Current inaccuracies impact both systems and silicon design
- PSE current accuracy has many components
  - R_S & V_{SS} IR drops
  - DAC INL and internal V_{REF} (typ. V_{BG} derived)
  - Op-amp V_{OFF}
- Reasonable assumptions can create variations as high as ±10%
  - This error adds directly to un-utilized PSE power
- This does not take Vport variation into account
  - Added complexity for Power limitations

Conclusion and Recommendations

- Consider implications on power measurement accuracy when selecting power classification levels
- Implementation & test costs increase with PSE power accuracy

- Recommendation
  - Fewer levels better than more